Appendix A

Notice of Preparation and Comments Received

CITY OF STOCKTON
NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

DATE: December 17, 2021

TO: Responsible and Trustee Agencies, Organizations, and Interested Parties

FROM: City of Stockton, Community Development Department (Lead Agency)

SUBJECT: PREPARATION OF ENVIRONMENTAL IMPACT REPORT, ST. JOSEPH'S MEDICAL CENTER HOSPITAL EXPANSION PROJECT

PROJECT TITLE: St. Joseph's Medical Center Hospital Expansion Project

CITY PROJECT FILE #: P21-0958

The City of Stockton (City) intends to prepare an Environmental Impact Report (EIR) for the St. Joseph's Medical Center Hospital Expansion project (hereafter, the "project" or "proposed project") pursuant to Section 15021 of the California Environmental Quality Act (CEQA) Guidelines. Section 15082 of the CEQA Guidelines requires the City to prepare this Notice of Preparation (NOP) to provide to the Office of Planning and Research, responsible and trustee agencies, and other interested parties with sufficient information describing the project and its potential environmental effects to enable the responsible agencies to make a meaningful response. The project description, location and the probable environmental effects are contained in the attached materials.

As specified by the CEQA Guidelines, the NOP will be circulated for a 30-day review period. The comment period runs from Friday, December 17, 2021, to Monday, January 17, 2022. The City welcomes your input during the review period. In the event the City has not received either a response or a well-justified request for additional time by a responsible agency by the end of the review period, the City may presume that the responsible agency has no response (CEQA Guidelines Section 15082[b][2]).

A virtual scoping meeting for this project will be held from 7:00 PM to 8:00 PM on Monday, January 10, 2022. You may attend the meeting by going to:

https://cityofstockton.webex.com/cityofstockton/j.php?MTID=m19ac8665cc552fb20e41b82db82845d3

The meeting number (access code) is 2450 753 5511 and the meeting password is ctMQNjie874. You may join by phone by dialing +1-415-655-0001 and using the meeting number for the access code.
If you have any questions regarding this matter or would like to submit comments on behalf of your agency/organization or as an individual, please submit your comments to the City's Project Manager at:

City of Stockton Community Development Department
Attention: Michael McDowell, Deputy Director
345 N. El Dorado Street Stockton, CA 95202
209-937-8690 or michael.mcdowell@stocktonca.gov

ATTACHMENT A

NOTICE OF PREPARATION FOR AN ENVIRONMENTAL IMPACT REPORT FOR THE ST. JOSEPH'S MEDICAL CENTER HOSPITAL EXPANSION PROJECT

A.1 PROJECT LOCATION

The main portion of the project site is located at the existing 18.7-acre St. Joseph's Medical Center of Stockton ("Medical Center") campus which is generally bounded by E. Cleveland Street to the north, E. Harding Way to the south, N. California Street to the west, and Cemetery Lane to the east (see Figure 1). The Main Hospital building is located at 1800 N. California Street, approximately 1.3 miles north of State Route 4 (SR-4), 2.3 miles west of SR-99, and 2.6 miles east of Interstate 5 (I-5). The current 18.7-acre Medical Center occupies an in-fill site that is physically constrained and presents a challenge in expanding medical care to serve the growing region. Due to site constraints, the Medical Center also relies upon off-site properties to house medical support services, out-patient treatment, and parking. With the exception of unimproved properties that are identified in the Master Development Plan to be used for temporary structures or parking during construction, the off-site properties are not proposed for modification at this time but are incorporated into the project's Master Development Plan to allow for application of the development standards and design guidelines in the event any of these properties has a changed use in the future. The proposed project would involve the 30 parcels listed in Table A.1-1, below.

Table A.1-1 Assessor's Parcel Numbers and Property Description

APN	Description
Existing Medical Center	
127-190-32	Patient Pavilion
127-190-10	Surface Parking (Pavilion)
127-190-09	Surface Parking (Pavilion)
127-190-08	Surface Parking (Pavilion)
127-180-44	Main Hospital (1800 N. California Street)
127-174-30	Surface Parking, Engineering Shop, Cooling Tower Yard
127-173-28	Surface Parking, Utility Plant, Water Tank
127-164-22	Health Care Clinical Laboratory Building
127-164-15	Surface Parking
127-164-06	Classroom
127-164-08	Surface Parking
127-164-07	Generator Building
127-150-33	Surface Parking (Pavilion)
127-150-32	Surface Parking (Pavilion)
127-150-31	Surface Parking (Pavilion)
127-150-30	Surface Parking (Pavilion)
127-150-29	Surface Parking (Pavilion)
127-150-28	Surface Parking (Pavilion)

APN	Description
127-164-16[1]	Single-Family Residence (vacant)
Off-site	
127-150-49	Surface Parking
127-150-24	Surface Parking
127-150-25	Surface Parking
127-150-48	Surface Parking
127-150-23	Surface Parking
127-180-16[3]	Single Family Residence
127-140-16[3]	Single Family Residence
127-172-11[2,3]	Surface Parking
127-172-12[2]	Surface Parking
127-172-16[2,3]	Medical Offices (1901 N. California Street)
125-360-15[3]	Behavioral Health Center (2510 N. California Street)

Note: Unless otherwise noted, all parcels are owned by Port City Operating Company, LLC doing business as St. Joseph's Medical Center.

[1] Owned by Dignity Health

[2] Owned by Dignity Health Medical Foundation

[3] No changes to these parcels are proposed under this project.

A.2 EXISTING CONDITIONS

The Medical Center campus currently consists of 25 buildings and numerous accessory structures. Nearly all patient services are provided in buildings south of McCloud Avenue. These include the Main Hospital building, Outpatient Surgery, Heart Center, Cancer Center, and Patient Pavilion. Five (5) buildings currently provide patient care services: East Wing, North Wing, South Wing, Women and Children's Pavilion, and the Southeast Wing. The Main Wing and McCloud Building are part of this central complex but are currently unable to provide acute care functions due to building age and lack of seismic compliance. North of McCloud Avenue is a staff surface parking lot, campus Plant Maintenance facilities, a laboratory building, classroom building, and an unoccupied single-family residence.[1]

The majority of the Medical Center properties are zoned Commercial, Office (CO); a portion of the Medical Center, located south of E. Maple Street is zoned Commercial, General (CG). p the parcels between Chestnut Street and McCloud Avenue are zoned CO and RM, and the parcel at 2510 N. California Street is zoned CO. The project zoning designations are consistent with the City's General Plan Land Use designations, which are Administrative Professional, Commercial, and Medium-Density Residential.

A.3 PROJECT DESCRIPTION

The proposed project includes preparation of a Master Development Plan (MDP) that establishes the foundation for the hospital expansion and provides a single, unified concept for future growth of the

[1] Note: There is one privately owned parcel along E. Maple Street, between N. California Street and Cemetery Lane that is not included in the MDP.

Medical Center. The MDP includes a Site Master Plan which depicts a new main hospital building ("Acute Care Hospital Tower"), a new multi-level parking garage, construction of a new central utility plant, expansion of the existing generator building and other required support facilities within the Medical Center boundaries (Figure 2). Future opportunities for additional medical buildings and required parking to serve such facilities are also included as part of a longer-term planning horizon.

The near-term expansion of the Medical Center would occur mostly within the existing campus boundaries, with some temporary structures and temporary parking located off-site. Development of the proposed project would occur as follows: (1) the "Current Expansion" (Phases 1-4, which would include building demolition and site preparation in Phase 1); (2) a future "Phase 5 Expansion," which is expected to occur on land within the Medical Center campus, and (3) a "Future Expansion," that would likely require additional nearby lands.

The Current Expansion, anticipated to be built over four (4) phases, would include removal of existing buildings and other site preparation work, construction of a new hospital building for the expansion of acute care services, along with a new multi-story Parking Structure, Central Utility Plant, Plant Maintenance building, and other required support facilities on the existing Medical Center campus. New water and sewer infrastructure is anticipated to serve the new buildings. To accommodate the project the following buildings and components would be removed: two (2) buildings that are no longer used for acute care services: the Main Wing building and McCloud medical office building; two (2) storage buildings west of Cemetery Lane; the fourth floor of the North Wing building; a single-family residence; a classroom building; and a 630-space surface parking lot. Additionally, the maintenance shop adjacent to the parking lot may also be removed.

After completion of the Current Expansion and as new buildings are occupied, there would be an opportunity for continued expansion of Acute Care Hospital services and required parking to serve the additional planned facilities, identified as Phase 5. The additional parking to support Phase 5 may be located off-site and would be analyzed as part of future implementation of the project.

Table A.3-2 summarizes the project components under the Current Expansion phase and the Phase 5 Expansion phase.

Table A.3-2 Expansion Building Summary

Building Name	Approximate Building Area (Square Feet [SF])	Use	Building Height[1]
Current Expansion			
New Acute Care Hospital Tower	281,000 SF – 331,000 SF	Medical Services	Up to 5 Stories (80 feet [ft] excluding mech. screen)
New Multi-Story Parking Structure	Footprint 90,000 SF; total SF under review, pending parking study	Parking and Heliports[3]	8-12 Stories[2] (120 ft rooftop deck)
New Central Utility Plant	25,000 SF – 30,000 SF	Support	Up to 2 Stories 55-60 ft

Building Name	Approximate Building Area (Square Feet [SF])	Use	Building Height[1]
Current Expansion			
New Fuel Tank Yard	2,500 SF – 3,500 SF	Support	55 ft
New Generator Building Addition	2,000 SF – 3,500 SF	Support	55 ft
New Plant Maintenance Building	15,000 SF – 18,000 SF	Support	Up to 2 Stories 55 ft
Phase 5 Expansion			
Acute Care Hospital Tower	Potential expansion up to 150,000 SF	Medical Services	Up to 5 Stories (80 ft excluding mechanical screen)
Parking Structure (Location to be determined)	200,000 SF	Parking	TBD

Notes:

[1] Roof mounted structures are not included in building heights.

[2] Height of the parking structure may be increased to up to 12 stories, depending upon allowed setbacks and building design requirements as determined through the City's entitlement process.

[3] The existing heliport located on the roof of the St. Joseph's Medical Center main hospital building would remain and up to two (2) new heliports may be added on the roof of the new parking structure.

Due to constraints of available land within the Medical Center campus, it is anticipated that the Future Expansion phase would occur on properties to be determined in the future. Future Expansion is included in the MDP to support the continued growth of the Medical Center, and these off-site properties may be incorporated through a future administrative process.

A.4 REQUIRED CITY APPROVALS/ENTITLEMENTS

The City has identified the following discretionary approvals/entitlements for the project. Ministerial approvals would include permits for temporary activities (e.g., for construction activities).

- Adoption of the Master Development Plan
- Land Use Permits, Zoning Clearances, and Design Review
- Development Agreement
- Certification of the EIR

A.5 ISSUES TO BE ANALYZED IN THE EIR

The City of Stockton has determined that an EIR will be prepared for the project. The EIR will consider the potential environmental effects of the project as well as identify mitigation measures and alternatives to the project.

The following issue areas would not result in any significant impacts and would be addressed in an Initial Study (IS) (CEQA Guidelines Section 15128): Agriculture and Forestry Resources; Hydrology and Water Quality; Mineral Resources; Population and Housing; Public Services and Recreation; and Wildfire. Given the developed nature of the site, Biological Resources, Geology and Soils, and Hazards and Hazardous Materials may also be addressed in the IS rather than the EIR.

Concerns to be addressed in the EIR are summarized as follows:

Aesthetics and Visual Resources

The EIR will consider the height, mass and architectural character of proposed structures and site improvements and development and design standards provided in the MDP, their relationship to surrounding development and consistency with City design standards and zoning, together with potential lighting and glare impacts. The environmental analysis will provide a description of views to and from the project site, supplemented by photographs. A shadow study for the parking structure, as required by the City, will also be included in the analysis.

Air Quality

The EIR will quantify construction and operational air pollutant emissions associated with the project, their relationship to state and federal standards, any exceedance of applicable emissions thresholds, carbon monoxide concentrations at nearby congested intersections, and any toxic air contaminants and odors. The EIR will include a Health Risk Assessment for project operation and possibly construction activities to address potential air toxic emissions and potential health effects on occupants of surrounding lands.

Biological Resources

This section may be fully addressed in the IS. If it is determined biological resources should be addressed in the EIR, the existing biological resources will be described and the potential impacts of the proposed hospital expansion to those resources. Any potential impacts on habitat for special-status and migratory species, wetlands, riparian areas, stream channels, and other sensitive habitats as well as potential mitigation will be addressed.

Cultural Resources

The EIR will include the results of a cultural resources records search of the project site including a 0.5-mile radius, an evaluation of buildings to determine significance for listing on a federal or state list of historic buildings; and archeological survey of the project site, and consideration of the potential impacts on known and as yet-undiscovered historical and/or archaeological resources.

Energy

The EIR will analyze predicted energy consumption associated with the project and will consider existing energy standards and regulations. The EIR will identify the project potential, if any, for wasteful or inefficient use of energy.

Geology and Soils

This section may be fully addressed in the IS. If it is determined potential impacts could occur, the EIR will describe the general geology of the project area, potential geotechnical and seismic hazards, soil quality and erosion potential, suitability of soil for development, and potential effects on unique geological or paleontological resources (if present).

Greenhouse Gas Emissions

The EIR will quantify and identify the significance of construction and operational greenhouse gas (GHG) emissions associated with the project and the project's consistency with applicable GHG management plans, including the City's Climate Action Plan.

Hazards and Hazardous Materials

This section may be fully addressed in the IS. If it is determined potential impacts could occur, the EIR will document the presence or absence of documented environmental contamination on and near the project site. Use, storage, and transportation of hazardous materials associated with proposed uses and potential for environmental contamination will be evaluated.

Land Use

The EIR will analyze the project's consistency with the Stockton General Plan, zoning, and other applicable land use plans and ordinances.

Noise

The EIR will describe the existing noise environment and the potential effects of project construction and operation on sensitive land uses adjacent to and near the project site. The analysis will identify and discuss applicable noise exposure standards at the local (City General Plan and City Code), state and federal levels. Noise associated with the proposed heliport(s) will also be evaluated.

Transportation

The EIR will describe the location, nature, and operation of existing transportation systems serving the project site and vicinity. The EIR will quantify and consider the generation of vehicle miles traveled (VMT) associated with new employees and patients. The EIR will also evaluate consistency with applicable transportation plans and impacts on or related to alternative travel modes, such as pedestrian, bicycle and transit services and facilities, including the City's Bicycle Master Plan.

Tribal Cultural Resources

The EIR will document City compliance with AB 52 tribal cultural resource consultation requirements, including the AB 52 notification process, any tribal requests for consultation, impacts on resources of potential importance to local tribes, and the results of the consultation process.

Utilities

The EIR will describe existing and planned utility systems serving the project site and surrounding development. The EIR will identify any necessary extension of water, wastewater, storm drainage, solid waste, and other utilities required to serve the project and the potential environmental impacts of those extensions. Conveyance capacity of the City's infrastructure will also be evaluated.

Cumulative Impacts

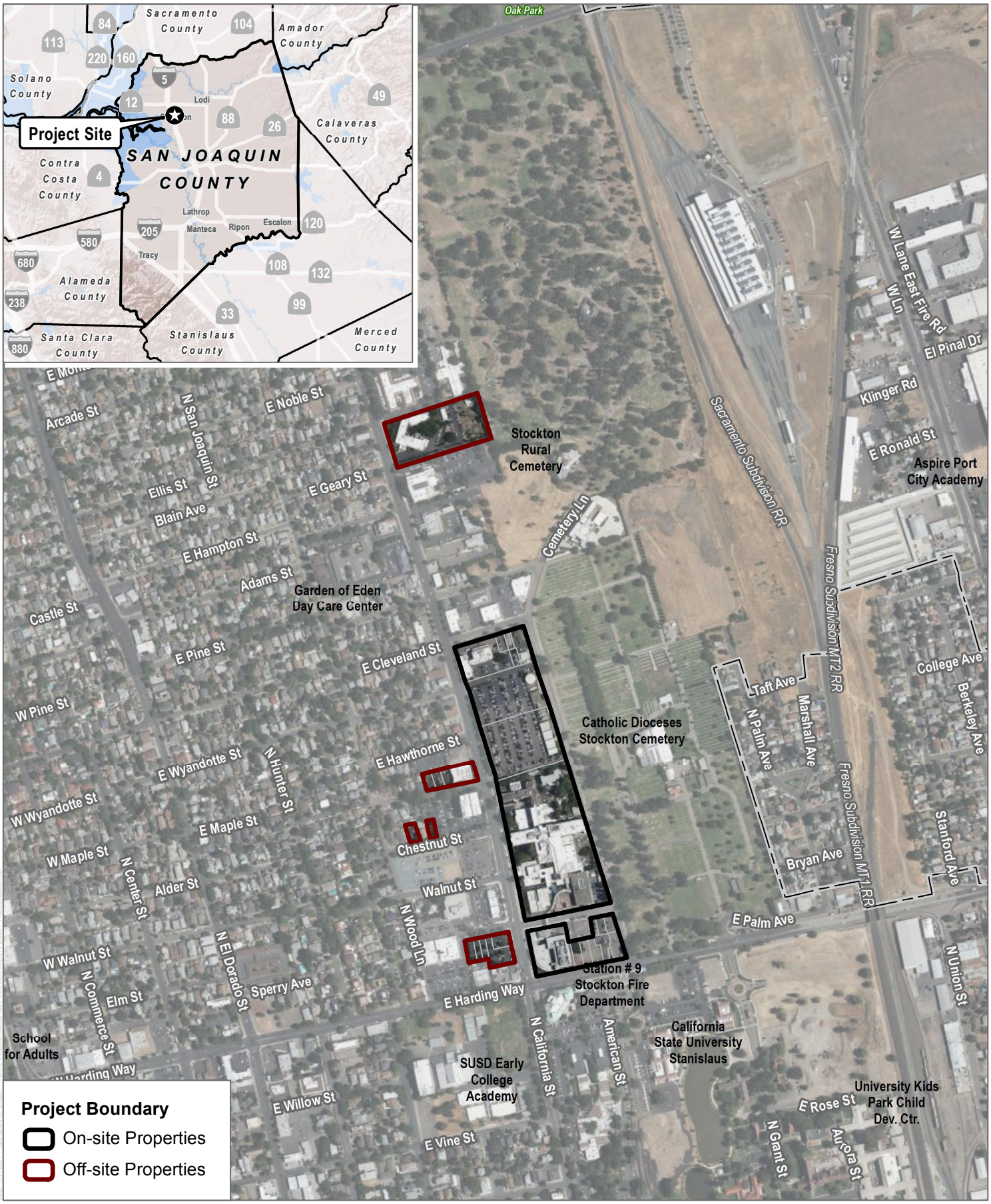
The EIR will consider the potential cumulative impacts of the project in all the above- listed resource areas, based primarily on the analysis of citywide environmental effects in the City's recently adopted Envision Stockton General Plan 2040 and EIR.

Alternatives to the Proposed Project

The EIR will evaluate the comparative environmental effects of a reasonable range of alternatives to the proposed project, including the required No Project Alternative. The range of alternatives is to be determined.

Growth-Inducing Impacts

The EIR will include consideration of the potential effects of the proposed project on planned or potential urban development relying on the City's recently adopted Envision Stockton 2040 General Plan and EIR.



SOURCE: Bing Imagery 2021; Open Street Map 2020; County of San Joaquin 2019

DUDEK

0 350 700 Feet

FIGURE 1

Project Location

St Joseph's Medical Center Expansion Project



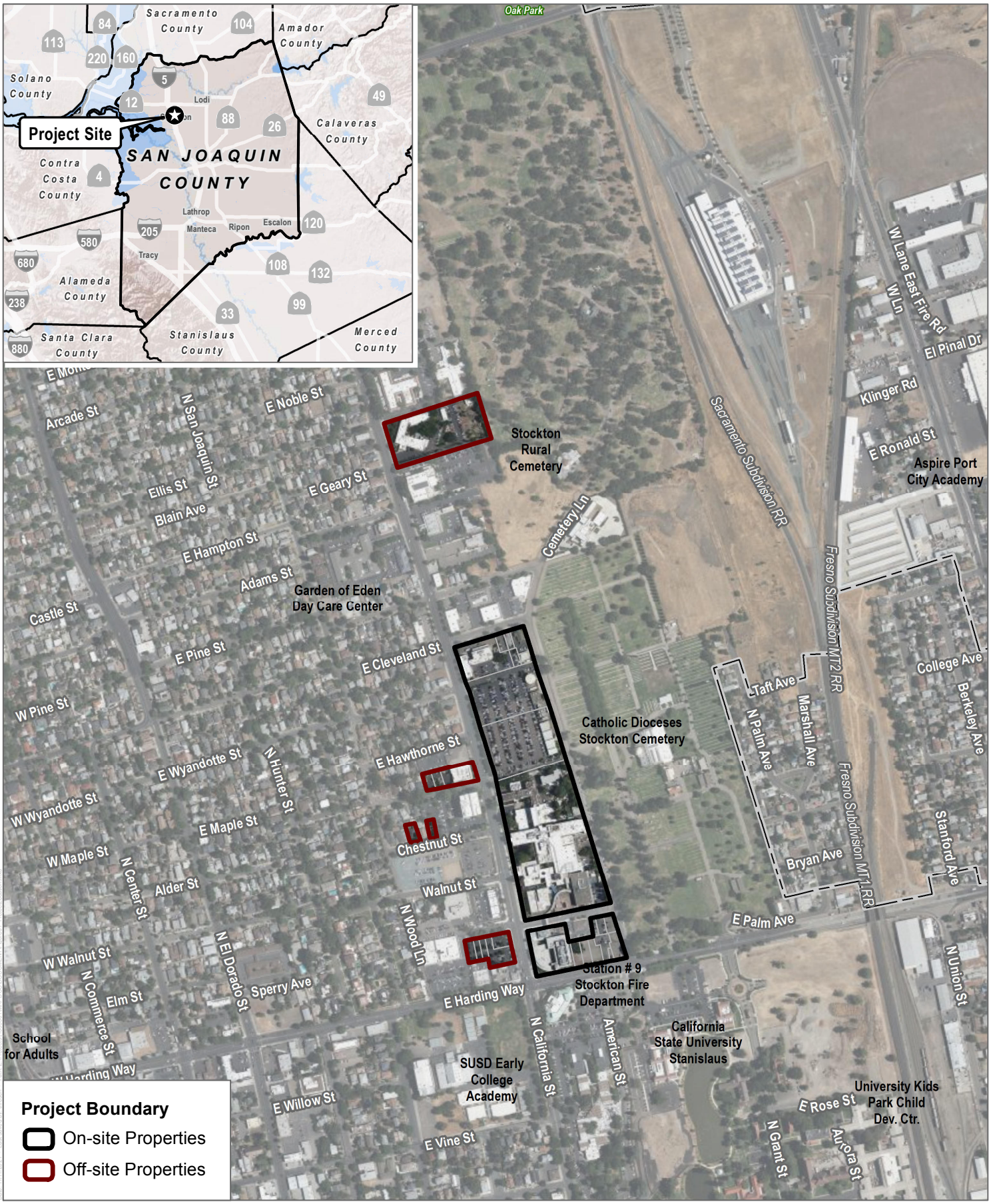
Source: Dignity Health 2021

FIGURE 2

Conceptual Site Plan

St Joseph's Medical Center Expansion Project

DUDEK



SOURCE: Bing Imagery 2021; Open Street Map 2020; County of San Joaquin 2019

DUDEK

0 350 700 Feet

FIGURE 1

Project Location

St Joseph's Medical Center Expansion Project



Source: Dignity Health 2021

FIGURE 2

Conceptual Site Plan

St Joseph's Medical Center Expansion Project

DUDEK

18 January 2022

Nicole Moore
City of Stockton, Community Development Department
345 North El Dorado Street
Stockton, CA 95202
Nicole.Moore@stocktonca.gov

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH
Jan 18 2022
STATE OF CALIFORNIA

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, ST. JOSEPH'S MEDICAL CENTER HOSPITAL EXPANSION PROJECT, SCH#2021120439, SAN JOAQUIN COUNTY

Pursuant to the State Clearinghouse's 17 December 2021 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the St. Joseph's Medical Center Hospital Expansion Project, located in San Joaquin 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

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

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

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

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) 464-4856 or Nicholas.White@waterboards.ca.gov.

Nicholas White
Water Resource Control Engineer

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

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December 20, 2021

Governor's Office of Planning & Research

Dec 24 2021

STATE CLEARINGHOUSE

Nicole Moore
City of Stockton, Community Development Department
345 N. El Dorado Street
Stockton, CA 95202

Re: 2021120439, St. Joseph's Medical Center Hospital Expansion Project, San Joaquin County

Dear Ms. Moore:

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: Katy.Sanchez@nahc.ca.gov.

Sincerely,

Katy Sanchez

Katy Sanchez
Associate Environmental Planner

cc: State Clearinghouse

SIERRA CLUB
DELTA-SIERRA GROUP
MOTHER LODE CHAPTER

Delta-Sierra Group
Mother Lode Chapter
P.O. Box 9258
Stockton CA 95208

Nicole Moore
City of Stockton
345 N. El Dorado Street
Stockton CA 95202
via email: Nicole.Moore@stocktonca.gov.

January 17, 2022

Re: PREPARATION OF ENVIRONMENTAL IMPACT REPORT, ST. JOSEPH'S MEDICAL CENTER HOSPITAL EXPANSION PROJECT

The Delta-Sierra Group has reviewed the Notice of Preparation (NOP) for the St. Joe's project and has the following comments.

Project

The NOP project description fails to adequately describe the expansion in terms of the existing facility.

Recent news accounts describe the project as "a sweeping expansion that will include a new emergency department and more than 140 additional hospital beds," including 120 acute hospital beds, 24 intensive care unit beds. Thus, the expansion would apparently equal an approximate 40% addition over the current 355 hospital beds.

In 2016, Kaiser Permanente bought a 20% stake in St. Joseph's from owner Dignity Health. Following the deal, St. Joseph's emergency department underwent an expansion from 28 to 52 beds at a cost of $8 million.

The project appears to be the direct result of Kaiser entering into a long term financial agreement with St Joe's to provide hospitals services to Kaiser members, instead of Kaiser plans for expanding the exiting clinic on West Lane into a small hospital, as was originally planned decades ago. Is this true?

The DEIR must be much more transparent in describing the purpose of the project than the skimpy description in the NOP.

Proposed Master Development Plan

The project's proposed Master Development Plan outlines long term plans for phased expansion on- and off-site.

When will the draft Master Development Plan be released for public review?

Is it the intention of Dignity and/or the City to involve members of the community in the discussions finalizing the Master Development Plan? If not, why not?

The public review of the DEIR must be accompanied by the draft Master Development Plan in its entirety.

Constrained Site and Consideration of Alternatives

The NOP notes that "The current 18.7-acre Medical Center occupies an in-fill site that is physically constrained and presents a challenge in expanding medical care to serve the growing region. Due to site constraints, the Medical Center also relies upon off-site properties to house medical support services, out-patient treatment, and parking. With the exception of unimproved properties that are identified in the Master Development Plan to be used for temporary structures or parking during construction, the off-site properties are not proposed for modification at this time…"

It appears that the St. Joe's administration is proceeding with a huge expansion plan without examining realistic alternatives for acquiring adjacent vacant or underutilized properties and, instead, attempting to shoe-horn all portions of the near-term expansion on the existing hospital site. The DEIR must consider in detail alternatives to the project that rely more on use of hospital-owned off-site properties and/or involve acquisition of adjacent vacant or underutilized properties.

The Sierra Club will be looking very closely at the alternatives analysis included in the DEIR. The California Environmental Quality Act has very strict and specific requirements for studying a range of feasible alternatives in an EIR. Please do not disappoint us.

A 12-story parking structure?

Perhaps the most disturbing part of this proposed expansion is the proposal to construct a massive new parking garage that would be out of scale with the existing neighborhood.

While the project's new Acute Care Hospital Tower of 281,000 SF – 331,000 SF would be five stories in height, the NOP project description includes a new multi-story parking structure that would be 8 to 12 stories with 1,600 to 1,700 spaces.

The City has no existing parking garage that comes close to 12 stories in height, in downtown or elsewhere.

Again, the hospital administration appears to be trying to cram too of the project in a small campus site.

Transportation, Transit, and Greenhouse Emissions

The proposed Master Development Plan must develop reasonable alternatives to constructing such a huge parking garage. The Master Development Plan must take into account the massive transportation, air quality, noise and other direct impacts to nearby residents (as well as patients and nearby medical workers) caused by a significant increase in single occupant vehicles attracted by a 1,600 to 1,700 space garage.

The proposed Master Development Plan and the DEIR must include very specific mitigation plans to reduce auto trips and control greenhouse emissions due to the 40% increase in hospital beds. The mitigation could, for example, involve a direct annual subsidy by the hospital of added transit service that could be used by workers and vistors.

Biological Resources

The NOP states that "This section may be fully addressed in the IS. If it is determined biological resources should be addressed in the EIR…"

The proposed project is immediately adjacent to two large cemeteries which provide open space and habitat to a wide range of species, some of which are deemed "sensitive" or even legally listed as threatened, e.g., hawks. The existing biological resources of these two major open space areas must be described and the potential impacts of the proposed hospital expansion examined.

Please add me and the Delta-Sierra Group to your CEQA notification list. You may contact me by email at parfrey@sbcglobal.net, or by phone at 209-641-3380.

If there will be opportunities to review the draft Master Development Plan through a community process, please include us in the notification.

Sincerely,



Eric Parfrey
1421 W. Willow
Stockton, CA 95203

Appendix B
Initial Study

Initial Study

St. Joseph's Medical Center Hospital of Stockton Expansion Project

AUGUST 2022

Prepared for:

CITY OF STOCKTON
COMMUNITY DEVELOPMENT DEPARTMENT
345 N. El Dorado Street
Stockton, CA 95202
Contact: Nicole Moore

Prepared by:

DUDEK
1102 R Street
Sacramento, California 95811
Contact: Christine Kronenberg, AICP

DRAFT

Printed on 30% post-consumer recycled material.

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Acronyms and Abbreviations

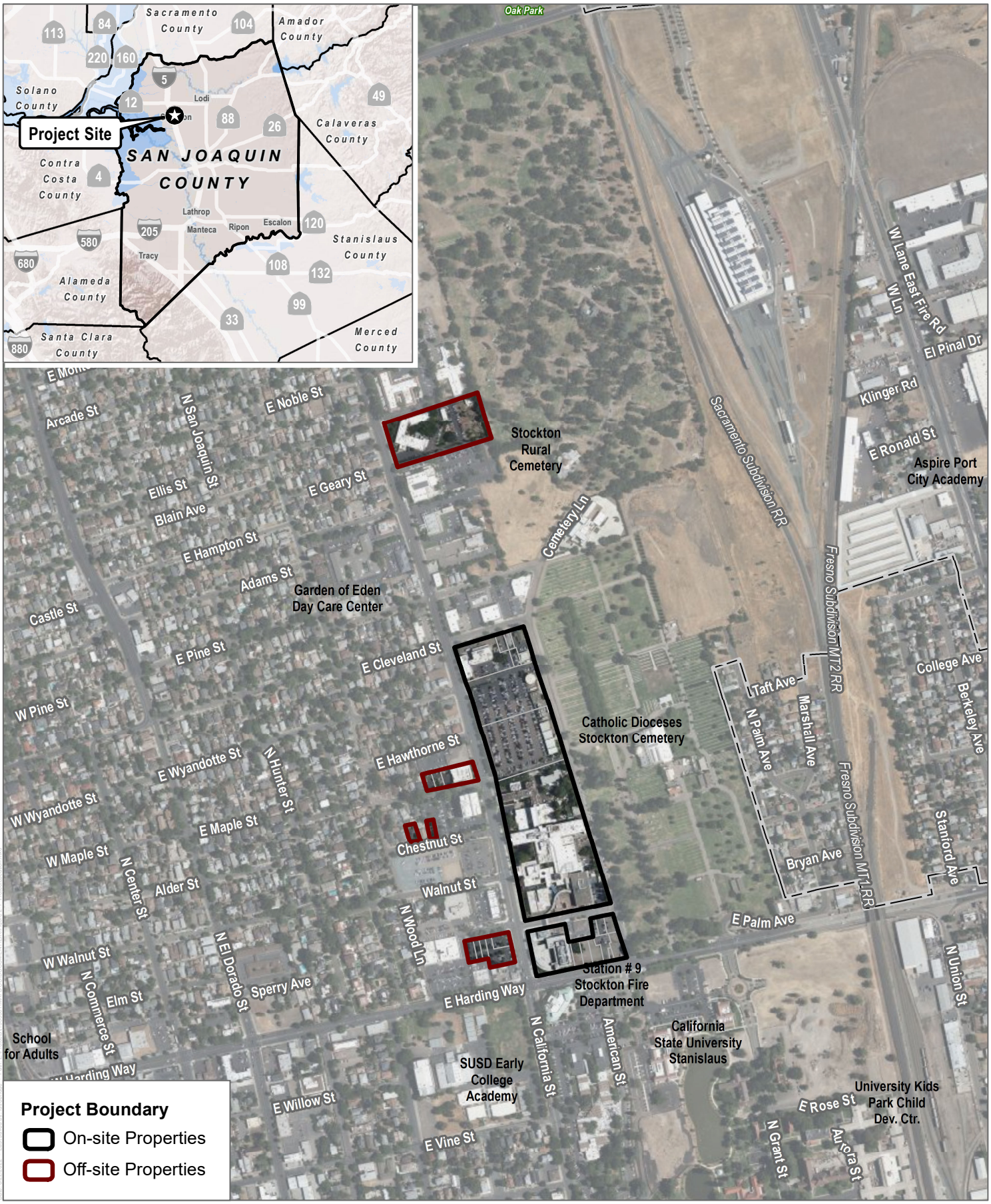
Acronym/Abbreviation	Definition
BMP	best management practices
CEQA	California Environmental Quality Act
CG	Commercial, General
CO	Commercial, Office
EIR	Environmental Impact Report
FHSZ	fire hazard severity zone
GHG	greenhouse gas
HCAI	California Department of Health Care Access and Information
I-5	Interstate 5
IS	Initial Study
LRA	Local Responsibility Area
LTS	less than significant
MDP	Master Development Plan
NOP	Notice of Preparation
OPR	Office of Planning and Research
PF	Public Facilities
PRC	Public Resources Code
PS	potentially significant
RL	Residential, Low Density
RM	Residential, Medium Density
SB	Senate Bill
SR	State Route
UAV	Unmanned Aerial Vehicle
VMT	vehicle miles traveled

1.0 Introduction

1.1 Project Overview and Location

The St. Joseph's Medical Center Hospital Expansion ("proposed project") involves preparation of a Master Development Plan (MDP) that establishes the foundation for the hospital expansion and provides a single, unified concept for future growth of the St. Joseph's Medical Center of Stockton ("Medical Center"). The MDP includes a Site Master Plan which depicts a new main hospital building ("Acute Care Hospital Tower"), a new multi-level parking garage, construction of a new central utility plant, expansion of the existing generator building and other required support facilities within the Medical Center campus boundaries. Development of the proposed project would occur over a span of five phases including a future expansion phase that would likely require the inclusion of additional lands in the project vicinity. Please see Chapter 2, Project Description of the EIR for more detailed project information.

The main portion of the project site is located at the existing 18.7-acre Medical Center campus which is generally bounded by E. Cleveland Street to the north, E. Harding Way to the south, N. California Street to the west, and Cemetery Lane to the east in the City of Stockton (City) (see Figure 1). The Main Hospital Building is located at 1800 N. California Street, approximately 1.3 miles north of State Route 4 (SR-4), 2.3 miles west of State Route 99 (SR-99), and 2.6 miles east of Interstate 5 (I-5). The current Medical Center campus occupies an in-fill site that is underutilized, physically constrained and presents a challenge in expanding medical care to serve the growing region. Due to site constraints and less than efficient utilization of the available property, the Medical Center currently relies upon off-campus properties to house medical support services, out-patient treatment and parking. With the exception of unimproved off-campus properties that are identified in the MDP to be used during construction for temporary structures or parking, the off-campus properties are not proposed for development at this time, but are incorporated into the project's MDP to allow for application of proposed development standards and design guidelines in the event of a use change to any of these properties in the future. The proposed project would involve the 30 parcels listed in Table 1-1, below. Components of the MDP Site Master Plan, including the Acute Care Hospital Tower, parking garage, central utility plant, and other support facilities, are shown on Figure 2.



SOURCE: Bing Imagery 2021; Open Street Map 2020; County of San Joaquin 2019

DUDEK

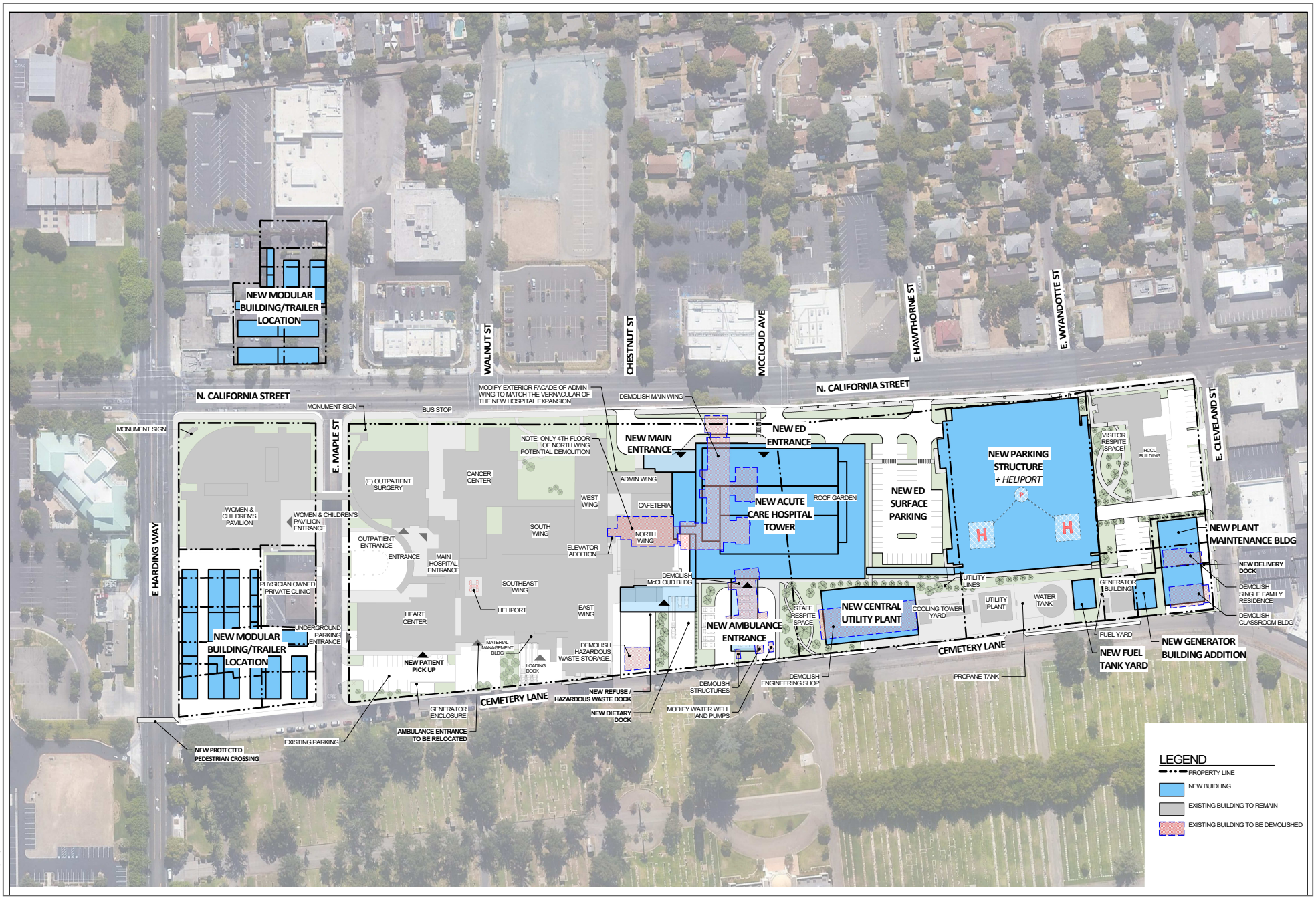
0 350 700 Feet

FIGURE 1

Project Location

St. Joseph's Medical Center of Stockton Hospital Expansion Project

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Source: Dignity Health, 2022

FIGURE 2

Site Master Plan

St. Joseph's Medical Center of Stockton Hospital Expansion Project

DUDEK

Table 1-1. Assessor's Parcel Numbers and Property Description

APN	Description
Existing Medical Center	
127-150-28	Surface Parking (Pavilion)
127-150-29	Surface Parking (Pavilion)
127-150-30	Surface Parking (Pavilion)
127-150-31	Surface Parking (Pavilion)
127-150-32	Surface Parking (Pavilion)
127-150-33	Surface Parking (Pavilion)
127-164-06	Classroom Building 564 E. Cleveland St.
127-164-07	Generator Building
127-164-08	Surface Parking
127-164-15	Surface Parking
127-164-16	Single-Family Residence 554 E. Cleveland St. (vacant)
127-164-22	Health Care Clinical Laboratory Building
127-173-28	Surface Parking, Utility Plant, Water Tank
127-174-30	Surface Parking, Engineering Shop, Cooling Tower Yard, Plant Maintenance Shop Building
127-180-44	Main Hospital (1800 N. California Street), McCloud Building, North Wing 4th Floor, Hazardous Waste Storage
127-190-08	Surface Parking (Pavilion)
127-190-09	Surface Parking (Pavilion)
127-190-10	Surface Parking (Pavilion)
127-190-32	Patient Pavilion
128-180-44	Landscape Storage Building, 564 E. Cleveland Street Classroom Building, Concrete Block Structure
Off-campus	
125-360-15[1]	Behavioral Health Center (2510 N. California Street)
127-140-16[1]	Single Family Residence
127-150-23	Surface Parking
127-150-24	Surface Parking
127-150-25	Surface Parking
127-150-48	Surface Parking
127-150-49	Surface Parking
127-172-11[1,2]	Surface Parking
127-172-12[2]	Surface Parking
127-172-16[1,2]	Medical Offices (1901 N. California Street)
127-180-16[1]	Single Family Residence

Source: St. Joseph's Medical Center
Notes: Unless otherwise noted, all parcels are owned by Port City Operating Company, LLC doing business as St. Joseph's Medical Center.
[1] No changes to these parcels is proposed under this project.
[2] Owned by Dignity Health Medical Foundation.

1.2 California Environmental Quality Act Compliance

This Initial Study (IS) has been prepared per the requirements of the California Environmental Quality Act (CEQA) of 1970 (California Public Resources Code Section 21000, et seq.), and the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.).

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2.0 Summary of Findings

2.1 Environmental Factors Potentially Affected

The environmental topics checked below include one or more potentially significant impacts that will require further analysis in the Environmental Impact Report (EIR). Environmental factors not checked below would either not be impacted by the project, impacted by the project to a less-than-significant level, or impacted by the project to a less-than-significant level with mitigation.

☒ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Energy
☒ Geology and Soils	☒ Greenhouse Gas Emissions	☒ Hazards and Hazardous Materials
☐ Hydrology and Water Quality	☒ Land Use and Planning	☐ Mineral Resources
☒ Noise	☐ Population and Housing	☐ Public Services
☐ Recreation	☒ Transportation	☒ Tribal Cultural Resources
☒ Utilities and Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

2.2 Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

3.0 Initial Study Checklist

1. Project title:

St. Joseph's Medical Center Hospital of Stockton Expansion

2. Lead agency name and address:

City of Stockton
Community Development Department
345 N. El Dorado Street
Stockton, California 95202

3. Contact person, email and phone number:

Michael McDowell
Michael.McDowell@stocktonca.gov
(209) 937-8561

Nicole Moore
Nicole.moore.CTR@stocktonca.gov
(209) 937-8266

4. Project location:

St. Joseph's Medical Center of Stockton campus ("Medical Center campus") is generally bounded by E. Cleveland Street to the north, E. Harding Way to the south, N. California Street to the west, and Cemetery Lane to the east. For APNs, see Table 1, above.

5. Project sponsor's name and address:

Port City Operating Company, LLC, dba St. Joseph's Medical Center of Stockton
1800 N. California Street
Stockton, California 95204

6. General plan designation:

Administrative Professional, Commercial, and Medium-Density Residential

7. Zoning:

Commercial, Office (CO), Commercial, General (CG), and Residential, Medium (RM)

8. Description of project:

The proposed project involves a MDP that establishes the foundation for the hospital expansion and for future growth of the Medical Center. The MDP includes a Site Master Plan which includes the Acute Care Hospital Tower, a new multi-tiered parking garage, construction of a new central utility plant, expansion of the existing generator building and other required support facilities within the Medical Center campus boundaries. Future opportunities for additional medical buildings and required parking to serve such facilities are also included under the MDP as part of a longer-term planning horizon.

The near-term expansion of the Medical Center campus would occur mostly within the existing campus boundaries, with some temporary structures and temporary parking located off-campus. Development of the proposed project would be phased as follows: (1) the "Current Expansion" (Phases 1-4, which would include building and site demolition, site preparation, temporary re-location of support services and parking, construction of the new Acute Care Hospital Tower, related support buildings, and the new parking garage); (2) a "Phase 5 Expansion," which is expected to occur on land within the Medical Center campus, and (3) a "Future Expansion," that would likely require additional off-site lands in the vicinity of the Medical Center.

The Current Expansion, which is anticipated to be built over four phases, would include removal of existing buildings and other site preparation work; construction of a new Acute Care Hospital Tower accommodating the expansion of acute care services; a new parking structure, central utility plant and maintenance building; and other required support facilities, including temporary uses, on the existing Medical Center campus. New water and sewer infrastructure is anticipated to serve the new buildings, and existing utilities in the McCloud Avenue right-of-way would need to be relocated to accommodate the new Acute Care Hospital Tower.

To accommodate the project, the following buildings and components would be removed, as shown in Table 3-1. Additional buildings may also be identified for removal in the future.

Table 3-1. Buildings and Structures to be Removed

Building/Structure	APN
Main Hospital Wing	127-180-44
McCloud Building	127-180-44
North Wing, 4th Floor[1]	127-180-44
Hazardous Waste Storage	127-180-44
Concrete Block Structure (houses the bio-hazard autoclave and associated refuse compactor and bins)	128-180-44
Landscape Storage Building	128-180-44
564 E. Cleveland Street Classroom Building	128-180-44
554 E. Cleveland Street Single-family Residence[2]	127-164-16
Plant Maintenance Shop Building	127-174-30

Notes:
1. Only if necessary to meet seismic requirements.
2. This residence is owned by St. Joseph's Medical Center and is unoccupied.

After completion of the Current Expansion and as new buildings are occupied, there would be an opportunity for continued expansion of Acute Care Hospital services, up to an additional aggregate total of 150,000 sf, and required parking to serve the additional planned facilities, identified as Phase 5. The additional parking to support Phase 5 may be located off-campus and would be analyzed as part of future implementation of the project.

Table 3-2 summarizes the project components under the Current Expansion (Phases 1-4) and the Phase 5 Expansion. A full project description is included in Chapter 2 of the EIR.

Table 3-2. Expansion Building Summary

Building Name	Approximate Building Area (Square Feet [SF])	Use	Building Height[1]
Current Expansion (Phases 1-4)			
New Acute Care Hospital Tower	Up to 331,000 SF	Medical Services	Up to 5 stories (90 feet [ft] excluding mech. screen)
New Multi-Tiered Parking Structure	Up to 1,980 parking stalls Up to 800,000 SF	Parking and Heliports[3]	9 tiers elevated[2] Up to 115 ft to top of parking deck parapet, excluding mechanical screen and heliports
New Central Utility Plant	Up to 30,000 SF	Support	Up to 2 stories Up to 60 ft
New Fuel Tank Yard	Up to 3,500 SF	Support	55 ft
New Generator Building Addition	Up to 3,500 SF	Support	55 ft
New Plant Maintenance Building	Up to 18,000 SF	Support	Up to 2 stories 55 ft
Phase 5 Expansion			
Acute Care Hospital Tower II	Potential expansion up to 150,000 SF	Medical Services	Up to 5 stories (90 ft excluding mechanical screen)
Parking Structure (location to be determined)	To be determined Parking ratio of 5.6 stalls per bed	Parking	To be determined

Source: St. Joseph's Medical Center

Notes:

[1] Building heights, exceptions and roof mounted structures for institutional buildings, expressly including hospitals, are addressed in Section 16.36.090 of the Municipal Code. Building height is intended to accommodate design flexibility. There is no present intent to build what would qualify as a high-rise building.

[2] The existing heliport located on the roof of the St. Joseph's Medical Center main hospital building would remain and up to two new heliports and helicopter or UAV parking areas may be added on the roof of the parking structure..

Due to constraints of available land within the Medical Center campus, it is anticipated that the Phase 5 Expansion would occur on properties to be determined in the future. The Phase 5 Expansion is included in the MDP to support the anticipated continued growth of the Medical Center, and any such off-campus properties may be incorporated into the Medical Center campus through a future administrative process. Because no properties are presently identified for expansion beyond Phase 5, any Future Expansion would be subject to additional environmental review under CEQA.

9. Surrounding land uses and setting:

The City of Stockton's General Plan designates the existing Medical Center campus as Administrative Professional and Commercial. Off-campus areas are designated by the General Plan as Administrative Professional, and Medium Density Residential. Existing on-campus zoning is Commercial, Office (CO) and Commercial, General (CG), and off-campus zoning is Commercial, Office (CO) and Residential, Medium (RM). The surrounding area is developed with medical clinics/offices to the north, the San Joaquin Catholic Cemetery to the east, medical clinics/offices, a behavior health center and City fire station to the south, and medical clinics/offices, residential, and commercial to the west. Surrounding General Plan land use designations are Administrative Professional to the north, Institutional to the east, Mixed Use to the south, and Administrative Professional and Medium Density Residential to the west. Surrounding City zoning designations are Residential, Low Density (RL) to the north and Residential, Medium Density (RM) to the west; Commercial, Office (CO) to the west and Commercial, General (CG) uses to the south; properties to the east and south are zoned for Public Facilities (PF).

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

- San Joaquin Valley Air Pollution Control District
- Caltrans
- Cal Water
- Federal Aviation Administration
- California Department of Health Care Access and Information (HCAI)

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

The City has contacted Native American tribes pursuant to AB 52 and consultation is complete. Please see the analysis of tribal cultural resources in Section 4.4, Cultural and Tribal Cultural Resources included in the Draft EIR.

3.1 Aesthetics

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

a) Would the project have a substantial adverse effect on a scenic vista?

For the purposes of this analysis, scenic vistas are generally defined as an expansive view of highly valued landscape features (e.g., mountain range, lake, or coastline) observable from a publicly accessible vantage point. A project which substantially blocks or alters a view of a scenic vista would be a potentially significant impact. In the project vicinity, publicly accessible vantage points are limited to public roads (N. California Street, E. Harding Way, Cemetery Lane, and E. Cleveland Street) and the San Joaquin Catholic Cemetery. None of these would be considered a scenic vista. In addition, there are no officially designated scenic vistas within the City according to the Envision Stockton 2040 General Plan EIR (City of Stockton 2018b). The General Plan does identify areas along the San Joaquin River and Calaveras River as visually significant; however, the project is not located in proximity to these areas. Therefore, the project would have **no impact** on scenic vistas.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no officially designated state scenic highways within the City's General Plan EIR (City of Stockton 2018b). A project which substantially damages scenic resources visible from a state scenic highway would be a potentially significant impact. According to the California Department of Transportation, the nearest officially designated state scenic highway is Route 160, which is located approximately 25 miles northwest

of the project site (Caltrans 2018). The San Joaquin County General Plan designates portions of Interstate 5 (I-5) and Eight Mile Road as scenic routes (San Joaquin County 2016). However, I-5 is over 1.5 miles west of the project site, Eight Mile Road is approximately 6 miles north of the project site, and neither of these routes are designated state scenic highways. Due to the intervening urban environment and distance from the project site, development of the project would occur outside of the viewshed of the routes mentioned above. Therefore, there would be **no impact** associated with damaging scenic resources within a state scenic highway.

c) ***In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?***

The focus of the first part of this question on visual impacts in non-urbanized areas reflects the assumption that, within densely developed urban areas, new or larger structures typically do not result in significant adverse aesthetic effects due solely to the fact that they would change the visual status quo by adding, for example, additional massing where less existed before. Under CEQA, "the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area." (CEQA Guidelines Section 15064[b][1].) As courts have observed, moreover, "[t]he aesthetic difference between a four-story and a three-story building on a commercial lot on a major thoroughfare in a developed urban area is not a significant environmental impact[.]" (*Bowman v. City of Berkeley* (2004) 122 Cal.App.4th 572, 592.) Here, the project site is indisputably located in an "urbanized area." The CEQA definition of "urbanized area" includes "[a]n incorporated city that meets either of the following criteria: (1) Has a population of at least 100,000 persons. (2) Has a population of less than 100,000 persons if the population of that city and not more than two contiguous incorporated cities combined equals at least 100,000 persons" (Public Resources Code Section 21071[a]). The City of Stockton meets this definition. In 2021, the California Department of Finance estimated the City's population to be 323,884 (DOF 2022).

The project site is located in the City within a developed urbanized neighborhood. As described above in Section 3.0 of this Initial Study, the area surrounding the project site is developed with a mix of residential, commercial, and public facility uses. For the purposes of this analysis, a substantial degradation of the existing visual character or quality of the site would occur if the project would conflict with the underlying zoning or any other City regulations that govern scenic quality. The project has the potential to change the visual character of the site due to increased massing, height of buildings, and building footprints. The EIR will consider the height, mass and architectural character of proposed structures and site improvements and development and design standards provided in the MDP, their relationship to surrounding development and consistency with City design standards and zoning. The environmental analysis will provide a description of views to and from the project site, supplemented by photographs. A shadow study for the parking structure, as required by the City, will also be included in the analysis. The project has the potential to change the visual character of the site and surroundings; therefore, this impact is **potentially significant** and would be further analyzed in the EIR.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

A project which creates new light or glares sources that would adversely affect day or nighttime views in the area would be a potentially significant impact. The project would include new building lights, pathway lighting, lighting for safe ambulance arrival and departure, parking lot lighting for security and safety, and episodic nighttime illumination to ensure safe operation of the heliports. These new sources of light would be required to comply with the City's outdoor lighting standards set forth in the Stockton Municipal Code Sections 16.32.070 and 16.36.060(B), which requires that exterior lights be located to eliminate spillover illumination or glare onto adjoining properties and to not prohibit any interference with the normal operation or enjoyment of adjacent property. The Municipal Code also requires that exterior lights be controlled so that they are not directed across a property line or upward into the sky; lights must be energy-efficient, stationary, and shielded; bare bulbs are prohibited.

Glare occurs when light is reflected off of surfaces and causes a nuisance to surrounding sensitive receptors. Glare can result from sunlight or from artificial light reflecting off building exteriors, such as glass windows or other highly reflective surface materials.

The project, which includes future development under the MDP subject to the above design standards which are included in the MDP design standards, would adhere to the City's lighting requirements and would use building materials that would minimize glare; therefore, the project would not cause substantial light or glare impacts and impacts associated with an increase in light and glare would be **less than significant.**

Mitigation Measures

No mitigation measures are required at this time. If the EIR concludes that the topics discussed above will result in significant impacts in the absence of mitigation, the EIR will propose mitigation measures.

3.2 Agriculture and Forestry Resources

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
II.	**AGRICULTURE AND FORESTRY RESOURCES** – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

a) ***Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?***

The California Department of Conservation (DOC) has designated the project site as "Urban and Built-Up Land" (DOC 2018). A project which results in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would be a potentially significant impact. The site does not contain any land identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore,

there would be **no impact** related to converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

The project site contains parcels that are zoned by the City for Commercial, Office (CO), Commercial, General (CG), and Residential, Medium (RM). Potential conflicts with land zoned for agricultural use or lands under an active Williamson Act contract would be a potentially significant impact. These zoning districts are intended to provide commercial and residential land uses and do not allow traditional agricultural activities or facilities. These zoning districts allow for urban agriculture uses, subject to provisions of the Stockton's Development Code; per the Municipal Code, urban agriculture involves activities such as gardening, hydroponics, and urban beekeeping. Due to the scale and nature of these activities, the proposed project would not preclude future urban agriculture from occurring. Furthermore, the site is not planned for or used for any agricultural or forestry purposes and is not subject to a Williamson Act contract. Therefore, there would be **no impact** related to conflict with existing zoning or a Williamson Act contract.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

The project site contains parcels zoned commercial and residential: CO, CG, and RM. The surrounding area is characterized by residential uses and the St. Joaquin Catholic Cemetery, which is designated as a public facility use by the City. The project site is located on an in-fill site that has been developed with a Medical Center including accessory uses. A project that would conflict with lands zoned for forest land or timberland or require a rezone to allow a different land use would be a potentially significant impact. The project would include the removal of trees in order to accommodate the Medical Center expansion. However, no portion of the site is considered forest land[1] as defined in California Public Resources Code Section 12220(g). Timberland[2] (as defined by California Public Resources Code Section 4526) or timberland-zoned timberland production[3] (as defined by Section 51104(g) of the Government Code) is not present on site, nor are there any active or potential commercial timber operations present in the area. Therefore, the project would not conflict with lands zoned for forest land, timberland, or timberland production and there would be **no impact**.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

Refer to answer provided in 'c' above. The project would not result in the loss of forest land or conversion of forest land to non-forest use; there would be **no impact**.

[1] "Forest land" is land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

[2] "Timberland" means land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis.

[3] "Timberland production zone" or "TPZ" means an area, which is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses.

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Refer to answers provided in 'a', 'b', and 'c' above. The project would not involve changes in the existing environment that could result in the conversion of farmland to non-agricultural use or conversion of forest land to non-forest use; there would be **no impact.**

Mitigation Measures

No mitigation measures are required.

3.3 Air Quality

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☒	☐	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☒	☐	☐	☐

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

The project site is within the San Joaquin Valley Air Basin. The San Joaquin Valley Air Pollution Control District (SJVAPCD) has jurisdiction over this Air Basin and is tasked with developing and implementing air quality plans. The project has the potential to conflict with or obstruct implementation of applicable air quality plans set by the SJVAPCD due to demolition, construction, and operation of expanded Medical Center facilities under the project, which would be a potentially significant impact. The EIR will quantify construction and operational air pollutant emissions associated with the project and their relationship with applicable SJVAPCD air quality plan(s). This impact is **potentially significant** and will be further analyzed in the EIR.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The project, due to demolition, construction, and operation of future facilities, could lead to a net increase of criteria pollutants for which the project region is in non-attainment under applicable federal or state ambient air quality standard(s), which would be a potentially significant impact. The EIR will quantify criteria pollutants and analyze their net increase as related to federal and state ambient air quality standard(s). This impact is **potentially significant** and will be further analyzed in the EIR.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

The project has the potential to expose sensitive receptors to substantial pollutant concentrations due to the demolition of existing structures and construction and operation of future Medical Center facilities, which would be a potentially significant impact. The EIR will quantify and analyze these impacts on nearby sensitive receptors. The EIR also will include a Health Risk Assessment for project operation and construction activities that address potential toxic air emissions and health effects on occupants of surrounding lands, including sensitive receptors. This impact is **potentially significant** and will be further analyzed in the EIR.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The project has the potential to result in other emissions including odors that could adversely affect people in the project vicinity due to the demolition of existing Medical Center buildings and construction of new facilities, which would be a potentially significant impact. This impact is **potentially significant** and will be further analyzed in the EIR.

Mitigation Measures

No mitigation measures are required at this time. If the EIR concludes that the topics discussed above will result in significant impacts in the absence of mitigation, the EIR will propose mitigation measures.

3.4 Biological Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – Would the project:				
a) 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 California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) 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 Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) 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?	☐	☐	☐	☒
d) 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?	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

A Biological Resource Assessment ("BRA") for the proposed project was prepared by Dudek biological staff in September 2021 and will be included in Appendix D of the EIR. The BRA summarizes the results of biological resource desktop studies and a field investigation of the project site. The BRA describes existing biological resources on the project site and immediately surrounding area in terms of vegetation, plants, wildlife, and wildlife habitats.

a) ***Would the project 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 California Department of Fish and Game or U.S. Fish and Wildlife Service?***

The BRA included the approximate 27.6-acre project footprint, plus a 100-foot buffer around the project site.[4] The entire project site is characterized by ruderal and other non-native species, and the 100-foot buffer area is entirely developed. As a result, the potential for special-status species occurrence is very low to non-existent. A project that would have a substantial adverse effect on a candidate, sensitive, or special status species would be considered to have a potentially significant impact. Further details are provided below:

[4] The APE includes the 18.7 acre campus, plus a 100 foot buffer around the campus, and the offsite properties.

Plant Species

No special-status plant species were detected within the area of potential effects ("APE") during the biological survey conducted on August 11, 2021. Based on the results of the desktop literature review, 23 special-status plant species were identified as previously occurring within the vicinity of the project site. However, none of these species are expected to occur within the APE based on the current disturbance levels observed during the survey, mix of impervious surfaces, vegetation communities (habitat) present, dominance of non-native and ornamental plant species, elevation ranges, and previous recorded occurrences. Additionally, there is no Critical Habitat designated by the United State Fish and Wildlife Service ("USFWS") for listed plant species within the APE. As a result, direct or indirect impacts to special-status plant species associated with future development of the project would be **less than significant**.

Wildlife Species

No special-status wildlife species were detected within the APE during the survey on August 11, 2021. Based on the results of the desktop literature study, 41 special-status wildlife species were identified as occurring within the region. Each of those 41 special-status wildlife species was determined to have either no potential to occur or a low potential to occur based on lack of vegetation communities that provide habitat, level of human disturbance, surrounding land uses, distance to known occurrences, and elevation. Additionally, there is no USFWS-designated Critical Habitat for federally listed wildlife species within the APE. As a result, direct or indirect impacts to special-status wildlife species would be **less than significant**.

b) Would the project 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 Game or U.S. Fish and Wildlife Service?

A project that would adversely affect riparian habitat or other sensitive natural communities would be considered to have a potentially significant impact. The project site is characterized by disturbed and ornamental land covers and lacks riparian habitat or sensitive vegetation communities. As a result, the project would have **no impact** to riparian habitat or any other sensitive natural community.

c) Would the project 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?

A project that would have an adverse effect on state or federally protected wetlands would be considered to have a potentially significant impact. Based on the site survey no state or federally defined waters of the United States or waters of the state occur within the project site or the APE. The proposed project would not have a substantial adverse effect on any federally protected wetlands. Therefore, the project would have **no impact**, either directly or indirectly, to jurisdictional waters or wetlands.

d) Would the project 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?

A project that would interfere with native resident or migratory wildlife species, or their migratory corridors or nursery sites, would be considered to have a potentially significant impact. The project, due to demolition,

construction, and operation of future facilities could substantially interfere with the movement of migratory wildlife species. This impact is **potentially significant** and will be further analyzed in the EIR.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

A project that would conflict with local policies or ordinances protecting biological resources would be considered to have a potentially significant impact. Implementation of the project would result in construction and operational activities that would result in the removal of trees from the project site that could conflict with the City's tree ordinance. This impact is **potentially significant** and will be further analyzed in the EIR.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

A project that would conflict with an adopted Habitat Conservation Plan or Natural Community Conservation Plan would be considered to have a potentially significant impact. The project is within the San Joaquin Multi-Species Conservation Plan Area (Conservation Plan). However, the plan primarily covers conversion of undeveloped open space and agricultural areas to development. The project's proposed redevelopment of disturbed and developed spaces is not a covered activity under that plan. Moreover, the redevelopment of the project site would not conflict with any goals or objectives of the Conservation Plan. The project site is not within or adjacent to any other conservation plan areas or a designated conservation area. As a result, the project would not conflict with any local, regional or state habitat conservation plans and **no impact** would occur.

Mitigation Measures

No mitigation measures are required at this time. If the EIR concludes that the topics discussed above will result in significant impacts in the absence of mitigation, the EIR will propose mitigation measures.

3.5 Cultural Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

A project that would adversely affect the significance of a historical resource would be considered to have a potentially significant impact. Historical resource is a term with a defined statutory meaning (see Public Resources Code section 21084.1 and CEQA Guidelines section 15064.5(a), (b). The term includes any resources listed or determined to be eligible for listing in the National Register of Historic Places, as well as some California State Landmarks and Points of Historical Interest. The term also can include resources included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code). In addition, historical resources are evaluated against the California Register of Historical Resources criteria prior to making a finding as to the project's impacts on historical resources. Due to the age of the buildings and local connection to the community and the removal of buildings to accommodate the project, this is considered **potentially significant** and will be analyzed in the EIR.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

A project that would adversely affect the significant of an archaeological resource would be considered to have a potentially significant impact. The project has the potential to cause a substantial adverse change in the significance of previously undiscovered unique archaeological resources or historical resources of an archaeological nature pursuant to §15064.5 due to ground-disturbing activities associated with the construction of future facilities under the MDP. This is considered **potentially significant** and will be analyzed in the EIR.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Based on the disturbed nature of the project site, it is anticipated the site has a low potential for discovering and/or disturbing human remains. However, due to proximity of the site to the San Joaquin Cemetery it is considered sensitive for the presence of human remains, including those interred outside of formal cemeteries. Therefore, there is the potential project construction could have the potential to encounter human remains. This is considered a **potentially significant impact** and will be analyzed in the EIR.

Mitigation Measures

No mitigation measures are required at this time. If the EIR concludes that the topics discussed above will result in significant impacts in the absence of mitigation, the EIR will propose mitigation measures.

3.6 Energy

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Energy – Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☒	☐	☐	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☒	☐	☐	☐

a) ***Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?***

The short-term construction and long-term operation of the project would require the consumption of energy resources in several forms at the project site and within the project area. If a project results in the wasteful, inefficient or unnecessary consumption of energy during construction or operation this would result in a potentially significant impact. The project involves construction and operational energy consumption of electricity, natural gas, and petroleum fuels. Because project-specific energy consumption estimates are currently unknown, this impact is considered **potentially significant** and will be further analyzed in the EIR.

b) ***Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?***

A project that would conflict with state or local plans regarding renewable energy or energy efficiency would be considered to have a potentially significant impact. The project would be required comply with the most current Title 24 California Building Code/Code of Regulations (2019), CAL Green Code, California Green Building Standards Code, and 2019 energy standards at the time of building construction, as amended by the State of California. Future development under the MDP would be required to comply with all current Title 24 energy requirements in effect at that time. During both construction and operation of the project, the project applicant or its contractor would be required to comply with all state regulations related to solid waste generation, storage, and disposal, including the California Integrated Waste Management Act, as amended. However, project compliance with state and local plans for renewable energy or energy efficiency will be further analyzed in the EIR. As such, impacts related to the project's potential to conflict with plans for renewable energy are **potentially significant** and will be further analyzed in the EIR.

Mitigation Measures

No mitigation measures are required at this time. If the EIR concludes that the topics discussed above will result in significant impacts in the absence of mitigation, the EIR will propose mitigation measures.

3.7 Geology and Soils

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS – Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☒	☐	☐	☐
ii) Strong seismic ground shaking?	☒	☐	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☒	☐	☐	☐
iv) Landslides?	☒	☐	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☒	☐	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☒	☐	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☒	☐	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

A project that would cause potential substantial adverse effects, including the risk of loss, injury, or death involving earthquake faults, seismic ground shaking, seismic-related ground failure, or landslides, would be considered to have a potentially significant impact. Because the project would involve new construction and an increase in patients at the site, this impact is **potentially significant** and will be further analyzed in the EIR.

b) Would the project result in substantial soil erosion or the loss of topsoil?

A project that would cause substantial soil erosion or loss of topsoil would be considered to have a potentially significant impact. The project, due to demolition and construction activities, could result in soil erosion. This impact is **potentially significant** and will be further analyzed in the EIR.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

A project located on unstable geology or soil or that would cause the area to be unstable would be considered to have a potentially significant impact. The project, if located on a geologic unit or soil that is unstable, could result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. This impact is **potentially significant** and will be further analyzed in the EIR.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

A project located on expansive soils would be considered to have a potentially significant impact. If located on expansive soils, the project could create substantial direct or indirect risks to life or property. This impact is **potentially significant** and will be further analyzed in the EIR.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

A project without soils capable of supporting proposed septic tanks or alternative wastewater disposal systems would be considered to have a potentially significant impact. No septic tanks or alternative wastewater disposal systems are proposed; therefore, the project would have **no impact** related to septic tanks or alternative wastewater disposal systems.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

A project that would destroy unique paleontological resources or unique geologic features would be considered to have a potentially significant impact. The project, due to demolition, construction, and operation of future facilities, could directly or indirectly destroy such resources or features. This impact is **potentially significant** and will be further analyzed in the EIR.

Mitigation Measures

No mitigation measures are required at this time. If the EIR concludes that the topics discussed above will result in significant impacts in the absence of mitigation, the EIR will propose mitigation measures.

3.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

Greenhouse gases (GHGs) are gases that absorb infrared radiation in the atmosphere. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature. Global climate change concerns are focused on whether human activities are leading to an enhancement of the greenhouse effect. Principal GHGs include carbon dioxide, methane, nitrous oxide, O_3, and water vapor. Emissions of GHGs and their contribution to global climate change are considered a cumulative impact by definition; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs worldwide.

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

A project involving the generation of GHG emissions would be considered to have a potentially significant impact on the environment. Construction of the proposed project would result in GHG emissions associated with use of off-road construction equipment and other sources including haul trucks, vendor trucks, and worker vehicles. Following the completion of construction activities, the project would generate GHG emissions from mobile sources (vehicle trips), area sources (landscaping equipment), energy sources (electricity consumption), solid waste generation, water supply, and wastewater treatment.

Therefore, the project would generate GHG emissions, that either directly or indirectly, may have a **potentially significant** impact on the environment. The EIR will further analyze this impact by identifying and quantifying the significance of construction and operational GHG emissions associated with the project.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The project with the potential to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions would be considered to have a potentially significant impact. As described above, the project could generate GHG emissions that are potentially significant due to construction and operation. Therefore, the project has **potentially significant** impact on the environment in that it could conflict with applicable plans, policies, or regulations related to GHGs. The EIR will further analyze this impact by identifying and quantifying the project's GHG emissions and consistency with applicable GHG management plans, policies, and regulations.

Mitigation Measures

No mitigation measures are required at this time. If the EIR concludes that the topics discussed above will result in significant impacts in the absence of mitigation, the EIR will propose mitigation measures.

3.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☒	☐	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☒	☐	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☒	☐	☐	☐
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☒	☐	☐	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project located within 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 result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☒	☐	☐	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

A project that would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials would be considered to have a potentially significant impact. Specifically, the project involves the demolition of structures that could result in a significant hazard through the transport and disposal of demolition debris. This impact is **potentially significant** and will be further analyzed in the EIR.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

A project that would create a significant hazard to the public or the environment through involving the release of hazardous materials into the environment would be considered to have a potentially significant impact. Specifically, the project involves the demolition of structures that could result in the release of hazardous materials. This impact is **potentially significant** and will be further analyzed in the EIR.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

A project that would emit hazardous emissions or handle hazardous materials within one-quarter mile of an existing or proposed school would be considered to have a potentially significant impact. The project site is located near several schools including Cleveland Elementary, El Dorado Elementary, Pittman Charter, Apex Academy, Jefferson School, Lottie Grunsky Elementary, and Health Careers Academy High School. This impact is **potentially significant** and will be further analyzed in the EIR.

d) Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

A project located on a site that is on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 would be considered to have a potentially significant impact. If located on a hazardous materials site, the project could pose a hazard to the public or the environment. This impact is **potentially significant** and will be further analyzed in the EIR.

e) For a project located within 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 result in a safety hazard or excessive noise for people residing or working in the project area?

The closest airport is the Stockton Metropolitan Airport, located approximately 5.3 miles southeast of the project site. A project located within either an airport land use plan or within two miles of a public or private airport where excessive noise could affect people living or working in the area would be a potentially significant impact. The project site is not located within an airport land use plan and is not within two miles of a public airport or public use airport. There would be **no impact**.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

A project that would impair the implementation of or physically interfere with an adopted emergency response or emergency evacuation plan would be considered to have a potentially significant impact. If found inconsistent with an adopted emergency or evacuation plan, the project could expose workers, patients, and visitors to harm in an emergency situation. This impact is **potentially significant** and will be further analyzed in the EIR.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The project site is in an urbanized area of the City within a Local Responsibility Area (LRA) and is not designated as a very high fire hazard severity zone (FHSZ) (CAL FIRE 2007). There are no high or very high FHSZs in Stockton, and the City is not within a State Responsibility Area (SRA). A project that could expose people or structures to loss, injury or death due to wildland fires would be a potentially significant impact.

The project site is within a developed urban area and no wildlands are located on or near the project site. The site is surrounded by irrigated and maintained grass and ornamental vegetation. Fire suppression services in the project area would continue to be provided by the Stockton Fire Department. Because the project site is not in or near an area of high fire hazard severity, adequate fire protection services would be provided by the Stockton Fire Department, and the project would be designed to be Fire Code-compliant; thus, there would be **no impact** related to wildfire hazards.

Mitigation Measures

No mitigation measures are required at this time. If the EIR concludes that the topics discussed above will result in significant impacts in the absence of mitigation, the EIR will propose mitigation measures.

3.10 Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

A project that would violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality would be considered to have a potentially significant impact. The project site is located in an urban built environment and a majority of the site has been previously developed. The project would allow for future development under the MDP, which could add impervious surfaces. While

the project could introduce new impervious surfaces, stormwater runoff would be captured and discharged into the City's existing storm drain infrastructure for treatment and disposal. Additionally, as described in Section 3.7(b), the project applicant is required to develop and implement a SWPPP to control the discharge of pollutants from the construction site. Additionally, the City maintains and implements its MS4 program in accordance with Central Valley Regional Water Quality Control Board (CVRWQCB) Order No. R5-2016-0040-2. As part of its MS4 program, the City has adopted a SWMP (see Section 3.7(b)) which addresses the storm water quality effects of development, including construction and operation. The SWMP includes a variety of programs, including controls on illicit discharges, public education, controls on City operations, and water quality monitoring (City of Stockton 2009). Project drainage design is required to be consistent with the City's MS4 program and SWMP. As such, the proposed project would not violate any water standards or otherwise degrade water quality and impacts would be **less than significant**.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

A project that would impede sustainable groundwater management would be considered to have a potentially significant impact. The project site is within the Eastern San Joaquin County Groundwater Subbasin of the San Joaquin Valley Groundwater Basin. Recharge to the groundwater system in the Stockton area primarily is from percolation of irrigation return water, precipitation, and seepage from reservoirs and rivers. Typically recharge areas are proximate to existing streams and creeks. As described above, runoff from the project site would be discharged into the City's storm drain infrastructure, which is the existing condition of the urban site; the project would be required to implement Low Impact Development approaches and applicable best management practices or BMPs, consistent with the requirements of the City's General Plan, SWMP, and project's site-specific SWPPP. There is an existing well on the project site that could be used to supply water to the hospital in the event of an emergency or loss of access to water. The project would be served by the Cal Water's water supply infrastructure and would not require groundwater. Therefore, the project would not decrease groundwater supplies. As described in Section 3.18, the City's capacity to serve the project for water and stormwater drainage will be addressed in the EIR. For these reasons, project impacts on groundwater supplies and recharge would be **less than significant**.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site?

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

iv) Impede or redirect flood flows?

The project site is located in a developed urban environment with existing stormwater drainage and infrastructure serving the area. However, the project could introduce new impervious areas that could affect

current site drainage patterns. A project that would alter the drainage pattern of an area, resulting in erosion, increased surface runoff or polluted runoff water, or impede or redirect flood flows would be considered to have a potentially significant impact. A Preliminary Drainage Report (Drainage Report) was prepared by Morton Pitalo in April 2022 to assess drainage impacts from the proposed project (included as Appendix A). The Drainage Report determined that the project would result in less impervious surface area than existing conditions; therefore, the total amount runoff water would not increase. As described above and in Section 3.7, the project's drainage design would be required to be consistent with the City's MS4 program and SWMP that addresses stormwater quality impacts for project construction and operation. The SWPPP would also include BMPs designed to minimize polluted runoff and non-stormwater discharges. Therefore, potential alterations of drainage patterns are not expected to cause on- or off-campus erosion, siltation, or flooding. The City has adopted a Storm Water Quality Control Criteria Plan that also identifies BMPs required to be incorporated into project plans. Compliance with the provisions of the Storm Water Quality Control Criteria Plan, including all applicable BMPs, would reduce impacts related to runoff to a level that would be less than significant. According to the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer Viewer, the project site is located within flood hazard Zone X which is an area of minimal flood hazard (FEMA 2021). The project would therefore have no impact on any flood flows. Overall, there would be a **less-than-significant impact** related to alteration of the existing drainage pattern of the site.

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

A project that could risk release of pollutants due to project inundation would be considered to have a potentially significant impact. As discussed previously, the project site is within an area of minimal flood hazard. There are no dams or levees in the vicinity of the project site. The project would not expose people or structures to significant loss related to flooding. The project site is physically removed from any large body of water and is not subject to inundation by seiche, tsunami, or mudflow. Therefore, the project would have **no impact** related to flooding or other water-related hazards.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

A project found inconsistent with a water quality control plan or sustainable groundwater management plan would be considered to have a potentially significant impact. As discussed above, the proposed project would be subject to the City's MS4 permit program, which is intended to minimize impacts to water quality. Also, the project is located in a developed urban area that is not considered a critical recharge area for groundwater supply. The project would be connected to Cal Water's water supply infrastructure and would not extract groundwater to supply the project. Therefore, the proposed project would not conflict or obstruct implementation of the Groundwater Sustainability Plan for the Eastern San Joaquin Subbasin. There would be **no impact**.

Mitigation Measures

No mitigation measures are required.

3.11 Land Use and Planning

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	**LAND USE AND PLANNING** – Would the project:				
a)	Physically divide an established community?	☐	☐	☐	☒
b)	Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐

a) Would the project physically divide an established community?

A project that would physically divide an established community would be considered to have a potentially significant impact. The physical division of an established community is typically associated with the construction of a linear feature, such as a major highway or railroad tracks, which would impair mobility within an existing community or between a community and an outlying area. The project would be constructed on the St. Joseph's Medical Center campus, which is already developed with medical service buildings, ancillary structures, and parking lots. Future construction under the project would involve similar building types which would not include any features that would physically divide an established community. The project would have **no impact** related to the physical division of an established community.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

A project that would conflict with land use plans, policies, or regulations for the purpose of avoiding or mitigating an environmental effect would be considered to have a potentially significant impact. The City's General Plan designates project site parcels as Administrative Professional, Commercial, and Medium-Density Residential; parcels are also zoned CO, GC, and MR, per the City's Municipal Code. The project would be subject to goals and policies within the City's General Plan and standards within the City's Development Code (Title 16 of the Municipal Code). The project could have a **potentially significant** impact if it is found to be inconsistent with applicable land use plans, policies, or regulations. The EIR will analyze the project's consistency with the City's General Plan, Development Code, and other applicable land use plans, policies, and regulations.

Mitigation Measures

No mitigation measures are required at this time. If the EIR concludes that the topics discussed above will result in significant impacts in the absence of mitigation, the EIR will propose mitigation measures.

3.12 Mineral Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

A project that would result in the loss of availability of known mineral resources valuable to the region or state would be considered to have a potentially significant impact. The DOC provides maps that classify lands according to the significance of mineral resource deposits within the area. The DOC designates the project site as being within Mineral Resource Zone 1 (MRZ-1), which describes areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that there is little likelihood for their presence to exist (DOC 2012). According to the EIR prepared for the City's 2040 General Plan Update, there is a low likelihood of significant mineral resources to be present in the City (City of Stockton 2018b). Accordingly, the proposed project would have **no impacts** related to the loss of availability of mineral resources.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

A project that would result in the loss of availability of a mineral resource recovery site would be considered to have a potentially significant impact. Refer to answer provided in 'a' above. The project would not result in the loss of availability of a locally important mineral resource recovery site; **no impact** would occur.

Mitigation Measures

No mitigation measures are required.

3.13 Noise

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE – Would the project result 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 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?	☐	☐	☐	☒

a) Would the project result in 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 applicable standards of other agencies?

A project that would generate a substantial increase in ambient noise levels in excess of published standards would be considered to have a potentially significant impact. Stockton Municipal Code Section 16.60.040 establishes standards for acceptable noise levels for new or expanded development. The project has the potential to result in the generation of substantial increase in ambient noise due to proposed demolition of existing structures, construction, and operation of expanded facilities. The EIR will describe the existing noise environment and the potential effects of project construction and operation on sensitive land uses adjacent to and near the project site. The analysis will identify and discuss applicable noise exposure standards at the local, state, and federal levels. Noise associated with the proposed heliport(s) could lead to **potentially significant impacts**. These impacts will be identified and analyzed in the EIR.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

The proposed project may result in an increase in groundborne vibration or noise levels during project construction, particularly with the use of heavy machinery. Generation of groundborne vibration and/or noise levels could lead to **potentially significant impacts**, especially if near nearby sensitive land uses. These impacts will be identified and analyzed in the EIR.

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?***

A project located within the vicinity of a private airstrip or airport land use plan, or within two miles of a public airport could expose people residing or working in the area to excessive noise levels, which would be considered a potentially significant impact. The closest airport is Stockton Metropolitan Airport, which is located approximately 5 miles south of the project site. The project site is not located within an airport land use plan and is not within two miles of a public airport or public use airport. Thus, the project would not expose people within the project area to excessive noise from airports or airstrips. There would be **no impact**.

Mitigation Measures

No mitigation measures are required at this time. If the EIR concludes that the topics discussed above will result in significant impacts in the absence of mitigation, the EIR will propose mitigation measures.

3.14 Population and Housing

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING – Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) ***Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?***

A project that would induce substantial unplanned population growth would be considered to have a potentially significant impact. The proposed project would primarily serve the San Joaquin County region. The existing Medical Center is currently staffed with approximately 2,865 employees. The Medical Center expansion would employ up to 365 additional staff members. However, this increased number of employees is minimal, and they would likely be hired from the regional work force. Although the project would generate a limited number of short-term construction jobs, these jobs would be accommodated within the regional workforce as well. The project does not include any residential uses or improvements to

off-campus infrastructure such as new roadways or extension of utilities into unserved areas that could induce population growth. Therefore, the proposed project would result in a **less-than-significant impact** related to unplanned population growth.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

A project that would require the construction of replacement housing due to displacement would be considered to have a potentially significant impact. The project site primarily consists of existing medical service, administration, and medical center support buildings. The project site contains one single-family residence on the northern portion of project site along E. Cleveland Street (APN 127-164-16) as well as two off-campus parcels along Chestnut Street that also contain single-family homes (127-140-16 and 127-180-16). No changes are proposed to the off-campus parcels; however, the on-campus residence would be demolished and replaced with a new plant maintenance building. The residence is owned by St. Joseph's Medical Center and is uninhabited. Therefore, demolition of the single-family residence would not displace people or housing and would not necessitate the construction of replacement housing elsewhere. **No impact** would occur.

Mitigation Measures

No mitigation measures are required.

3.15 Public Services

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

The Stockton Fire Department has 182 sworn fire personnel and operates out of 12 fire stations that house a total of 12 engine companies and three truck companies. The nearest fire station to the project site is Fire Station 5, located at 550 E. Harding Way, which is directly south of the project site, across E. Harding Way.

The Stockton Police Department's Main Precinct is located at 22 East Market Street approximately 1.2 miles south of the project site. The Main Precinct houses all field services. Central Services, located at 22 East Weber Street, houses investigations and support services.

The project site is located within a mile of five parks that serve the Stockton community: Oak Park, Caldwell Park, American Legion Park, Eden Park, and Friedberger Park. There are also eight schools within a mile of the project site: Cleveland Elementary, El Dorado Elementary, Pittman Charter, Apex Academy, Jefferson School, Lottie Grunsky Elementary, and Health Careers Academy High School.

a) ***Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:***

Fire protection?

A project would result in a potentially significant impact if it would require new or physically altered fire facilities to serve the project. The Stockton Fire Department provides fire protection service to the City and St. Joseph's Medical Center. Services include fire suppression, emergency medical services, hazardous materials response, dive rescue, and urban search and rescue. The proposed Medical Center expansion would be constructed in accordance with California Fire Code and City building standards, which includes fire protection requirements such as inclusion of sprinklers to reduce fire hazards. The project site is already well-served by a fire station located directly south from the project site and would not impact fire response times. Furthermore, fire department access for the proposed project was analyzed in an October 7, 2021 letter by Fire Consultants, Inc., that reviewed the proposed Medical Center expansion, including fire department access configuration, fire hydrants and available fire flow, and emergency responder radio coverage. The analysis also reviewed existing site conditions and the hospital sprinkler protection system. The letter provides design recommendations for the project that will be incorporated into the project so that it is in compliance with the California Fire Code and City building standards. These recommendations would ensure that new project components would not exacerbate any fire hazards resulting in the increased need for fire services. Therefore, the project would not result in the need to expand the existing fire station and there would be **no impact** on fire protection services.

Police protection?

A project would result in a potentially significant impact if it would require new or physically altered police facilities to serve the project. Police protection services within the City are provided by the Stockton Police Department. The proposed project does not include any uses that would result in a substantial increase in calls for police services. The Stockton Police Department currently patrols the project site and would be available to patrol the expanded Medical Center facilities. According to City's Sphere of Influence/Municipal Service Review, the City indicates that there would eventually be a need for new police facilities as growth continues in the City, particularly in northern Stockton (City of Stockton 2020). However, the project would not necessitate the need for new police facilities and future construction of those facilities would require permitting and environmental review on an individual basis in accordance with CEQA, which would ensure any environmental impacts are disclosed and mitigated to the extent possible. For these reasons, **no impact** on police protection services would result due to project implementation.

Schools?

A project would result in a potentially significant impact if it would require new or physically altered schools to serve the project. The proposed project does not include any residential uses or other components that would induce substantial population growth; therefore, the project would not result in a population increase that would require new schools to serve new City residents. For this reason, **no impact** on schools would result with project implementation.

Parks or Other Public Facilities?

A project would result in a potentially significant impact if it would require new or physically altered parks or other public facilities to serve the project. The proposed project does not include new residential uses and would not induce substantial population growth. Therefore, the project would not create additional demand for parks or other public facilities, such as libraries. The project would not generate a need for new or physically altered parks or other public facilities. There would be **no impact** on parks or other public facilities.

Mitigation Measures

No mitigation measures are required.

3.16 Recreation

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

A project would result in a potentially significant impact if it would increase the use of existing parks or recreational facilities to a point that physical deterioration would occur or be accelerated. The proposed project does not include residential land uses requiring recreation facilities. The project would increase the number of Medical Center employees, but they would likely be hired from the regional workforce. Although

the project would generate a limited number of short-term construction jobs, these jobs would be accommodated within the regional workforce as well. Therefore, demand for recreational facilities would not increase. Because the project would not generate an increase in demand for parks or other recreational facilities such that physical deterioration would occur, there would be **no impacts**.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

A project including or requiring the construction or expansion of recreational facilities could cause an adverse physical effect on the environment, which would be considered a potentially significant impact. As discussed in answer 'a' above, the proposed project would not require the construction or expansion of new parks or recreational facilities. The proposed project would include an on-site outdoor respite area for employees, visitors and patients to use while working or visiting the hospital. Therefore, impacts would be **less than significant**.

Mitigation Measures

No mitigation measures are required.

3.17 Transportation

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION – Would the project:				
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☒	☐	☐	☐
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☒	☐	☐	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐
d) Result in inadequate emergency access?	☒	☐	☐	☐

a) Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

A project that would conflict with any program, plan, ordinance, or policy addressing the circulation system would be considered to have a potentially significant impact. The proposed project would not result in any changes to the existing roadway system. The project would include the construction of a new 1,600 to 1,700 space parking structure and hospital ambulance entrance and result in changed vehicle, pedestrian, and bicycle circulation to/from and within the site. Therefore, the project could potentially conflict with a

program, plan, ordinance, or policy addressing a circulation system and impacts could be **potentially significant**. The EIR will describe the location, nature, and operation of existing transportation systems serving the project site and vicinity and evaluate consistency with applicable transportation plans and impacts on or related to alternative travel modes, such as pedestrian, bicycle and transit services and facilities, including the City's Bicycle Master Plan.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

A project would result in a potentially significant impact if it were inconsistent with CEQA Guidelines section 15064.3, subdivision (b) related to VMT. The proposed project would add new medical services to the region and would therefore result in an increase of vehicle miles traveled (VMT) from increased patients, visitors, and staff. The project impact is considered **potentially significant**. The EIR will quantify and consider the generation of VMT associated with the expanded Medical Center.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

A project that includes hazardous geometric design features or incompatible uses would be considered to have a potentially significant impact. The proposed project includes new entryways to the Medical Center campus to access the Acute Care Hospital Tower, new parking structure, and ambulance entrance. While these design features are compatible with the proposed and neighboring uses, they could be hazardous due to their geometric design and interaction with existing traffic conditions. Project impacts could be **potentially significant**. Therefore, the EIR will identify and analyze these design features to determine if they substantially increase transportation hazards.

d) Would the project result in inadequate emergency access?

A project that would result in inadequate emergency access would be considered to have a potentially significant impact. The project would extend existing ambulance access on Cemetery Lane to the north to access the new Acute Care Hospital Access. Because the project involves the expansion of a Medical Center and changed circulation patterns, as discussed above in section 'c', impacts to emergency access could be **potentially significant**. Therefore, the EIR will analyze proposed emergency access to determine if it is adequate for the public and Medical Center.

Mitigation Measures

No mitigation measures are required at this time. If the EIR concludes that the topics discussed above will result in significant impacts in the absence of mitigation, the EIR will propose mitigation measures.

3.18 Tribal Cultural Resources

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☒	☐	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☒	☐	☐	☐

The project is subject to compliance with AB 52 (California Public Resources Code, Section 21074), which requires consideration of impacts to tribal cultural resources as part of the CEQA process and requires the CEQA lead agency to notify any groups (who have requested notification) and are traditionally or culturally affiliated with the geographic area of the project.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

The project has the potential to cause a substantial adverse change in the significance of a tribal cultural resource due to ground-disturbing activities associated with the construction of future facilities under the MDP, which would be considered a potentially significant impact. The EIR will document City compliance with AB 52 tribal cultural resource consultation requirements, including the AB 52 notification process, any tribal requests for consultation, impacts on resources of potential importance to local tribes, and the results of the consultation process. This impact is **potentially significant** and will be further analyzed in the EIR.

b) ***A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.***

A project that would cause a substantial adverse change in the significance of a tribal cultural resource that fits the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1 would be considered to have a potentially significant impact. Refer to the answer provided in 'a' above. This impact is **potentially significant** and will be further analyzed in the EIR.

Mitigation Measures

No mitigation measures are required at this time. If the EIR concludes that the topics discussed above will result in significant impacts in the absence of mitigation, the EIR will propose mitigation measures. Mitigation measures addressing the possibility of encountering subsurface tribal cultural resources during construction may be developed during EIR preparation after the completion of consultation under AB 52.

3.19 Utilities and Service Systems

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☒	☐	☐	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☒	☐	☐	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☒	☐	☐	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☒	☐	☐	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☒	☐	☐	☐

a) ***Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?***

The proposed project would be served by the existing Cal Water infrastructure, wastewater collection and treatment facilities, stormwater drainage, electric power, natural gas, and telecommunications infrastructure near the project site. However, the project could lead to a **potentially significant impact** if it requires or results in the relocation or construction of new utilities or infrastructure needed to implement the MDP. The EIR will describe existing and planned utility systems serving the project site and surrounding areas. The EIR will also identify any necessary extension of water, wastewater, storm drainage, solid waste, and other utilities required to serve the project and the potential environmental impacts of those extensions. Conveyance capacity of the City's infrastructure will also be evaluated in the EIR.

b) ***Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?***

A project without sufficient water supplies to serve the project during normal, dry, and multiple dry years would be considered to have a potentially significant impact. Refer to answer provided in 'a' above. The project could lead to a **potentially significant impact** due to the potential increase in water demanded associated with the Medical Center expansion. The EIR will quantify water demand for the project and evaluate whether the existing water supply is sufficient to serve the project during normal, dry and multiple dry years.

c) ***Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

A project without adequate capacity to serve wastewater demand would be considered to have a potentially significant impact. Refer to answer provided in 'a' above. The proposed project could lead to a **potentially significant impact** due to the potential increase in wastewater generation associated with the Medical Center expansion. The EIR will quantify wastewater treatment demands for the project and evaluate whether the existing wastewater treatment facilities and conveyance infrastructure have sufficient capacity to serve the project.

d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

A project that would generate solid waste in excess of established standards or local infrastructure, or otherwise conflict with solid waste reduction goals would be considered to have a potentially significant impact. The project would generate new streams of solid waste due to construction and operation of expanded Medical Center facilities under the MDP. The project could lead to a **potentially significant impact** due to the potential increase in solid waste generation, which has the potential to exceed the capacity of local landfills. The EIR will evaluate the amount of solid waste generated by the project and determine whether that amount represents a quantity in excess of the capacity of the local landfill. The EIR will also assess whether project generated solid waste would impair the attainment of solid waste reduction goals.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

A project found inconsistent with federal, state, or local statutes or regulations related to solid waste would be considered to have a potentially significant impact. Refer to answer provided in 'd' above. The project would lead to new streams of solid waste; this could represent a **potentially significant impact** if the project does not comply with federal, state, and local regulations related to solid waste. The EIR will evaluate the amount of solid waste generated by the project and determine if the local solid waste management company and infrastructure (landfills) have capacity to serve the project's disposal needs. The EIR will also identify applicable statutes and regulations and evaluate whether the project would generate solid waste in compliance with those statutes and regulations.

Mitigation Measures

No mitigation measures are required at this time. If the EIR concludes that the topics discussed above will result in significant impacts in the absence of mitigation, the EIR will propose mitigation measures.

3.20 Wildfire

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

The project site is not located in an area classified as a very high fire hazard severity zone (FHSZ) or located in or near a State Responsibility Area (SRA) (CAL FIRE 2007). The area surrounding the project site is developed with a mix of commercial and office buildings, cemeteries, and medium-density residential uses.

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

A project would result in a potentially significant impact if the project were found inconsistent with an adopted emergency response plan or evacuation plan. The project does not include any operations or activities that would potentially interfere with or impair emergency response or evacuation plans. Fire suppression services in the project would continue to be provided by the Stockton Fire Department and the project would be reviewed by the Stockton Fire Department to ensure sufficient access for emergency vehicles. For these reasons, the project would have **no impact** related to implementation of emergency response or evacuation plans.

b) Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

A project that would exacerbate wildlife risks, thereby exposing project occupants to pollutants or the uncontrolled spread of a wildfire would be considered to have a potentially significant impact. The project site is in a local responsibility area (LRA) and is not designated as a very high FHSZ (CAL FIRE 2007). Areas surrounding the site are developed with commercial and office buildings, cemeteries, and residential uses. The proposed project is in an urban developed area and there are no wildlands nearby that would pose a wildfire risk to the project site. Furthermore, the risk of wildfire would be reduced through state and local Fire Code-compliant design to ensure state and local fire safe regulations are implemented. Fire suppression services in the project area would continue to be provided by the Stockton Fire Department. Because the project site is not in or near an area of high fire hazard severity, adequate fire protection

services would be provided by the Stockton Fire Department, and the project would be designed to be Fire Code-compliant, this impact would be **less than significant**.

c) ***Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?***

A project that would require the installation or maintenance of infrastructure may exacerbate fire risk, which would be considered a potentially significant impact. Project-level wildfire risks are low, as the site is not within a very FHSZ designated by CAL FIRE and the area surrounding the project site is already developed with urban uses. The project would require electrical wiring and utility extensions; however, this would not exacerbate fire risk as the project site is located in an area that is already served by existing utilities. Therefore, the project would have a **less-than-significant impact** regarding fire risk associated with new infrastructure.

d) ***Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?***

A project that would expose people or structures to significant risks as the result of runoff, post-fire slope instability, or drainage changes would be considered to have a potentially significant impact. The project site is relatively flat and located within a developed urbanized area that does not contain a significant risk of flooding, landslides, slope instability, or drainage changes. Therefore, the project would have a **less-than-significant impact** regarding landslides and flooding and would not expose people or structures to significant risks in the event of a post-fire situation.

Mitigation Measures

No mitigation measures are required.

3.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☒	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

a) ***Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?***

As discussed in Section 3.4, Biological Resources, the proposed project may have the potential to affect wildlife, fish, and plant species and their habitats due to project construction, demolition, or operation. Impacts to biological resources are considered potentially significant and will be further analyzed in the EIR. Similarly, Section 3.5, Cultural Resources of this IS concludes that project activities may also cause a substantial adverse change in the significance of historical and archaeological resources. Impacts to cultural resources are also considered **potentially significant** and will be further analyzed in the EIR.

b) ***Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)***

For those environmental topics fully addressed in this IS, the analysis provided demonstrates that the project's contribution to existing cumulative impacts would be less than significant and would not be considered cumulatively considerable. For those topics checked in Section 2.1, Environmental Factors Potentially Affected, there are potentially significant impacts that may be cumulatively considerable and will require further analysis in the EIR. This list of impacts includes aesthetics, air quality, biological resources, cultural resources, energy, geology and soils, GHG emissions, hazards and hazardous materials, land use and planning, noise, transportation, and tribal cultural resources. A detailed analysis of these **potentially significant cumulative impacts** will be provided in the EIR.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

For those environmental topics fully addressed in this IS, the analysis identifies project impacts that would be less than significant. Impacts from the project that would cause substantial adverse effects on human beings, such as wildfire, would be less than significant without mitigation as identified in this IS/MND. However, for those topics checked in Section 2.1, there are **potentially significant impacts** that may cause substantial adverse effects on human beings related to aesthetics, air quality, biological resources, cultural resources, energy, geology and soils, GHG emissions, hazards and hazardous materials, land use and planning, noise, transportation, and tribal cultural resources that will be further addressed in the EIR.

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4.2 List of Preparers

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Appendix A
Drainage Study

Attachment 7

St. Joseph's Medical Center, Preliminary Drainage Report, Morton & Pitalo, February 24, 2022

CITY OF STOCKTON, CALIFORNIA

ST. JOSEPH'S MEDICAL CENTER OF STOCKTON

M&P Project No. 21-0074-00 (v.1)

PRELIMINARY DRAINAGE REPORT

April 19, 2022

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PRELIMINARY DRAINAGE REPORT

FOR

ST. JOSEPH'S MEDICAL CENTER OF STOCKTON

City of Stockton, California

April 2022

PREPARED BY:

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1.0 INTRODUCTION

1.1 EXISTING CONDITIONS

The St. Joseph's Medical Center (SJMC) Hospital Expansion Project (the Project) is located within the City of Stockton, California, on approximately 18.7± acres. The project is bounded by E Cleveland Street to the north, N. California Street to the west, Cemetery Lane to the east, and E Harding Way to the south, and divided by another two roadways, E. Maple Street and McCloud Avenue. See **Figure 1** for Vicinity Map.

The SJMC opened in 1899 at its current location on N. California Street. Over the past 120 years, the SJMC site has grown to consist of 27 buildings and accessory structures to consist of 25 buildings on the main Medical Center campus, as well as two additional buildings off-campus.

1.2 PROJECT DESCRIPTION

The Project is anticipated to be built over five phases and will include the following: removal of existing buildings and other site preparation work, the construction of a new hospital building for the expansion of care services, along with a new parking structure, a new central utility plant, plant maintenance building, and other required support facilities on the existing Medical Center.

1.3 APPLICABLE STANDARDS

This drainage report adheres to the following applicable standards:

- City of Stockton 10-Yr Rainfall Intensity Curve Drawing Number D-1 and Storm Design Sheet Drawing Number D-2, City of Stockton Department of Public Works Standard Drawings, September 2016
- County of San Joaquin, Improvement Standards, November 2014
- City of Stockton and County of San Joaquin Stormwater Quality Control Criteria Plan, August 2020

1.4 PREVIOUS STUDIES

The SJMC facility is over 120-years old. Previous drainage studies must have been prepared for the facility throughout the years, however, no previous studies, to the extent they exist, have been provided for review by either the owner or the City of Stockton.

1.5 OBJECTIVES OF ANALYSIS

The purpose of this Preliminary On-Site Drainage Report is to provide a guide for development within a plan area and support the Environmental Impact Report (EIR) for the Project.

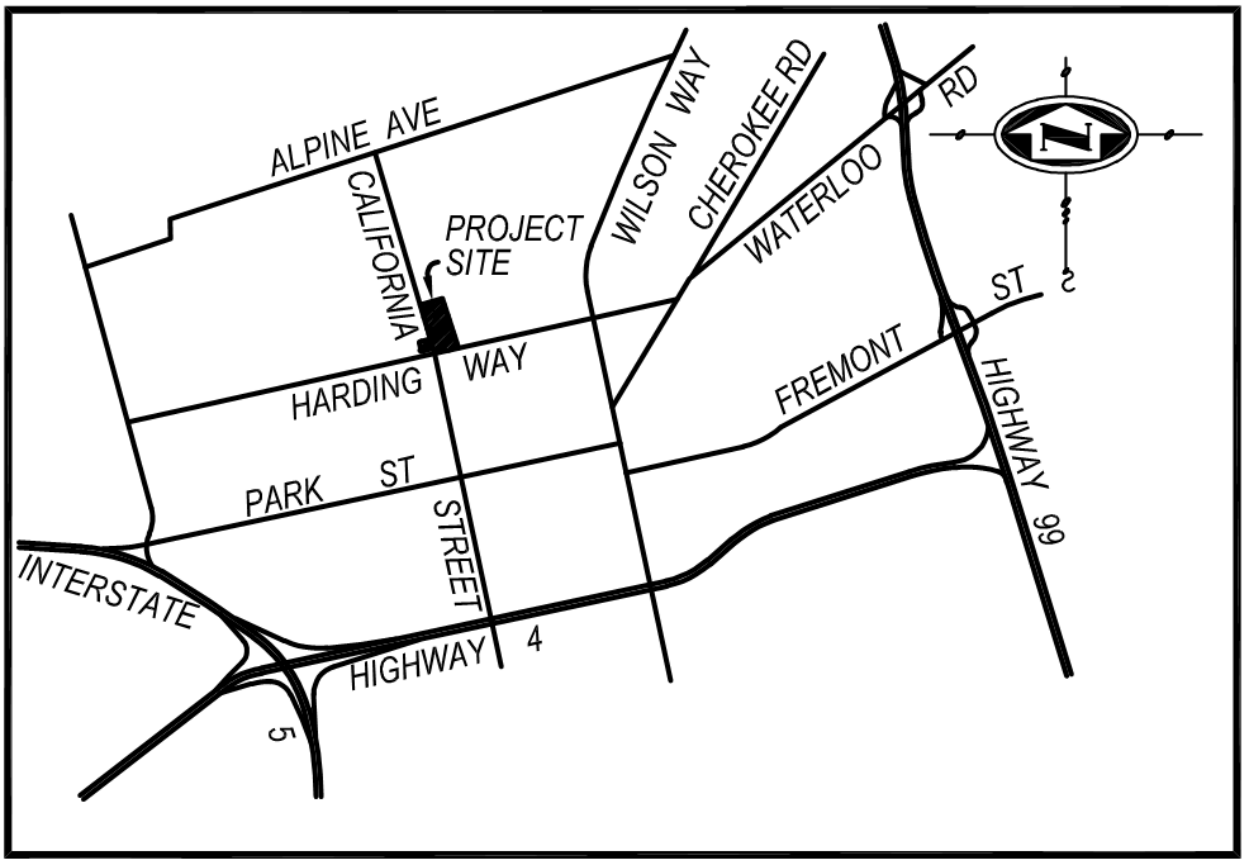
The key elements of the report will establish a baseline (existing) condition for existing drainage facilities. This preliminary drainage report DOES NOT include design level details and hydraulic grade elevations for the proposed drainage facilities. That level of design and analysis will occur when construction documents are prepared for each phase of the proposed development.

The objective of the Master Plan Detailed Drainage Report is to outline the necessary backbone drainage features needed to implement the Project and provide a guiding document that subsequent improvement plans can substantially follow. Construction of the Project will require an improvement plan level drainage plan. The Master Plan Detailed Drainage Report shall list and describe the need for further analysis at the improvement plan level.

This preliminary on-site storm water report will cover the following objectives:

- Analyze the existing storm drainage infrastructure of the existing Medical Center site.
- Based on the proposed expansion area, estimate the required storm water quality treatment volume, provide Low Impact Development (LID) measures, and calculate on-site detention requirements, if any, per City of Stockton Standards.
- Based on the City's existing storm drainage infrastructure, identify any drainage issues to the site's proposed expansion plans.

Figure 1 – Vicinity Map



2.0 EXISTING CONDITIONS

2.1 HISTORICAL LAND USE

The SJMC opened in 1899 at its current location on N. California Street. Over the past 120 years, the SJMC site has grown to consist of 27 buildings and accessory structures to consist of 25 buildings on the main Medical Center campus, as well as two additional buildings off-campus.

The Main Hospital Building is located at 1800 N. California Street approximately four miles east of Interstate 5 and three miles west of Highway 99. The site is essentially built out. Buildings have been demolished, replaced, and modernized over the years. The original hospital building, which was constructed in 1899, was demolished in the early 1960's for construction of a new hospital building. In 1995, 2010, and 2017, additional building additions and renovations were added to the facility. See **Figure 2** for the Existing Site Plan.

2.2 TOPOGRAPHIC SOURCES

The Project is located in the City of Stockton, California at Lat 37.970186, Long -121.291194. The topographic survey for the project was derived from an aerial with supplemental conventional land survey dated December 2021 by Morton & Pitalo, Inc. The vertical datum for the survey is North American Vertical Datum of 1988 (NAVD 88). See **Appendix A** for the Topographic Survey for the SJMC.

2.3 EXISTING OFFSITE DRAINAGE

The Federal Emergency Management Agency's (FEMA) National Flood Insurance Program Flood Insurance Rate Map (FIRM) Community-Panel Number 06077C0460F dated October 16, 2009 shows that the project site is in Zone X. Zone X is an area that has a chance of flood from the 500-year (0.2%) event and is an area that is protected by levees from the 100-year (1%) event. The vertical datum for the FIRM is North American Vertical Datum of 1988 (NAVD 88). See **Figure 3** for the FEMA FIRM.

The local existing storm drain infrastructure is owned and maintained by the City of Stockton. Based on the City's Storm Drain Maps (see **Figures 4, 5,** and **6**), in N. California Street, there is an existing storm drain line (ranging in size from 12-inch in the north to 18-inch in the south) that collects storm water and conveys it south to a 60-inch storm drain main in E. Harding Way. In Cemetery Lane, there is an existing storm drain line (ranging in size from 10-inch to 14-inch) that collects storm water and conveys it south to a 60-inch storm drain main in E. Harding Way.

The existing 60-inch storm drain main in East Harding Way collects the storm water from E. California Street and Cemetery Lane and conveys it to the southwest.

Figure 2 – SJMC Existing Site Plan



Source: St. Joseph's Medical Center of Stockton Master Development Plan

Figure 3 – FEMA FIRM 06077C0460F (October 2009)

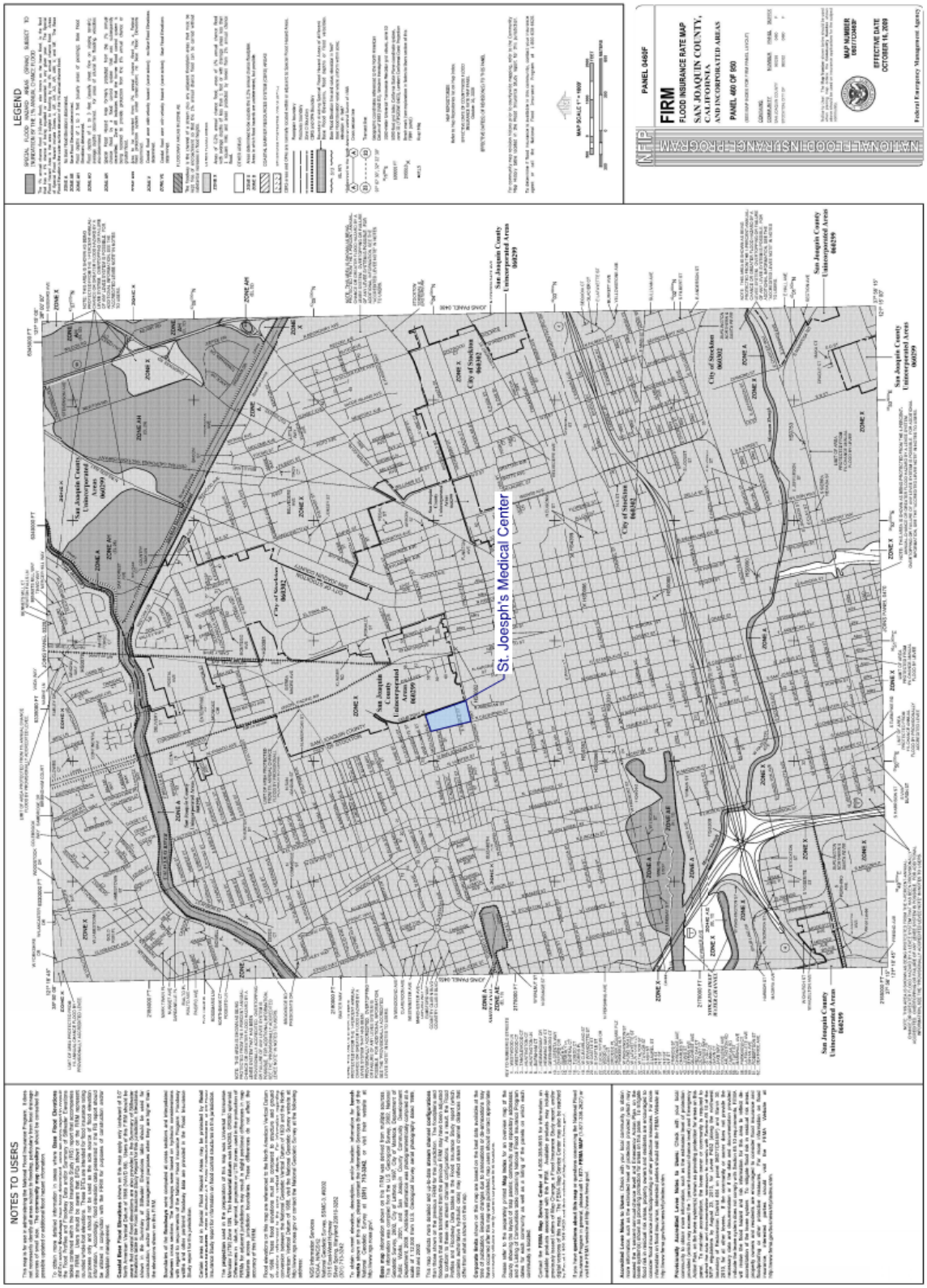


Figure 4 – City of Stockton Drainage Facility Map (30M)



Figure 5 – City of Stockton Drainage Facility Map (29M)

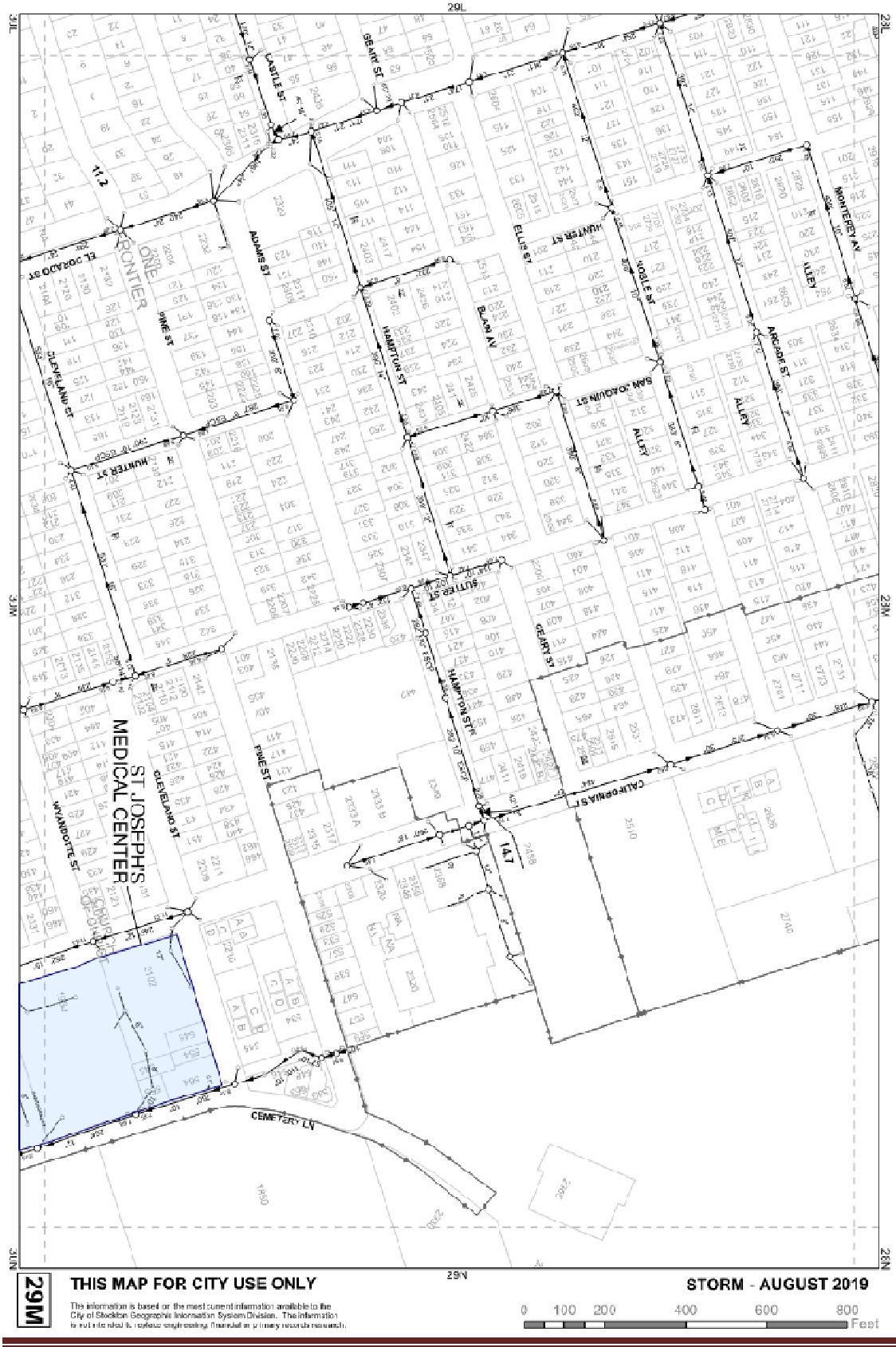


Figure 6 – City of Stockton Drainage Facility Map (30N)



2.4 EXISTING ONSITE DRAINAGE

The topography of the site is generally flat with the elevations varying from 10 to 18 feet in elevation (NAVD88). Approximately 9-acres of the medical center drains to the west to N. California Street, approximately 12-acres drains to the east to Cemetery Lane, and approximately 1-acre drains to the south to E. Harding Way. These areas include the project and the street frontage to the centerline of the streets. Twenty points of interest (POIs) will be analyzed to determine the existing runoff flow rates from the pre-project conditions.

The existing onsite drainage system connects to the offsite drainage system in the surrounding streets at multiple locations. The following existing storm drain service lines currently serve the project site:

N. California Street – Onsite Shed (Including street frontage) = 9.4 acres

- Point of Interest 1: 12-inch storm drain line, tie-in at N. California Street and Cleveland Street
- Point of Interest 2: 10-inch storm drain line, tie-in at N. California Street and E. Wyandotte Street
- Point of Interest 3: 10-inch storm drain line, tie-in at N. California Street and E. Hawthorne Street
- Point of Interest 4: 10-inch storm drain line, tie-in at N. California Street and E. Hawthorne Street
- Point of Interest 5: 12-inch storm drain line on N. California Street and McCloud Avenue
- Point of Interest 6: 10-inch storm drain line, tie-in at N. California Street and E. Chestnut Street
- Point of Interest 7: 12-inch storm drain line, tie-in at N. California Street and Maple Street
- Point of Interest 8: 12-inch storm drain line, tie-in at N. California Street and Maple Street

Cemetery Lane – Onsite Shed (Including street frontage) = 12.1 acres

- Point of Interest 9: 8-inch storm drain line, tie-in on Cemetery Lane and E. Cleveland Street
- Point of Interest 10: 12-inch storm drain line, tie-in on Cemetery Lane and Wyandotte Street
- Point of Interest 11: 8-inch storm drain line, tie-in on Cemetery Lane and E. Hawthorne Street
- Point of Interest 12: 8-inch storm drain line, tie-in on Cemetery Lane between E. Hawthorne Street and McCloud Ave
- Point of Interest 13: 10-inch storm drain line, tie-in on Cemetery Lane and McCloud Ave
- Point of Interest 14: 10-inch storm drain line, tie-in on Cemetery Lane and McCloud Ave
- Point of Interest 15: 8-inch storm drain line, tie-in on Cemetery Lane between McCloud Ave and Maple Street
- Point of Interest 16: 14-inch storm drain line, tie-in on Cemetery Lane between McCloud Ave and Maple Street

- Point of Interest 17: 12-inch storm drain line, tie-in on Cemetery Lane and Maple Street
- Point of Interest 18: 10-inch storm drain line, tie-in on Cemetery Lane and Maple Street

E. Harding Way – Onsite Shed (Including street frontage) = 1.1 acres

- Point of Interest 19: 12-inch storm drain line, tie-in on E. Harding Way and Cemetery Lane
- Point of Interest 20: 12-inch storm drain line, tie-in on E. Harding Way between N. California Street and Cemetery Lane

The points of interest and watershed boundaries are identified on the Pre-Development Watershed Map in **Appendix B**.

2.5 EXISTING CONDITIONS HYDROLOGIC MODELING

The existing storm drainage pipe system was analyzed based on the City of Stockton Standard Specifications (Drawing Nos. D-1 and D-2). To determine the peak flow rates at each pipe segment, the Rational Method was utilized. The rational method is described as follows:

$$Q = CIA$$

Where:
Q = Design Storm Flow Rate (cfs)
C = Runoff Coefficient C
I = Intensity (in/hr)
A = Watershed Area (acres)

Per the Natural Resources Conservation Service Web Soil Survey, the project is located in Hydrologic Soil Group (HSG) D. Runoff C coefficients for asphalt/concrete/roof areas is assumed to be 0.95. For disturbed soils/managed turf in HSG D soil, the runoff C coefficient is assumed to be 0.25.

Per the City of Stockton Standard Specification Drawing No. D-1, the following equation is provided for the 10-year rainfall intensity:

$$I = 7.9659 \times D^{-0.604}$$

Where:
I = Intensity (in/hr)
D = Duration (minutes)

For the Rational Method, the time of concentration (duration) for the watershed, or the time it takes a drop of water to travel from the most remote location to the point of interest, is assumed to equal the intensity. To simplify runoff calculations, the time of concentration was assumed to vary based on the size of the contributing watershed. For the purposes of this report, a 10-minute time of concentration was assumed for watershed less than 1-Acre, a 15-minute time of concentration was assumed for watersheds between 1- and 5-acres, a 20-minute time of

concentration was assumed for watersheds between 5- and 15-acres, and a 25-minute time of concentration was assumed for watersheds greater than 15-acres

Refer to **Appendix D** for the existing 10-year peak flow rates to each of the twenty points of interest.

3.0 PROPOSED CONDITIONS

3.1 PROPOSED ONSITE IMPROVEMENTS

The SJMC Project is anticipated to be built over five phases and will include the following: removal of existing buildings and other site preparation work, the construction of a new hospital building for the expansion of acute care services, along with a new Parking Structure, a new Central Utility Plant, Plant Maintenance building, and other required support facilities on the existing Medical Center. Phase 5 may contain a potential expansion of the Acute Care Hospital Tower and the addition of a parking structure. See **Figures 7A** and **7B** for the site master plan from the Master Development Plan.

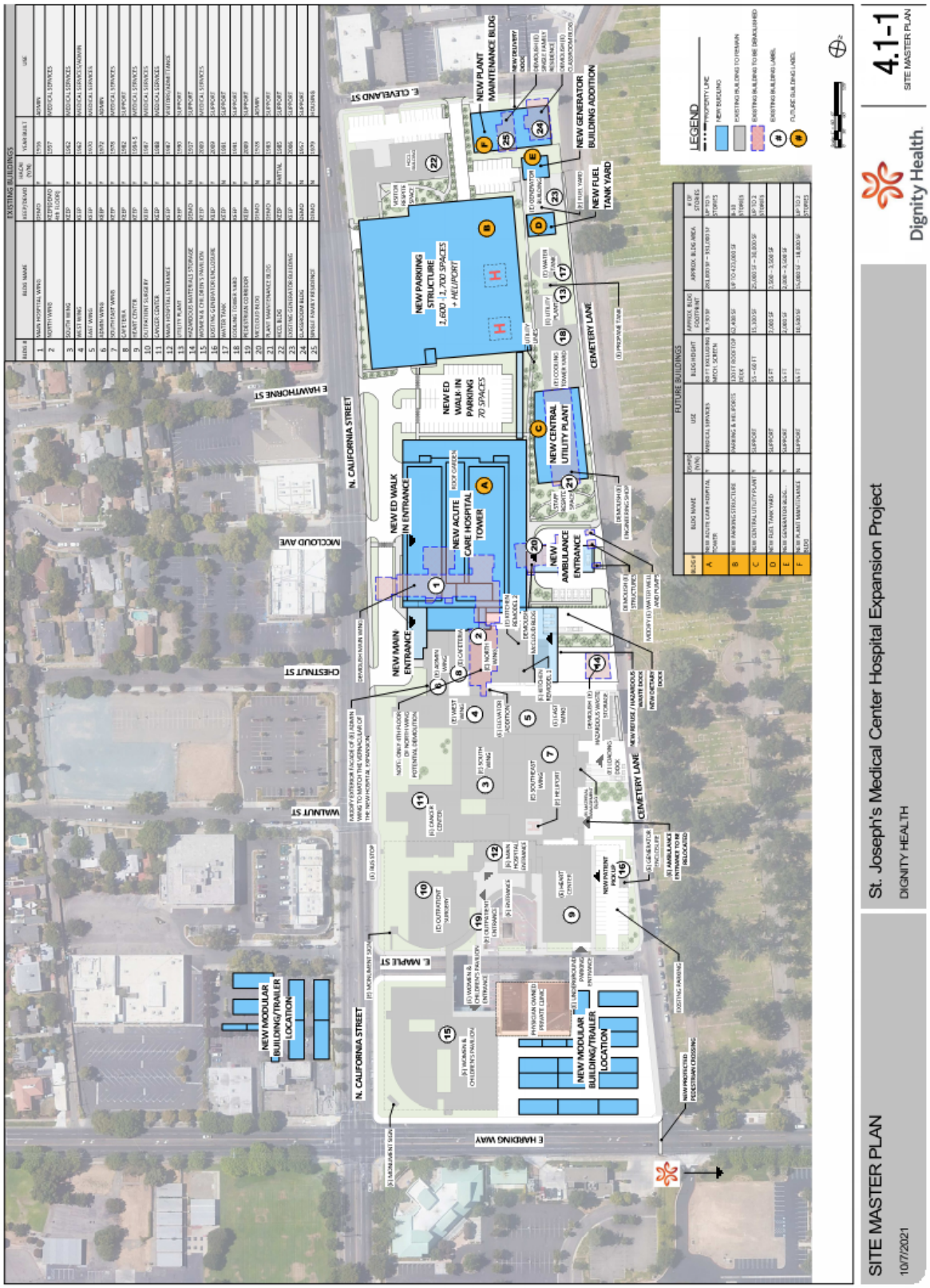
The Project area and building square-footage are summarized in the following table.

Table 1 – Proposed Building Summary

Building Name	***Approx. Building Area***	***Use***
Acute Care Hospital Tower	Up to 331,000 Square Feet	Medical Services
Parking Structure	Up to 423,000 Square Feet	Parking & Heliports
Central Utility Plant	Up to 30,000 Square Feet	Support
Fuel Tank Yard	Up to 3,500 Square Feet	Support
Generator Building Addition	Up to 3,500 Square Feet	Support
Plant Maintenance Building	Up to 18,000 Square Feet	Support
Phase 5 Acute Care Hospital Tower	Potential expansion up to 150,000 Square Feet	Medical Services
Phase 5 Parking Structure	200,000 Square Feet	Parking

Source: St. Joseph's Medical Center of Stockton Hospital Expansion Project, Master Development Plan, October 2021

Figure 7A – SJMC Site Master Plan (Phase 1-4)



Source: St. Joseph's Medical Center of Stockton Master Development Plan

Figure 7B – SJMC Site Master Plan (Phase 5)



Source: St. Joseph's Medical Center of Stockton Master Development Plan

3.2 PROPOSED CONDITIONS HYDROLOGIC MODELING

See Section 2.5 for the discussion on utilizing the Rational Method. The same methodology will be applied to the proposed conditions hydrologic modeling (including Time of Concentration assumptions).

See **Appendix C** for the post-development watershed map.

3.3 PROPOSED CONDITIONS HYDRAULIC ANALYSIS

Per San Joaquin County the minimum velocity in a storm drain pipe is 2.0 fps (San Joaquin County 3-4.02) when flowing eight-tenths full. The hydraulic grade line (HGL) for the design storm shall be a minimum of 1-ft below inlet grates (San Joaquin County 3-4.02) within the drainage system. A Manning's "n" of 0.013 is assumed for PVC pipe (San Joaquin County 3-4.01, Table 3-3).

The hydraulic analysis will be completed at the time of a final drainage report for each phase of construction.

3.4 URBAN LEVEL OF PROTECTION

The State of California Central Valley Flood Protection Act of 2008, commonly referred to as SB 5, adds additional flood risk considerations for land use planning and sets a higher, 200-year level of flood protection for the Sacramento-San Joaquin Valley. Cities and counties within this region were required to amend General Plans and adopt zoning and building code regulations to provide for this "urban level of flood protection." California Government Code Section 65007(n) states:

> *"Urban Level of Flood Protection means the level of protection that is necessary to withstand flooding that has a 1-in-200 chance of occurring in any given year using criteria consistent with, or developed by, the Department of Water Resources. Urban Level of Flood Protection shall not mean shallow flooding or flooding from local drainage that meets the criteria of the national Federal Emergency Management Agency standard of flood protection."*

A 200-year flood event statistically occurs on average once every 200 years or has a 0.5 percent chance of occurring in any given year. The Urban Level of Flood Protection (ULOP) shall be provided for the projects that are located in areas of potential flood depths more than 3-feet in a 200-year storm based on the current effective map for the Stockton metropolitan area. The effective map for the 200-year floodplain is located on the San Joaquin County Public Works GIS website. The data in the 200-year floodplain map was received from PBI Engineering in March of 2015. See **Appendix E** for a 200-Year Flood Protection - Urban Level of Protection Technical Memo that provides a project specific analysis.

3.5 WATER QUALITY

The site is considered a priority project with significant redevelopment under the Final Stormwater Quality Control Criteria Plan for the City of Stockton and County of San Joaquin. The site is required to reduce post-Project volumes to pre-Project volumes for the average 85th percentile 24-hour storm depth for the Stockton area.

The project is located within the boundaries of the City of Stockton. See **Figure 8** for the project location within the Stockton Watershed Map from the City's Stormwater Quality Control Criteria Plan.

Figure 8 – Stockton Watershed Map

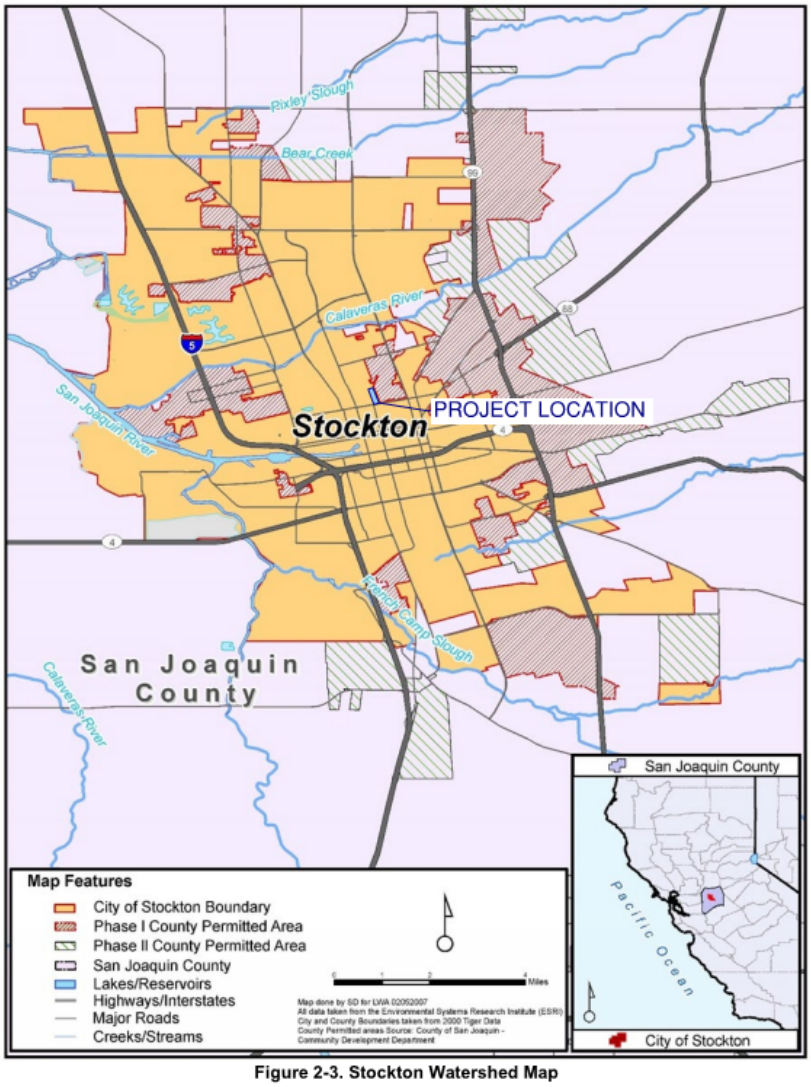


Figure 2-3. Stockton Watershed Map

Source: City of Stockton Stormwater Quality Control Criteria Plan

The following two figures (**Figures 9** and **10**) show the pre- and post-development water quality shed maps. Each sub-shed has been broken in to drainage management areas (DMA). Only areas that will be affected by the project have been identified with a DMA.

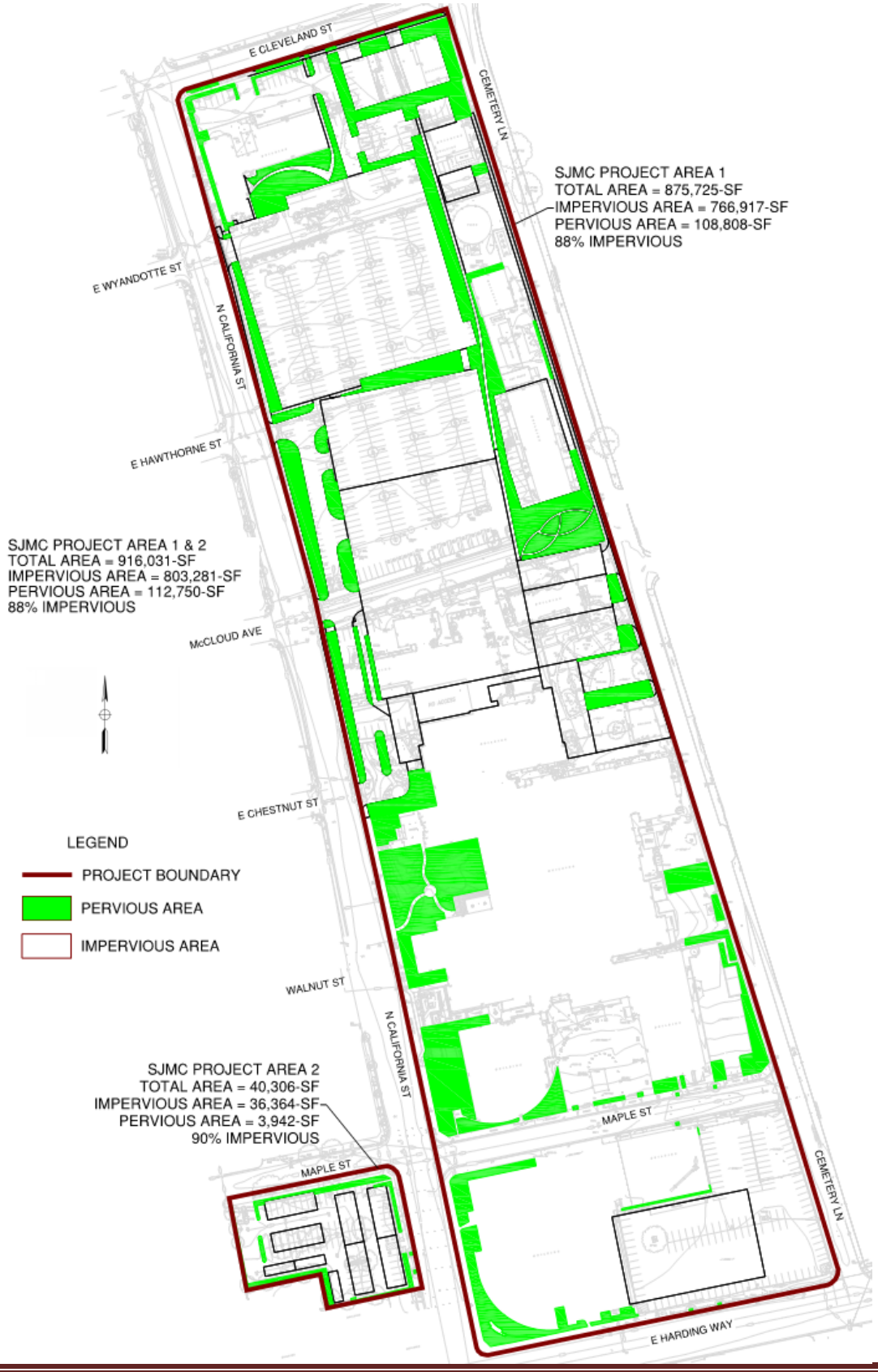
Figure 9 – Pre-Development Impervious/Pervious Map



Figure 10A – Post-Development Impervious/Pervious Map (Phase 1-4)



Figure 10B – Post-Development Impervious/Pervious Map (Phase 1-5)



The following table summarizes the impervious/pervious areas for the Pre- and Post-Development conditions from the impervious/pervious area maps.

Table 2A – Impervious/Pervious Pre- and Post-Development Summary (Phase 1-4)

Project Area	*Total Area, sf*	*Pre-Development*			*Post-Development (Phase 1-4)*		
		Impervious Area, sf	*Pervious Area, sf*	**Percent Impervious, %**	*Impervious Area, sf*	*Pervious Area, sf*	**Percent Impervious, %**
1	875,725	775,963	99,762	89%	759,387	116,338	87%
2	40,306	33,673	6,633	84%	36,364	3,942	90%
1 & 2	916,031	809,637	106,394	88%	795,751	120,280	87%

Table 2B – Impervious/Pervious Pre- and Post-Development Summary (Phase 1-5)

Project Area	*Total Area, sf*	*Pre-Development*			*Post-Development (Phase 1-5)*		
		Impervious Area, sf	*Pervious Area, sf*	**Percent Impervious, %**	*Impervious Area, sf*	*Pervious Area, sf*	**Percent Impervious, %**
1	875,725	775,963	99,762	89%	766,917	108,808	88%
2	40,306	33,673	6,633	84%	36,364	3,942	90%
1 & 2	916,031	809,637	106,394	88%	803,281	112,750	88%

Note that the post-development conditions will have less impervious area than in the pre-development conditions (13,886 square feet less impervious area for Phase 1-4 and 6,356 square feet less impervious area for Phase 1-5). Due to this reason, the post-development runoff volume will be less than the pre-development runoff volume.

Since volume reduction measures will not be required, the project will have to only provide Low Impact Development (LID) and/or conventional treatment controls. LID and conventional treatment controls that may be utilized for the project include:

1. Bioretention (LID Treatment)
2. Stormwater Planter (LID Treatment)
3. Tree-well Filter (LID Treatment)
4. Infiltration Basin (LID Treatment)
5. Infiltration Trench/Dry Well (LID Treatment)
6. Porous Pavement Filter (LID Treatment)
7. Grassy Swale (LID Treatment)
8. Grassy Filter Strip (LID Treatment)
9. Proprietary Device (Conventional Treatment)
10. Trash Full Capture Systems (Conventional Treatment)

It is anticipated that a combination of the above listed LID and conventional treatment controls may be selected during the final construction document design phase. For the purposes of this preliminary analysis, grassy swales and proprietary devices will be selected.

See **Appendix F** for the Preliminary Stormwater Quality Control Plan.

4.0 SUMMARY OF RESULTS

4.1 RESULTS – HYDROLOGIC ANALYSIS

The hydrologic analysis using the Rational Method are summarized in the following tables.

Table 3 – Pre- and Post-Development 10-Year Peak Discharge Summary at Each Point of Interest

Point of Interest	*Point of Interest Location*	*Pre-Development Peak Flow (cfs)*	*Post-Development Peak Flow (cfs)*	*Existing Pipe Full Flow Capacity Meets or Exceeds Runoff?*
1	N. California St.	1.2	1.4	Yes
2	N. California St.	0.5	0.5	Yes
3	N. California St.	3.2	1.7	Yes
4	N. California St.	0.7	1.4	Yes
5	N. California St.	2.0	1.3	Yes
6	N. California St.	3.4	3.4	Yes
7	N. California St.	1.4	1.4	Yes
8	N. California St.	1.6	1.6	Yes
9	Cemetery Lane	1.0	0.8	Yes
10	Cemetery Lane	2.7	2.6	Yes
11	Cemetery Lane	0.8	0.8	Yes
12	Cemetery Lane	0.5	0.1	Yes
13	Cemetery Lane	0.8	1.6	Yes
14	Cemetery Lane	1.4	0.1	Yes
15	Cemetery Lane	1.4	2.6	No
16	Cemetery Lane	2.7	2.6	Yes
17	Cemetery Lane	2.8	2.8	Yes
18	Cemetery Lane	3.3	3.3	Yes
19	E. Harding Way	1.1	1.1	Yes
20	E. Harding Way	0.8	0.8	Yes

Table 4 – Pre- and Post-Development 10-Year Peak Discharge Summary at Each Street

Street	*Pre-Development Peak Flow (cfs)*	*Post-Development Peak Flow (cfs)*
N. California St.	10.6	10.1
Cemetery Lane	14.1	13.9
E. Harding Way	1.5	1.4

The post-development flow locally increases at Points of Interest 1, 4, 6, 13, 15, 17, and 18.

The post-development flow rates to each street will not increase over pre-development peak flow rates. The existing storm drain mains in each of the streets will not be adversely impacted by the Project.

See **Appendix D** for the pre- and post-development hydrologic calculations.

4.2 RESULTS – HYDRAULIC ANALYSIS – STORM DRAINS

As identified in Table 3, the existing pipes at each Point of Interest have a full flow capacity that meets or exceeds the new post-development peak flow rate except for at one location, Point of Interest 15 on Cemetery Lane. The existing pipe is an 8-inch storm drain. This storm drain should be upsized to a 12-inch line in order to convey the increased 10-year peak flow rate. Since the existing 8-inch storm drain lines will be removed due to the proposed project, the increased storm drain will be minimal, consisting of enlarging the drain line opening into the exiting storm drain manhole structure.

Hydraulic analysis shall be performed at the time a final drainage report for each phase of construction is prepared. At this time the hydraulic grade line will be analyzed to make sure that it remains a minimum of 1-ft below inlet grates for the 10-year storm.

4.3 CONCLUSION

This preliminary drainage report found that:

- Since the post-development project will have less impervious surface area than the pre-development project, increases to the 10- and 100-year peak flow rates are not anticipated, therefore, on-site detention will not be required. Also, per the City's Stormwater Quality Control Criteria Plan, volumetric reduction measures will not be required. Only source and treatment controls will be required (for example; grassy swales, and proprietary control and trash capture devices) for storm water quality.

- FEMA has identified that the Project is in an area that is protected by levees from the 100-year (1%) event, therefore, there are no FEMA 100-year flood plain elevations for the Project.

- Per the San Joaquin County Public Works website, the 200-year floodplain in the Project area was determined. Per the Urban Level of Protection (ULOP) Technical Memorandum prepared for this drainage report, the Project minimum finished floor elevations have been established to comply with SB 5 regulations. See the 200-Year Flood Protection - Urban Level of Protection Technical Memo in Appendix E for more information.

A detailed, final project specific drainage report and final Stormwater Quality Control Plan will need to be prepared to support the project's construction documents.

5.0 REFERENCES

1. City of Stockton 10-Yr Rainfall Intensity Curve Drawing Number D-1, City of Stockton Department of Public Works, Revision 3, September 2016

2. Storm Design Sheet Drawing Number D-2, City of Stockton Department of Public Works, Revision 5, September 2016

3. County of San Joaquin, Improvement Standards, November 2014

4. FEMA FIRM 06077C0460F (October 2009)

5. City of Stockton Drainage Facility Maps

6. St. Joseph's Medical Center of Stockton Hospital Expansion Project, Master Development Plan, October 2021

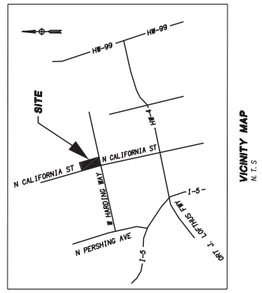
7. Natural Resources Conservation Service Web Soil Survey, https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

8. City of Stockton and County of San Joaquin Stormwater Quality Control Criteria Plan, August 2020

9. 200-Year Floodplain Analysis, San Joaquin County Public Works GIS website, https://sjc-gis.maps.arcgis.com/apps/webappviewer/index.html?id=3b352a92c2c142ccbf07266fd69fe1fb

APPENDIX A:

Topographic Survey for St. Joseph's Medical Center



VICINITY MAP
N.T.S.

GRAPHIC SCALE
1 in = 60 ft
60 30 0 60 120

LEGEND

⊸	POWER OR TELEPHONE POLE W/GUY
☼	AREA LIGHT ON POLE LIGHT
⊗	TRAFFIC SIGNAL (ELECTROLIER)
⊗	TRAFFIC SIGNAL
■	HANDHOLE
■	MANHOLE
○	CLEANOUT
○	DRAIN INLET
○	DRAIN INLET
⊙	FIRE HYDRANT
⊠	FIRE DEPARTMENT CONNECTION
⊠	WATER METER
⊠	WATER VALVE
⊠	ANTI ST VALVE
⊠	DOUBLE DETECTOR CHECK VALVE
⊠	REDUCED PRESS
⊙	POST INDICATOR VALVE
⊙	DIMENSION POINT
⊙	MONUMENT FOUND AS NOTED
⊙	ROAD SIGN
⊙	EDGE OF PAVEMENT
⊙	MISC. VALVES
AC	ASPHALTIC CONCRETE
ALUM	ALUMINUM
BEG	BEGINNING
BLDG	BUILDING
BSL	BUILDING SETBACK LINE
C/L	CHAIN LINK FENCE
CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
COMM	COMMUNICATIONS
CONC	CONCRETE
CONC	CONCRETE
DMH	DRAIN MANHOLE
ELEC	ELECTRICAL
ELEC	OVERHEAD ELECTRIC
EP	EDGE OF PAVEMENT
EXIST	EXISTING
FF	FINISHED FLOOR
FL	FLOW LINE
FNCE	FENCE
FND.	FOUND
GM	GAS METER
GRT	GRATE
GV	GAS VALVE
ICV	IRRIGATION CONTROL VALVE
INV	INVERT
I.P.	IRON PIPE
JP	JOINT POLE
L.E.	LANDSCAPE EASEMENT
OHP&E	OVERHEAD ELECTRICITY & TELEPHONE
PG&E	PACIFIC GAS & ELECTRIC EASEMENT
PT&T	PACIFIC TELEPHONE & TELEGRAPH
P.U.E.	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
RET	RETAINING
R/W	RIGHT OF WAY
SLB	STREET LIGHT BOX
SW	SIDEWALK
STM	STORM MANHOLE
TBC	TOP BACK OF CURB
TEL	TELEPHONE CLOSURE
TELE	TELEPHONE
TMH	TELEPHONE MANHOLE
TSB	TRAFFIC SIGNAL BOX
TSB	TRAFFIC SIGNAL BOX
UG	UNDERGROUND
UTIL	UTILITY
WB	WATER BOX
WM	WATER METER
WM	WATER METER
<ST>	STORM DRAINAGE
<SS>	SANITARY SEWER
W	UNDERGROUND WATER UTILITY
G	UNDERGROUND GAS UTILITY
E	UNDERGROUND ELECTRIC UTILITY
T	UNDERGROUND TELEPHONE UTILITY

BENCHMARK

CITY BM EL=13.59 (NAVD88)

BRASS DISK MARKING CGS MONUMENT STAMPED "15-8" IN MONUMENT WELL AT THE INTERSECTION OF THE APPROXIMATE CENTERLINE OF SAN JOAQUIN STREET AND THE CENTER OF THE NORTH LANE OF THE TRAFFIC ALONG HARDING WAY.

NOT FOR CONSTRUCTION

SCALE:		COMPUTED:	MJC
HORIZ. 1" =	60'	DRAWN:	FP
VERT. 1" =	N/A	CHECKED:	MJC

MORTON & PITALO, INC.
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TOPOGRAPHIC SURVEY FOR
ST. JOSEPH MEDICAL CENTER
STOCKTON, CALIFORNIA

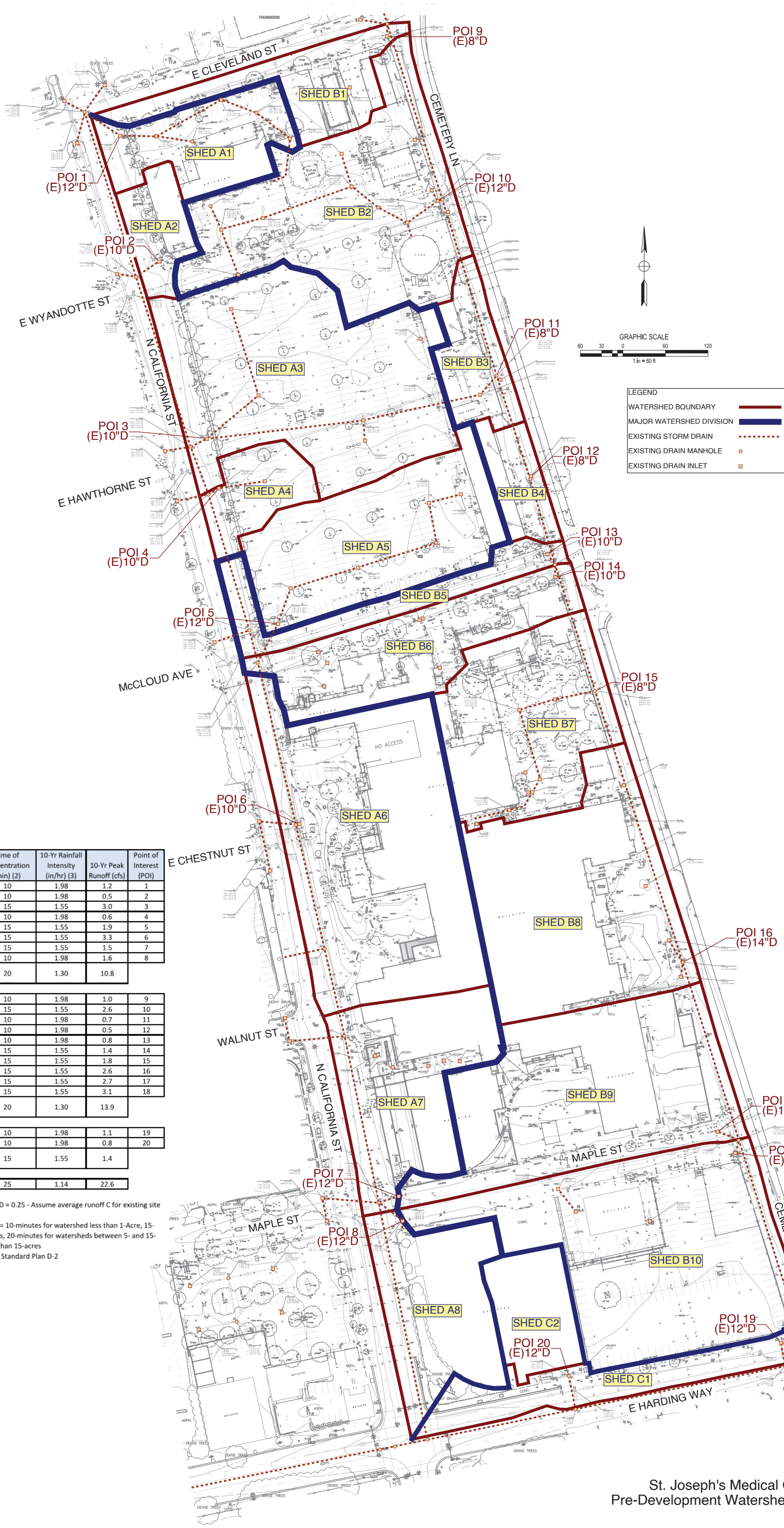
DATE JANUARY 2022
SHEET 1
OF 1

JOB NO. 21-0074-00

Plot: 3/2/2022 8:55:40 | Plotted by: STOKING | File: N:\21-0074-00\Survey\Drawings\Topo\21-0074-00 Topo 2D.dwg | Layout: ANSI D Landscape | Xrefs:

APPENDIX B:

Pre-Development Watershed Map



St. Joseph's Medical Center

Existing Conditions

Shed	Area (sf)	Area (ac)	Runoff C (1)	Time of Concentration (min) (2)	10-Yr Rainfall Intensity (in/hr) (3)	10-Yr Peak Runoff (cfs)	Point of Interest (POI)
A1	29016	0.67	0.88	10	1.98	1.2	1
A2	13364	0.31	0.88	10	1.98	0.5	2
A3	96802	2.22	0.88	15	1.55	3.0	3
A4	15915	0.37	0.88	10	1.98	0.6	4
A5	59110	1.36	0.88	15	1.55	1.9	5
A6	105142	2.41	0.88	15	1.55	3.3	6
A7	49413	1.13	0.88	15	1.55	1.5	7
A8	39653	0.91	0.88	10	1.98	1.6	8
Total to N. California St.	408415	9.38	0.88	20	1.30	10.8	
B1	25657	0.59	0.88	10	1.98	1.0	9
B2	82765	1.90	0.88	15	1.55	2.6	10
B3	18100	0.42	0.88	10	1.98	0.7	11
B4	12382	0.28	0.88	10	1.98	0.5	12
B5	20154	0.46	0.88	10	1.98	0.8	13
B6	44119	1.01	0.88	15	1.55	1.4	14
B7	56703	1.30	0.88	15	1.55	1.8	15
B8	82793	1.90	0.88	15	1.55	2.6	16
B9	86419	1.98	0.88	15	1.55	2.7	17
B10	99604	2.29	0.88	15	1.55	3.1	18
Total to Cemetery Ln	528695	12.14	0.88	20	1.30	13.9	
C1	26750	0.61	0.88	10	1.98	1.1	19
C2	19248	0.44	0.88	10	1.98	0.8	20
Total to E. Harding Way	45998	1.06	0.88	15	1.55	1.4	
Total Project	983107	22.57	0.88	25	1.14	22.6	

(1) Runoff C, Impervious = 0.95, Pervious HSG D = 0.25 - Assume average runoff C for existing site = 0.88

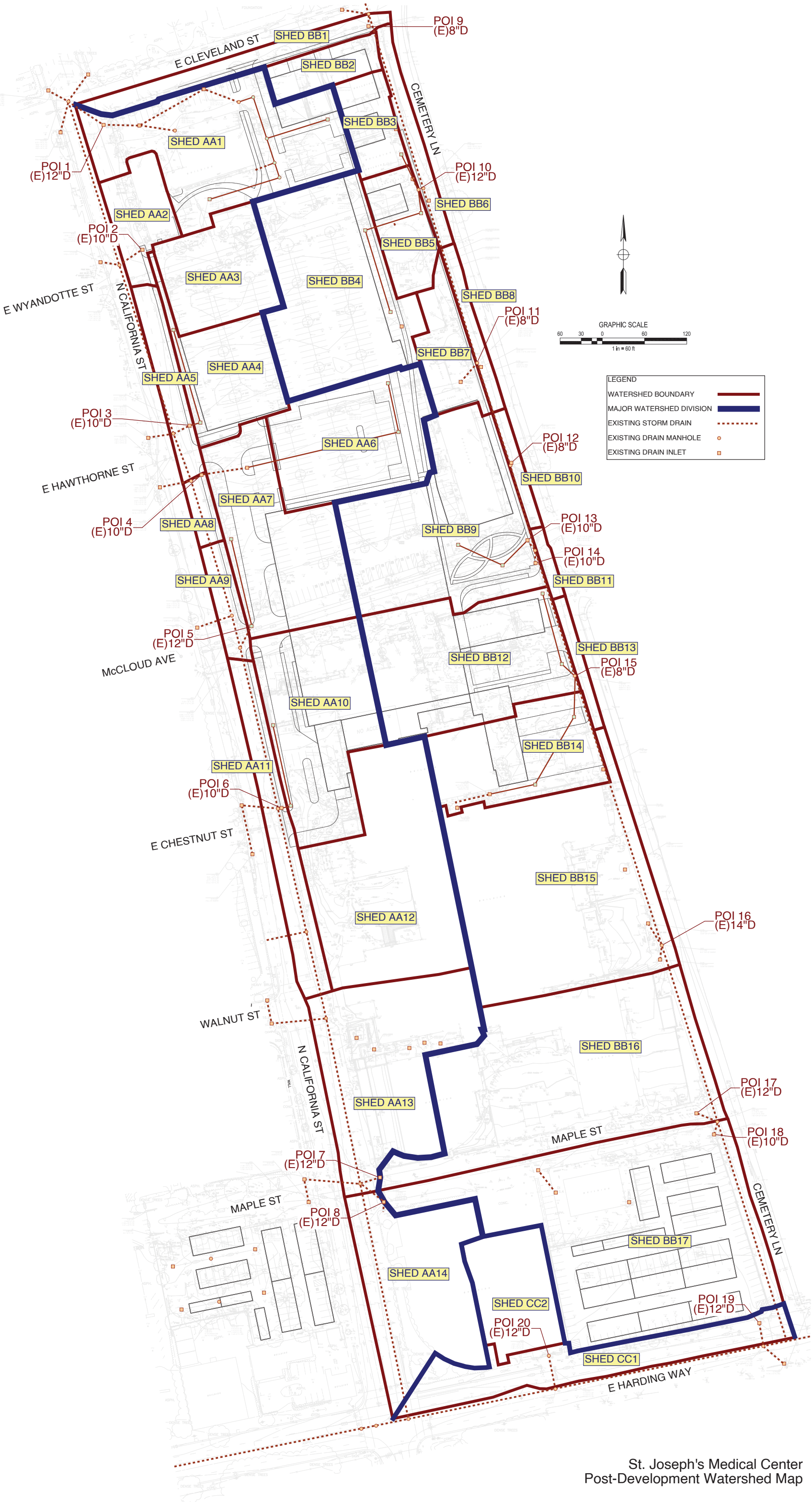
(2) Minimum Time of Concentration Assumed = 10-minutes for watershed less than 1-Acre, 15-minutes for watersheds between 1- and 5-acres, 20-minutes for watersheds between 5- and 15-acres, and 25-minutes for watersheds greater than 15-acres

(3) 10-Yr Rainfall Intensity per City of Stockton Standard Plan D-2

St. Joseph's Medical Center
Pre-Development Watershed Map

APPENDIX C:

Post-Development Watershed Map



St. Joseph's Medical Center
Post-Development Watershed Map

APPENDIX D:

Pre- and Post-Development Hydrologic and Hydraulic Calculations

St. Joseph's Medical Center

Pervious/Impervious Summary

	Total Area		Existing Conditions					Proposed Conditions					Difference				
			Impervious Area		Pervious Area			Impervious Area		Pervious Area			Impervious Area		Pervious Area		
Area	sf	ac	sf	ac	sf	ac	% Impervious	sf	ac	sf	ac	% Impervious	sf	ac	sf	ac	% Impervious
Area 1	875725	20.10	775963	17.81	99762	2.29	89%	759387	17.43	116338	2.67	87%	-16577	-0.38	16577	0.38	-2%
Area 2	40306	0.93	33673	0.77	6633	0.15	84%	36364	0.83	3942	0.09	90%	2691	0.06	-2691	-0.06	7%
Area 1-2	916031	21.03	809637	18.59	106394	2.44	88%	795751	18.27	120280	2.76	87%	-13886	-0.32	13886	0.32	-2%

St. Joseph's Medical Center

Point of Interest Summary

Point of Interest	Existing Area, Ac	Proposed Area, Ac	Existing Rational C	Proposed Rational C	Existing Time of Concentration, min	Proposed Time of Concentration, min	Existing 10-Yr Rainfall Intensity (in/hr)	Proposed 10-Yr Rainfall Intensity (in/hr)	Existing 10-Year Flow, cfs	Proposed 10-Year Flow, cfs	Full Flow Pipe Capacity, cfs	Existing Pipe Full Flow Capacity Meets or Exceeds Runoff?
1	0.67	1.18	0.90	0.78	10	15	1.98	1.55	1.2	1.4	4.1	Yes
2	0.31	0.29	0.89	0.92	10	10	1.98	1.98	0.5	0.5	3.6	Yes
3	2.22	1.24	0.93	0.91	15	15	1.55	1.55	3.2	1.7	3.9	Yes
4	0.37	0.90	0.92	0.76	10	10	1.98	1.98	0.7	1.4	1.7	Yes
5	1.36	1.04	0.93	0.82	15	15	1.55	1.55	2.0	1.3	1.6	Yes
6	2.41	2.68	0.78	0.81	15	15	1.55	1.55	2.9	3.4	8.1	Yes
7	1.13	1.13	0.81	0.81	15	15	1.55	1.55	1.4	1.4	9.1	Yes
8	0.91	0.91	0.86	0.86	10	10	1.98	1.98	1.6	1.6	6.2	Yes
9	0.59	0.49	0.84	0.83	10	10	1.98	1.98	1.0	0.8	3.1	Yes
10	1.90	1.90	0.93	0.88	15	15	1.55	1.55	2.7	2.6	5.7	Yes
11	0.42	0.41	0.92	0.94	10	10	1.98	1.98	0.8	0.8	3.1	Yes
12	0.28	0.08	0.85	0.95	10	10	1.98	1.98	0.5	0.1	3.8	Yes
13	0.46	1.27	0.90	0.82	10	15	1.98	1.55	0.8	1.6	6.0	Yes
14	1.01	0.05	0.87	0.95	15	10	1.55	1.98	1.4	0.1	7.7	Yes
15	1.30	1.87	0.70	0.90	15	15	1.55	1.55	1.4	2.6	2.2	No
16	1.90	1.80	0.92	0.92	15	15	1.55	1.55	2.7	2.6	3.2	Yes
17	1.98	1.98	0.89	0.89	15	15	1.55	1.55	2.8	2.8	4.1	Yes
18	2.29	2.29	0.94	0.94	15	15	1.55	1.55	3.3	3.3	7.2	Yes
19	0.61	0.61	0.86	0.86	10	10	1.98	1.98	1.1	1.1	6.6	Yes
20	0.44	0.44	0.95	0.95	10	10	1.98	1.98	0.8	0.8	4.1	Yes

Total	22.57	22.57	0.88	0.87	20	20	1.30	1.30	25.9	25.5

St. Joseph's Medical Center

Existing Conditions

Point of Interest (POI)	Shed	Area (sf)	Area (ac)	Runoff C (1)	Time of Concentration (min) (2)	10-Yr Rainfall Intensity (in/hr) (3)	10-Yr Peak Runoff (cfs)	Pipe Size, in	Upstream Elev, ft	Downstream Elev, ft	Length, ft	Slope, ft/ft	Manning's n	Full Flow Pipe Capacity, cfs	Pipe Capacity Exceeds Runoff?
1	A1	29016	0.67	0.90	10	1.98	1.2	12	14.54	13.76	60	0.0130	0.013	**4.1**	Yes
2	A2	13364	0.31	0.89	10	1.98	0.5	10	14.38	13.33	39	0.0269	0.013	**3.6**	Yes
3	A3	96802	2.22	0.93	15	1.55	3.2	10	14.00	13.18	26	0.0315	0.013	**3.9**	Yes
4	A4	15915	0.37	0.92	10	1.98	0.7	10	13.61	13.51	17	0.0059	0.013	**1.7**	Yes
5	A5	59110	1.36	0.93	15	1.55	2.0	12	12.47	12.34	62	0.0021	0.013	**1.6**	No
6	A6	105142	2.41	0.78	15	1.55	2.9	10	12.73	12.05	5	0.1360	0.013	**8.1**	Yes
7	A7	49413	1.13	0.81	15	1.55	1.4	12	12.92	11.04	29	0.0648	0.013	**9.1**	Yes
8	A8	39653	0.91	0.86	10	1.98	1.6	12	12.3	11.02	42	0.0305	0.013	**6.2**	Yes
	Total to N. California St.	408415	9.38	0.87	20	1.30	10.6								
9	B1	25657	0.59	0.84	10	1.98	1.0	8	12.94	11.75	18	0.0661	0.013	**3.1**	Yes
10	B2	82765	1.90	0.93	15	1.55	2.7	12	12.64	12.46	7	0.0257	0.013	**5.7**	Yes
11	B3	18100	0.42	0.92	10	1.98	0.8	8	13.35	10.97	36	0.0661	0.013	**3.1**	Yes
12	B4	12382	0.28	0.85	10	1.98	0.5	8	11.91	11.62	3	0.0967	0.013	**3.8**	Yes
13	B5	20154	0.46	0.90	10	1.98	0.8	10	13.38	12.03	18	0.0750	0.013	**6.0**	Yes
14	B6	44119	1.01	0.87	15	1.55	1.4	10	14.63	12.43	18	0.1222	0.013	**7.7**	Yes
15	B7	56703	1.30	0.70	15	1.55	1.4	8	14.38	12.51	58	0.0322	0.013	**2.2**	Yes
16	B8	82793	1.90	0.92	15	1.55	2.7	14	8.57	7.62	263	0.0036	0.013	**3.2**	Yes
17	B9	86419	1.98	0.89	15	1.55	2.8	12	11.50	11.07	32	0.0134	0.013	**4.1**	Yes
18	B10	99604	2.29	0.94	15	1.55	3.3	10	11.93	9.90	19	0.1068	0.013	**7.2**	Yes
	Total to Cemetery Ln	528695	12.14	0.89	20	1.30	14.1								
19	C1	26750	0.61	0.86	10	1.98	1.1	12	12.14	11.02	33	0.0339	0.013	**6.6**	Yes
20	C2	19248	0.44	0.95	10	1.98	0.8	12	11.80	11.16	48	0.0133	0.013	**4.1**	Yes
	Total to E. Harding Way	45998	1.06	0.90	15	1.55	1.5								
	Total Project	983107	22.57	0.88	25	1.14	22.6								

(1) Runoff C, Impervious = 0.95, Pervious HSG D = 0.25 - Assume average runoff C for existing site = 0.88

(2) Minimum Time of Concentration Assumed = 10-minutes for watershed less than 1-Acre, 15-minutes for watersheds between 1- and 5-acres, 20-minutes for watersheds between 5- and 15-acres, and 25-minutes for watersheds greater than 15-acres

(3) 10-Yr Rainfall Intensity per City of Stockton Standard Plan D-2

St. Joseph's Medical Center

Proposed Conditions

Point of Interest (POI)	Watershed Name	Area (sf)	Area (ac)	Runoff C (1)	Time of Concentration (min) (2)	10-Yr Rainfall Intensity (in/hr) (3)	10-Yr Peak Runoff (cfs)	Impervious (sf)	Pervious (sf)	Percent Impervious
1	AA1	51555	1.18	0.78	10	1.98	1.8	38989	12565	76%
2	AA2	12491	0.29	0.92	10	1.98	0.5	11868	623	95%
3	AA3	22318	0.51	0.95	10	1.98	1.0	22318	0	100%
	AA4	21692	0.50	0.84	10	1.98	0.8	18235	3457	84%
	AA5	10100	0.23	0.95	10	1.98	0.4	10100	0	100%
4	AA6	35868	0.82	0.75	10	1.98	1.2	25446	10422	71%
5	AA7	39004	0.90	0.80	10	1.98	1.4	30438	8566	78%
4	AA8	3530	0.08	0.95	10	1.98	0.2	3530	0	100%
5	AA9	6319	0.15	0.95	10	1.98	0.3	6319	0	100%
6	AA10	41338	0.95	0.82	10	1.98	1.5	33680	7658	81%
	AA11	18705	0.43	0.95	10	1.98	0.8	18705	0	100%
	AA12	56682	1.30	0.76	15	1.55	1.5	41580	15102	73%
7	AA13	49413	1.13	0.81	15	1.55	1.4	39570	9843	80%
8	AA14	39653	0.91	0.86	10	1.98	1.6	34813	4840	88%
	Total to N. California St.	408669	9.38	0.82	20	1.30	10.1	335593	73076	82%
9	BB1	12448	0.29	0.89	10	1.98	0.5	11304	1144	91%
	BB2	8754	0.20	0.74	10	1.98	0.3	6152	2602	70%
10	BB3	10388	0.24	0.76	10	1.98	0.4	7509	2879	72%
	BB4	51308	1.18	0.88	10	1.98	2.1	46450	4857	91%
	BB5	12837	0.29	0.91	10	1.98	0.5	12118	720	94%
	BB6	8322	0.19	0.95	10	1.98	0.4	8322	0	100%
11	BB7	12741	0.29	0.93	10	1.98	0.5	12454	287	98%
	BB8	5109	0.12	0.95	10	1.98	0.2	5109	0	100%
13	BB9	55324	1.27	0.82	15	1.55	1.6	45150	10174	82%
12	BB10	3421	0.08	0.95	10	1.98	0.1	3421	0	100%
14	BB11	2037	0.05	0.95	10	1.98	0.1	2037	0	100%
15	BB12	48189	1.11	0.90	15	1.55	1.5	44623	3566	93%
	BB13	3439	0.08	0.95	10	1.98	0.1	3439	0	100%
	BB14	29675	0.68	0.90	10	1.98	1.2	27369	2306	92%
16	BB15	78460	1.80	0.92	15	1.55	2.6	75349	3111	96%
17	BB16	86419	1.98	0.89	15	1.55	2.8	79548	6871	92%
18	BB17	99604	2.29	0.94	15	1.55	3.3	98128	1476	99%
	Total to Cemetery Ln	528474	12.13	0.88	20	1.30	13.9	488481	39993	92%
19	CC1	26750	0.61	0.86	10	1.98	1.1	23486	3264	88%
20	CC2	19248	0.44	0.95	10	1.98	0.8	19248	0	100%
	Total to E. Harding Way	45998	1.06	0.88	15	1.55	1.4	42733	3264	93%
	Total Project	983141	22.57	0.87	25	1.14	22.3	866807	116333	88%
								19.90	2.67	

(1) Runoff C, Impervious = 0.95, Pervious HSG D = 0.25

(2) Minimum Time of Concentration Assumed = 10-minutes for watershed less than 1-Acre, 15-minutes for watersheds between 1- and 5-acres, 20-minutes for watersheds between 5- and 15-acres, and 25-minutes for watersheds greater than 15-acres

(2) 10-Yr Rainfall Intensity per City of Stockton Standard Plan D-2

APPENDIX E:

200-Year Flood Protection - Urban Level of Protection Technical Memo

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April 19, 2022

John Schweigerdt, CASp, CFM
City of Stockton
Community Development Department
345 North El Dorado Street
Stockton, CA 95202

Re: 200-Year Flood Protection - Urban Level of Flood Protection Technical Memorandum
St. Joseph's Medical Center Expansion

Introduction:

This Urban Level of Flood Protection (ULOP) Technical Memorandum provides details how the St. Joseph's Medical Center Expansion development will meet the City of Stockton's Municipal Code Section 16.90.020 regarding the 200-year ULOP.

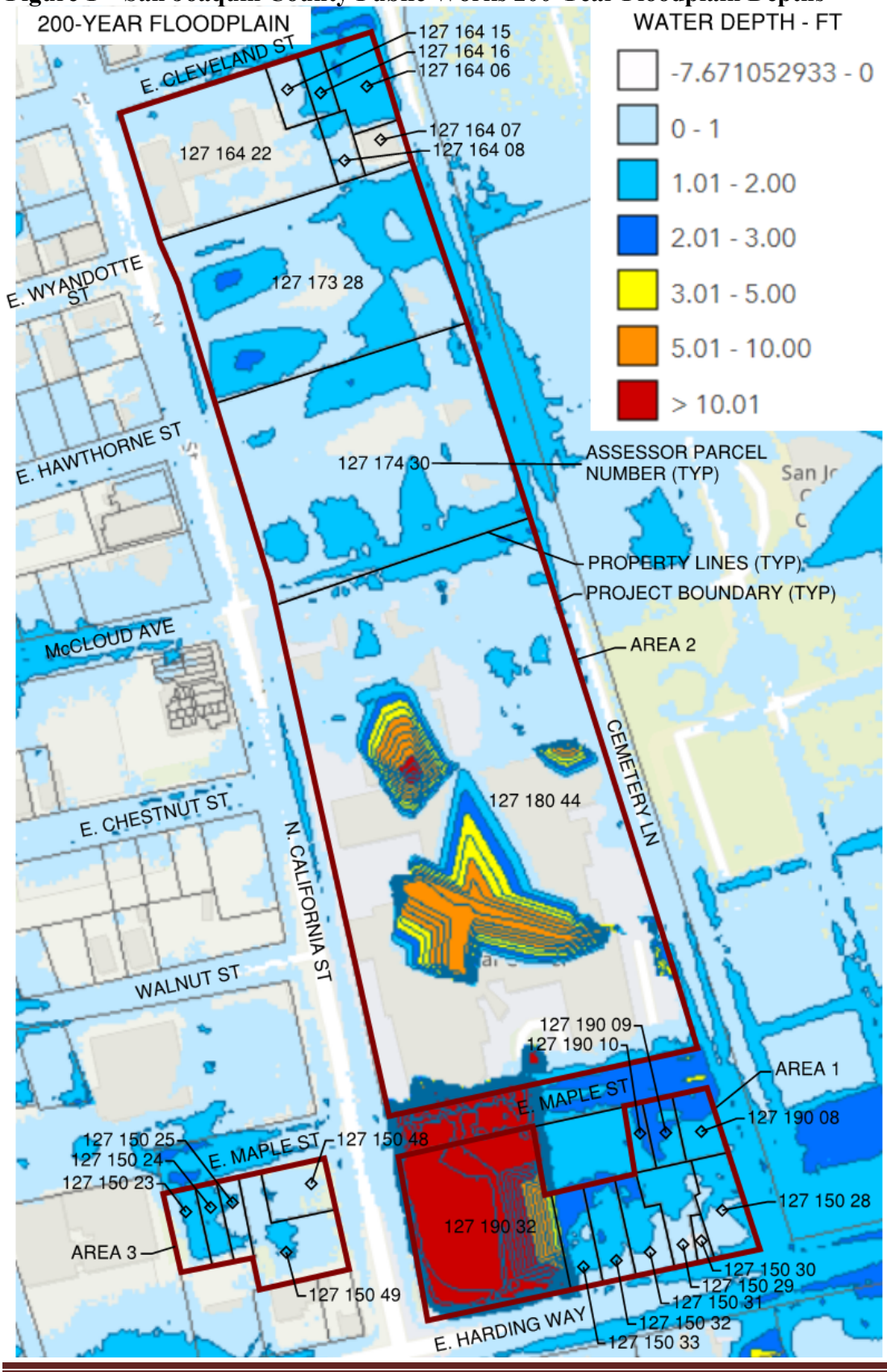
Background:

The St. Joseph's Medical Center Expansion Master Development Plan was submitted to the City in October of 2021. The City of Stockton Building Department generated the following comment from the submittal:

1. Portions of the project are located with areas of potential flood depths more than 3-feet in a 200-year storm event based on the current effective map. SB 5 finding required for the project in accordance with SMC 16.90.020. An engineer's report from a California Licensed Civil Engineer is required demonstrating how the project will comply with the SB 5 regulations and provide an urban level of flood protection.

The Central Valley Flood Protection Act of 2008, enacted by Senate Bill 5 in 2007, sets the 200-year flood event as the basis for flood protection for the St. Joseph's Medical Center location. Per the 200-Year Floodplain Analysis interactive viewer on the San Joaquin County Public Works GIS website (http://sjc-gis.maps.arcgis.com), a portion of the St. Joseph's Medical Center Expansion project may experience flood depths greater than 3-feet during the 200-year flood event. **Figure 1** identifies the current effective 200-year floodplain depths and existing parcels at the St. Joseph's Medical Center.

Figure 1 – San Joaquin County Public Works 200-Year Floodplain Depths



According to the County's 200-Year Floodplain Analysis, the following summarizes which parcels within the development area may experience flood depths greater than 3-feet during the 200-year flood event (identified by the colors yellow, orange, and red on **Figure 2**):

Area 1 – North of E. Harding Way and South of E. Maple Street

- APN 127-150-28 (No ULOP Flooding >3-feet)
- APN 127-150-29 (No ULOP Flooding >3-feet)
- APN 127-150-30 (No ULOP Flooding >3-feet)
- APN 127-150-31 (No ULOP Flooding >3-feet)
- APN 127-150-32 (No ULOP Flooding >3-feet)
- **APN 127-150-33 (0 to 5-foot flood depths)** ⇦
- APN 127-190-08 (No ULOP Flooding >3-feet)
- APN 127-190-09 (No ULOP Flooding >3-feet)
- APN 127-190-10 (No ULOP Flooding >3-feet)
- **APN 127-190-32 (0 to >10-foot depths)** ⇦

Area 2 – North of E. Maple Street and South of E. Cleveland Street

- APN 127-164-06 (No ULOP Flooding >3-feet)
- APN 127-164-07 (No ULOP Flooding >3-feet)
- APN 127-164-08 (No ULOP Flooding >3-feet)
- APN 127-164-15 (No ULOP Flooding >3-feet)
- APN 127-164-16 (No ULOP Flooding >3-feet)
- APN 127-164-22 (No ULOP Flooding >3-feet)
- APN 127-173-28 (No ULOP Flooding >3-feet)
- APN 127-174-30 (No ULOP Flooding >3-feet)
- **APN 127-180-44 (0 to >10-foot depths)** ⇦

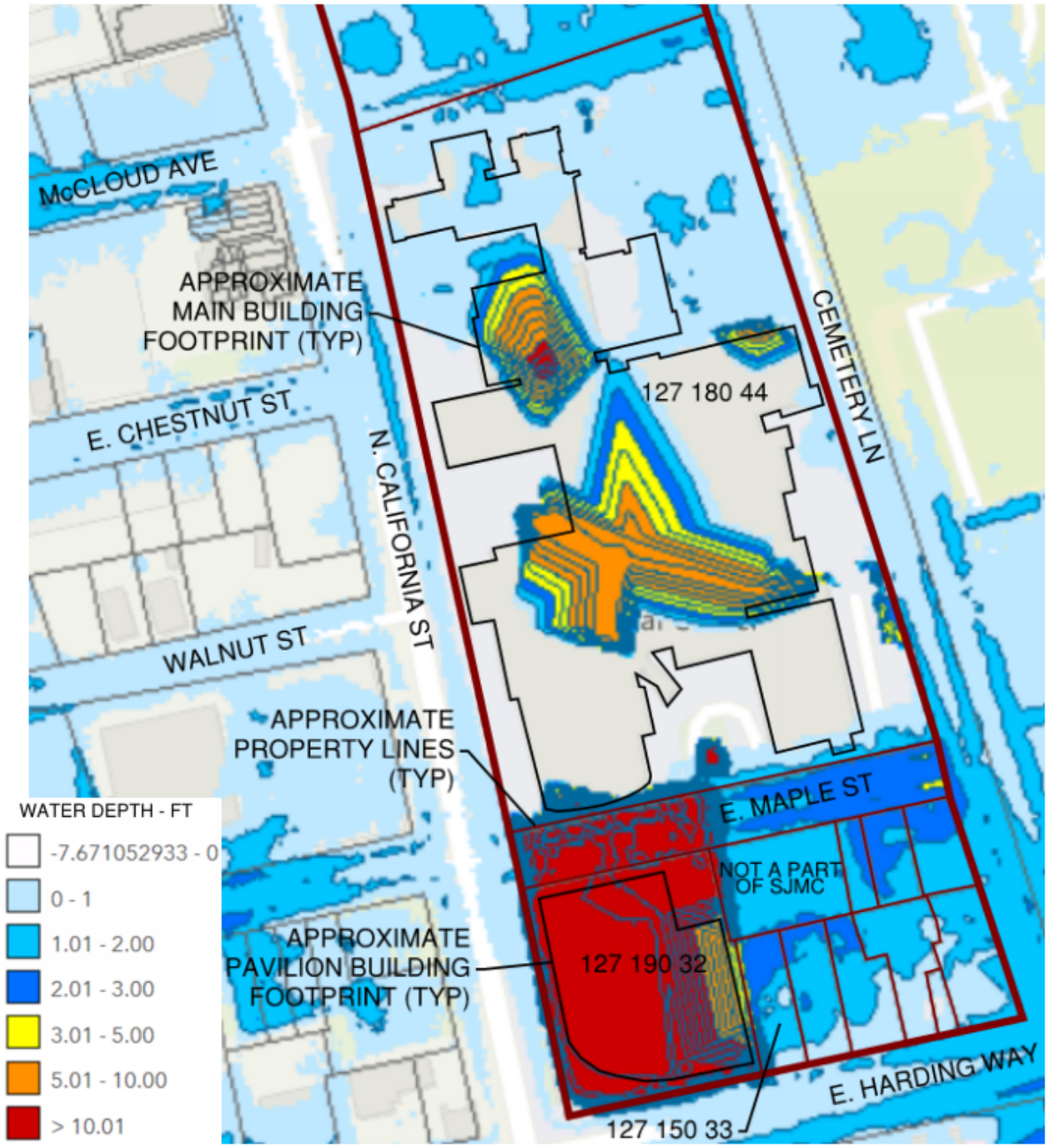
Area 3 – West of N. California Street, North of E. Harding Way, and South of E. Maple Street

- APN 127-150-23 (No ULOP Flooding >3-feet)
- APN 127-150-24 (No ULOP Flooding >3-feet)
- APN 127-150-25 (No ULOP Flooding >3-feet)
- APN 127-150-48 (No ULOP Flooding >3-feet)
- APN 127-150-49 (No ULOP Flooding >3-feet)

The Urban Level of Flood Protection is met by elevating habitable structure finished floor elevations to within 3-feet of the 200-year water surface elevation. Habitable structure finished floor elevations will also be elevated 2-feet above the highest adjacent 100-year Federal Emergency Management Agency's (FEMA) Special Flood Hazard Area water surface elevation where applicable per the City of Stockton Municipal Code Section 15.44.150(C)(1). Per the FEMA National Flood Insurance Program Flood Insurance Rate Map (FIRM) Community-Panel Number 06077C0460F dated October 16, 2009, the project is located within Zone X. Zone X is an area that has a chance of flood from the 500-year (0.2%) event and is an area that is protected by levees from the 100-year (1%) event.

Figure 2 provides an enlarged exhibit showing the 200-year floodplain depths at the St. Joseph's Medical Center for the three parcels identified above as having flooding greater than 3-feet.

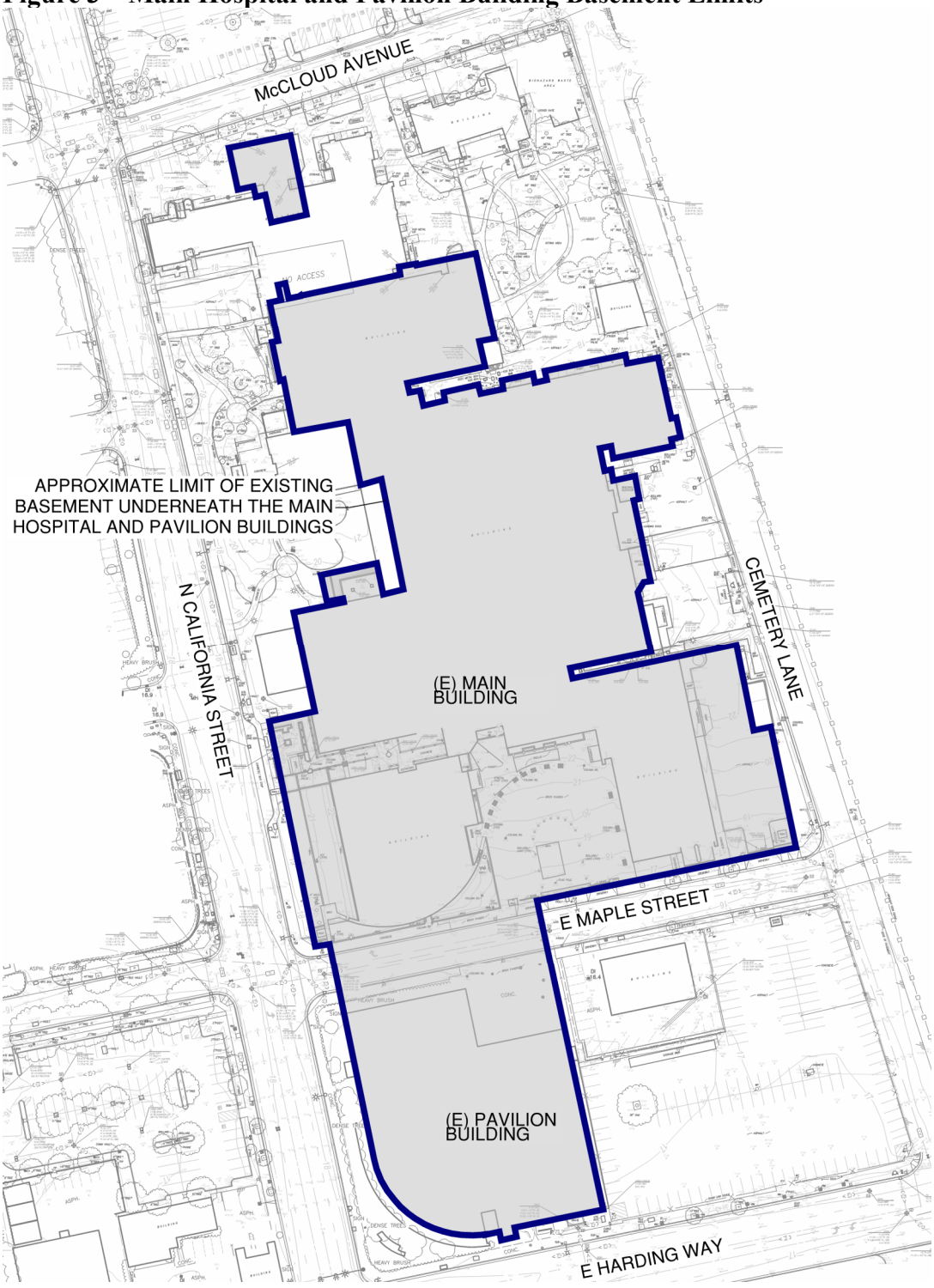
Figure 2 – Enlarged San Joaquin County Public Works 200-Year Floodplain Depths



From the above figure, the outlines of the existing main building (on parcel 127-180-44) and the existing pavilion building (on parcel 127-190-32) are shown for reference. Note that areas of flooding greater than 3-feet (colors yellow, orange, and red) mainly occur within the existing building footprints. Also, excessive flood depths (greater than 10-feet) are shown within E. Maple Street. Per the San Joaquin County Public Works website, the 200-year floodplain was prepared prior to March 2015. The Pavilion building on parcel 127-190-32 was constructed in 2007-2008. A parking garage was constructed underneath the Pavilion building and E. Maple Street, and connecting the basement garage to the existing parking garage underneath the existing main hospital building. It appears that the existing surface topography used to create the

200-year floodplain depths was obtained during construction of the Pavilion building when the basement parking garage was excavated. **Figure 3** shows the approximate limits of the existing basement underneath the main hospital and Pavilion buildings. The elevation of the basement at the parking garage under E. Maple Street is approximately 3.3-feet (NAVD88).

Figure 3 – Main Hospital and Pavilion Building Basement Limits



Natural Ground and 200-Year Water Surface Elevation:

A topographic survey, performed by Morton & Pitalo, Inc. in 2021-22, determined existing ground elevations (NAVD88) within each of the St. Joseph's Medical Center parcels.

200-year water surface elevations were obtained by interpolating the 200-Year Floodplain Analysis interactive viewer on the San Joaquin County Public Works GIS website (http://sjc-gis.maps.arcgis.com). **Figure 4** identifies the 200-year water surface elevation per the county website. The red lines are the water surface contours in the vicinity of the project.

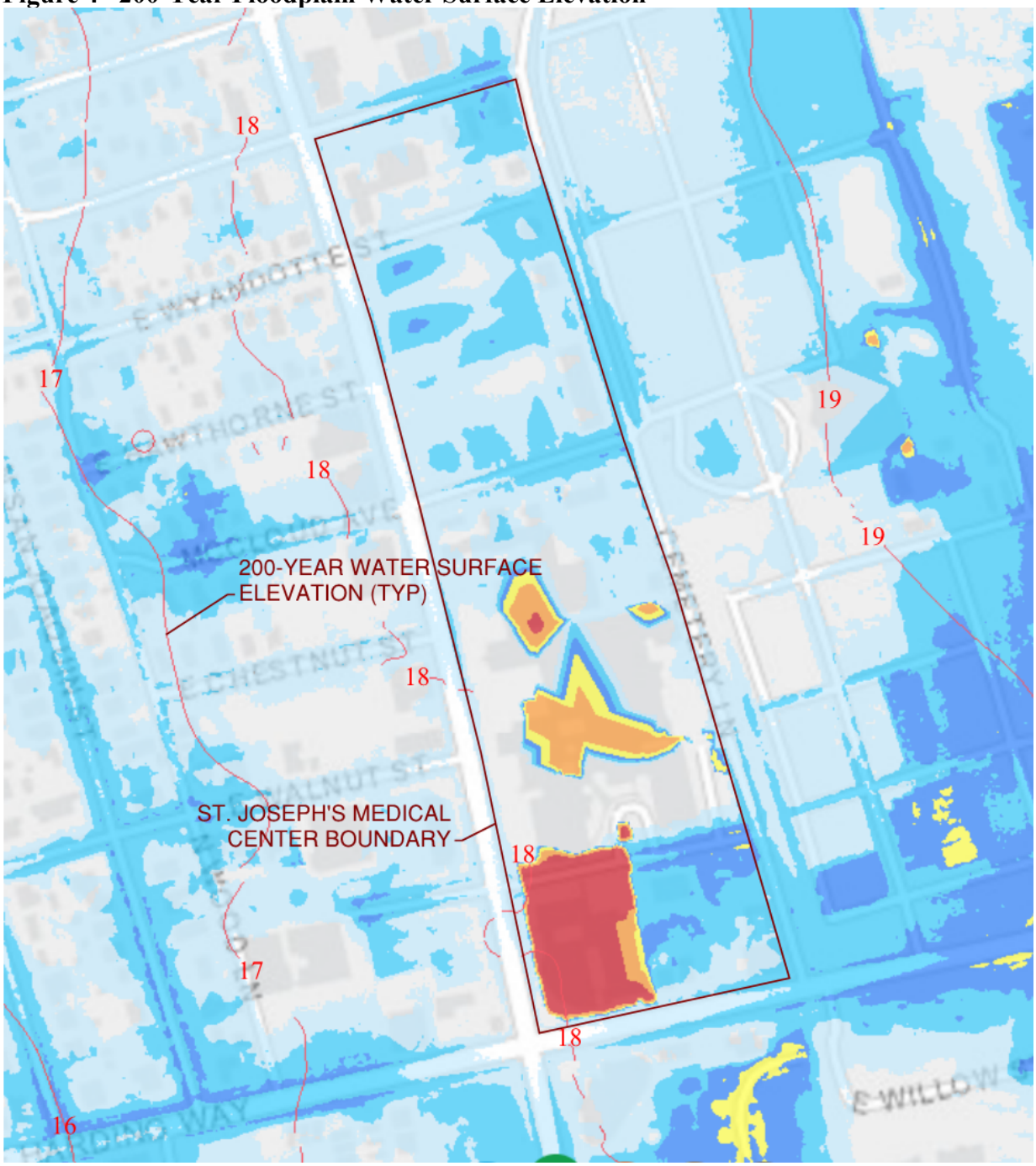
The following table summarizes the minimum and maximum ground and 200-year water surface elevation rounded to the nearest tenth of a foot for each of the parcels within the St. Joseph's Medical Center project.

Table 1 – St. Joseph's Medical Center Existing Ground Elevation and 200-Year Water Surface Elevation

Assessor Parcel Number	Existing Ground Elevations (NAVD88)		200-Year Flood Water Surface Elevation (NAVD88)	
	Minimum ±	Maximum ±	Minimum ±	Maximum ±
APN 127-150-28	16.5	17.6	18.4	18.4
APN 127-150-29	16.3	18.0	18.3	18.4
APN 127-150-30	17.0	17.9	18.4	18.4
APN 127-150-31	16.4	18.0	18.2	18.3
APN 127-150-32	16.1	17.4	18.2	18.2
APN 127-150-33	16.1	18.5	18.1	18.2
APN 127-190-08	15.9	16.7	18.4	18.4
APN 127-190-09	16.0	16.5	18.3	18.4
APN 127-190-10	16.0	17.1	18.3	18.3
APN 127-190-32	17.0	18.7	17.9	18.2
APN 127-164-06	16.2	17.4	18.5	18.5
APN 127-164-07	17.6	19.5	18.5	18.6
APN 127-164-08	17.0	18.5	18.4	18.5
APN 127-164-15	17.1	18.7	18.4	18.4
APN 127-164-16	16.7	18.1	18.4	18.5
APN 127-164-22	17.2	19.2	18.1	18.4
APN 127-173-28	16.2	18.8	18.2	18.6
APN 127-174-30	16.2	19.3	18.2	18.6
APN 127-180-44	9.7	24.3	17.9	18.6
APN 127-150-23	15.4	16.3	17.5	17.6
APN 127-150-24	15.5	16.9	17.6	17.6
APN 127-150-25	16.4	17.3	17.6	17.7
APN 127-150-48	16.2	18.1	17.8	18.0
APN 127-150-49	16.1	18.4	17.7	18.0

Note: There are multiple locations surrounding the exterior of the existing main hospital building where there is access provided down to the basement level. That is why the lowest elevation for parcel 127-180-44 is lower (9.7-feet) than the surrounding ground elevation.

Figure 4 –200-Year Floodplain Water Surface Elevation



Existing Buildings Finished Floor Elevations:

The following table summarizes the existing buildings to remain and their basement/1st floor finished floor elevations:

Table 2 – St. Joseph's Medical Center Existing Building Finished Floor Elevation and 200-Year Water Surface Elevation Summary

Building Name	Finished Floor Elevation (NAVD88)		200-Year Water Surface Elevation (NAVD88)
	Basement	1st Floor	Min/Max Elevation
Pavilion Building	3.3-feet (1)	17.3-feet	17.9 / 18.2
Main Hospital Building	3.3-feet (1)	Varies 22.7 – 23.1-feet	17.9 / 18.6
Utility Plant	N/A	18.7-feet	18.2 / 18.6
HCCL Building	N/A	19.1-feet	18.1 / 18.4
Generator Building	N/A	19.0-feet	18.5 / 18.6

(1) The existing main hospital and Pavilion buildings have a basement level that will exceed the minimum 3-feet inundation during a 200-year event. The existing basement does not comply with the SB 5 regulations and does not have an urban level of flood protection.

Future Buildings Finished Floor Elevations:

The following table summarizes the St. Joseph's Medical Center future building finished floors with respect to the existing 200-year water surface elevation:

Table 3 – St. Joseph's Medical Center Future Building Finished Floor Elevation and 200-Year Water Surface Elevation Summary

Future Building Name	200-Year Water Surface Elevation (NAVD88) Min/Max Elevation	Minimum Finished Floor Elevation (NAVD88) for No ULOP Requirements (2)
Acute Care Hospital Tower	17.9 / 18.6	15.6
Parking Structure	18.1 / 18.6	15.6
Central Utility Plant	18.2 / 18.6	15.6
Fuel Tank Yard	18.2 / 18.6	15.6
Generator Building	18.5 / 18.5	15.5
Plant Maintenance Building	18.4 / 18.5	15.5

(2) To meet with the ULOP criteria, the future buildings will need to have habitable structure finish floor elevations constructed to within 3-feet of the 200-year water surface elevation.

Conclusions:

The Main Hospital Building will undergo an addition as part of the St. Joseph's Medical Center Expansion development that will increase the current occupant load of the building. Due to this increase in occupancy, the ULOP requirements for the 200-year floodplain regulations will be triggered for the Main Hospital Building. The existing Main Hospital and Pavilion buildings have a connected basement with multiple openings and vents, thus requiring ULOP compliance for the Pavilion Building as well. During the 200-year event, the basement level of these two buildings is expected to experience flooding.

To approve the entitlement, the City will need to impose conditions on the project that will protect the property to the ULOP in accordance with Stockton Municipal Code Section 16.90.020(A)2.

A further review of the basement level will need to be completed to determine steps necessary to comply with the SB 5 regulations and provide an urban level of flood protection. One method may be to provide *dry floodproofing* of the buildings up to the 200-year base flood elevation of 18.2' for the Pavilion Building and 18.6' for the Main Hospital Building.

APPENDIX F:

Preliminary Stormwater Quality Control Plan

Section A: Cover Page

Project Name: St. Joseph's Medical Center Hospital Expansion

Project Category (check all that apply – see Section 2.1 of the Stormwater Quality Control Criteria Plan for project definitions**):**

A) **Priority Land Use Projects -** ☐ **High Density Residential** ☐ **Industrial** ☐ **Commercial** ☐ **Mixed Urban** ☐ **Public Transportation Station**

B) **Priority Projects -** ☐ **Residential Subdivision** ☐ **Commercial/Industrial** ☐ **Parking Lot** ☒ **Significant Redevelopment**

Property Description (include location, size, land uses, etc.): The approximate 19-acre St. Joseph's Medical Center complex is located at 1800 N. California Street. The project is bounded by N. California Street to the west, E. Cleveland Street to the north, Cemetery Lane to the east, and E. Harding Way to the south.

Property Owner/Developer Information:

Name of Business: Common Sprit Health
Contact Person: Robert O'Hare
Street: 3400 Data Drive
City: Rancho Cordova **State:** CA **Zip:** 95670
Phone Number: 916-387-5124
Email Address: robert.o'hare@commonspirit.org
Mailing Address: 3400 Data Drive
City: Rancho Cordova **State:** CA **Zip:** 95670

Plan Preparer Information:

Name of Business: Morton & Pitalo, Inc.
Contact Person: Edwin Yu
Street: 600 Coolidge Drive, Suite 140
City: Folsom **State:** CA **Zip:** 95630
Phone Number: 916-927-2400
Email Address: eyu@mpengr.com
Mailing Address: 600 Coolidge Drive, Suite 140
City: Folsom **State:** CA **Zip:** 95630

Submittal Information	
Date of First Submittal	
Date Revised	

This Preliminary Stormwater Quality Control Plans is for reference only. A final Stormwater Quality Control Plan will be prepared along with final design Construction Documents for the SJMC Project.

Section B: Owner's Certification Statement

Owner's Certification
Storm Water Quality Control Plan
for
St. Joseph's Medical Center

This Storm Water Quality Control Plan (Plan) was prepared for St. Joseph's Medical Center by **Morton & Pitalo, Inc**. This Plan is intended to comply with all requirements specified in the City of Stockton Storm Water Quality Control Plan (SWQCP) for new development and redevelopment projects.

The undersigned understands that storm water pollution control measures are enforceable requirements under the SWQCP. The undersigned, while owning the property on which such control measures are to be implemented, is responsible for the implementation of the provisions of this Plan and for the maintenance of all structural storm water pollution control measures and agrees to ensure that the conditions on the project site conform to the requirements specified in the SWQCP.

Once the undersigned transfers its interest in the project property, its successors-in-interest shall bear the aforementioned responsibility to maintain structural storm water pollution control measures and to implement and amend this Plan.

Owner Name: St. Joseph's Medical Center
Address: 1800 N. California Street
Stockton, CA 95204
Phone: (209) 943-2000

Owner's Certification Statement to be completed for Final Stormwater Quality Control Plan

Signature _____

Print Name _____

Title _____

Date _____

Section C: Project Description

C-1: Project Category

This Plan was prepared for: (select one)

☒ A Priority Project

☐ A project implemented in a Priority Land Use area (a PLU Project)

☐ Both a Priority Project and a PLU Project

Table 2-1. Priority Project and PLU Project Categories and Associated Pollutants of Concern

	Project Category	Pollutant Category of Concern						
		Sediment	Nutrients	Metals	Trash	Oxygen Demand	Toxic Organics	Bacteria
☐	Residential Development/ Home Subdivisions (≥ 10 units)	X	X	X[1]	X	X		X
☐	Commercial and Industrial Developments (≥ 5,000 SF)	X	X	X	X	X	X	X
☐	Parking Lots (≥ 5,000 SF or 25 spaces)	X	X	X	X	X		
☐	High Density Residential				X			
☐	Mixed Urban				X			
☐	Public Transportation Stations				X			

X = Pollutant assumed to be present in stormwater runoff from project area unless applicant demonstrates otherwise.

1 – Metals are a pollutant category of concern for the street and road infrastructure portion of the residential development.

C-2: Description of the Project

The SJMC project site is located in the City of Stockton on approximately on approximately 18.7 acres bounded by E. Harding Way on the south, Cemetery Lane on the east, E. Cleveland Street on the north, and N. California Street on the west, with two additional roads, E. Maple Street and McCloud Avenue, dividing the site. Existing uses of the Project site include the St. Joseph's Medical Center complex.

The topography of the site is generally flat with the elevations varying from 15 to 23 feet in elevation. Generally, the western half of the site drains to the west to N. California Street while the eastern half of the site drains to Cemetery Lane.

The Project is anticipated to be built over five phases and will include the following: removal of existing buildings and other site preparation work, the construction of a new hospital building for the expansion of acute care services, along with a new Parking Structure, a new Central Utility Plant, Plant Maintenance building, and other required support facilities on the existing Medical Center.

The post-development impervious area is less than the pre-development impervious area, therefore, volumetric reduction measures will not be required. To meet the treatment requirements of the City of Stockton's 2020 Storm Water Quality Control Criteria Plan (SWQCCP), the project proposes construct grassy swales or utilize proprietary control devices to provide water quality treatment of the runoff and utilize trash capture devices to satisfy the State Water Resources Control Board's trash capture amendment. Based on the proposed use of the site, general pollutants of concern include: sediment, nutrients, metals, trash and debris, oxygen demand, and toxic organics.

General Project Site Information – Form 1

APN	APNs listed on Figure 2 - Parcel Map				
Latitude	37.97279 N	Longitude	121.27829 W	Elevation	24
Total Project Area (A_T) (acres)	21.0	Total Drainage Area (acres)	21.0		
Total Existing Impervious Area (acres)	18.6	Total Post-Project Impervious Area (acres)	18.3		
Project Watershed	City of Stockton				
Receiving Water(s)	Smith Canal				
Receiving Water(s) CWA Section 303(d) impairments	Pesticides, Pathogens, Nutrients				

Describe location(s) of discharge from the project site.

Roughly half the site drains to the west to N. California Street, and the other half drains to the east to Cemetery Lane. Multiple connections to the City storm drain system are located in N. California Street and Cemetery Lane.

Describe Environmentally Sensitive Areas, if applicable.

Not applicable

General Project Site Information – Form 2

Pollutants of Concern

Post-Project Land Use Type(s)	Hospital and support services
Density of the development project	

Describe expected pollutant-generating activities.

Pre-project	Hospital and supporting services, parking lots, heating and cooling, chemical and human waste, food service and preparation, and landscaping.
Post-project	Same as pre-project.

Identify pollutants of concern.

Pesticides, pathogens, nutrients.

Site Conditions

Topography	See Figure 6 for Topographic Survey prepared by Morton & Pitalo (2022)
Hydraulic head	
Depth to Groundwater	To be determined by Geotechnical Engineering Study
Soil Type(s)	Jacktone-Urban Land complex, HSG D (per Web Soil Survey website)

C-3: Site Maps

In the site maps provided below, **Figure 1** shows a vicinity map indicating the location of the project relative to principal landmarks.

Figure 1 – Vicinity Map

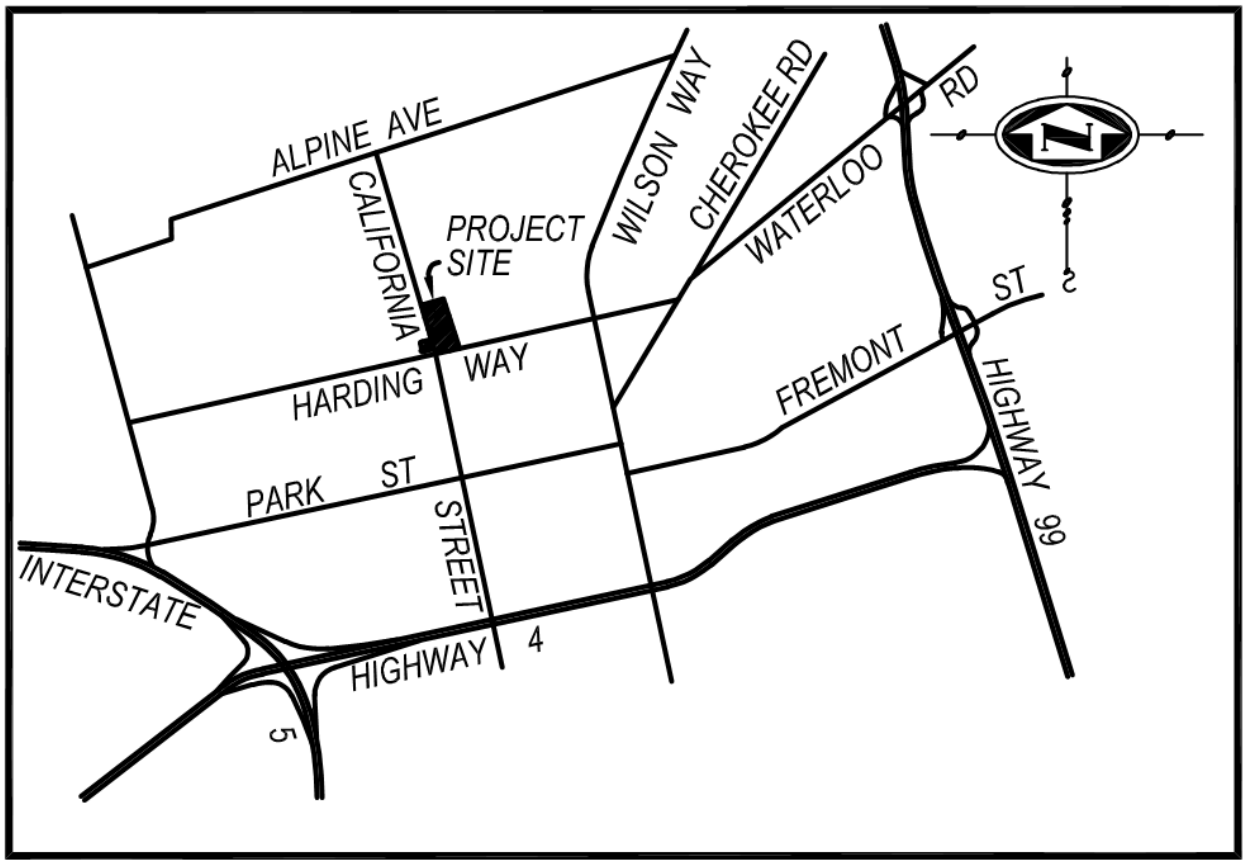
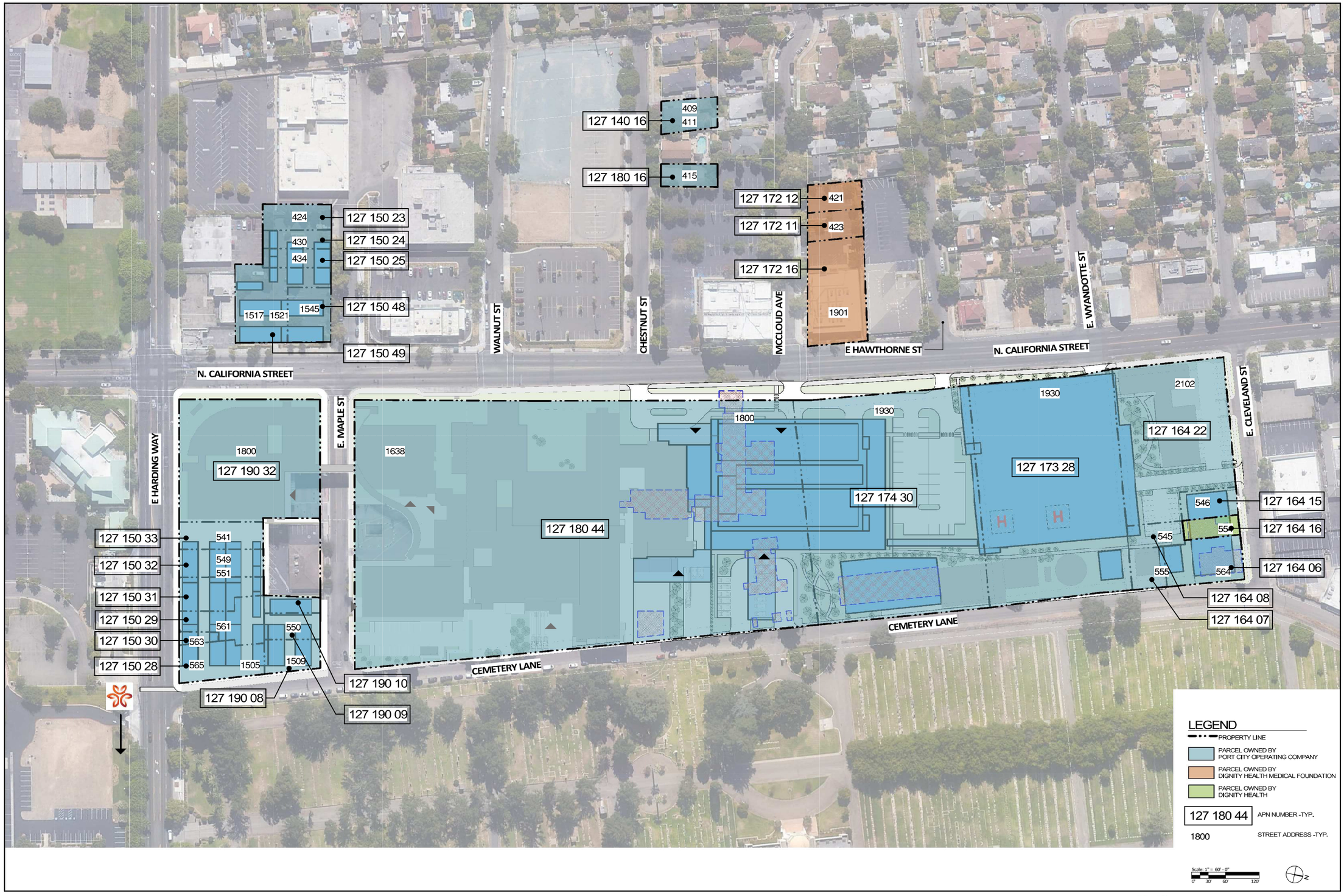


Figure 2 provides the Assessor Parcel Numbers and existing lot layout associated with the project. **Figure 3** provides the existing site plan for the hospital complex. **Figure 4** provides the Site Master Plan for phases 1-4. **Figure 5** provides the Site Master Plan for Phase 5. **Figure 6** shows the topographic map prepared for the project by Morton & Pitalo (2022). **Figure 7** provides the existing and proposed utility plan for the hospital complex.

A grading plan has not been prepared at this time.

Figure 2 – Parcel Map
Source: St. Joseph's Medical Center of Stockton Master Development Plan



PARCEL MAP

10/7/2021

St. Joseph's Medical Center Hospital Expansion Project

DIGNITY HEALTH

Dignity Health

3.1-1
PARCEL MAP

Figure 3 – Existing Site Plan
Source: St. Joseph's Medical Center of Stockton Master Development Plan



EXISTING SITE PLAN

10/7/2021

St. Joseph's Medical Center Hospital Expansion Project

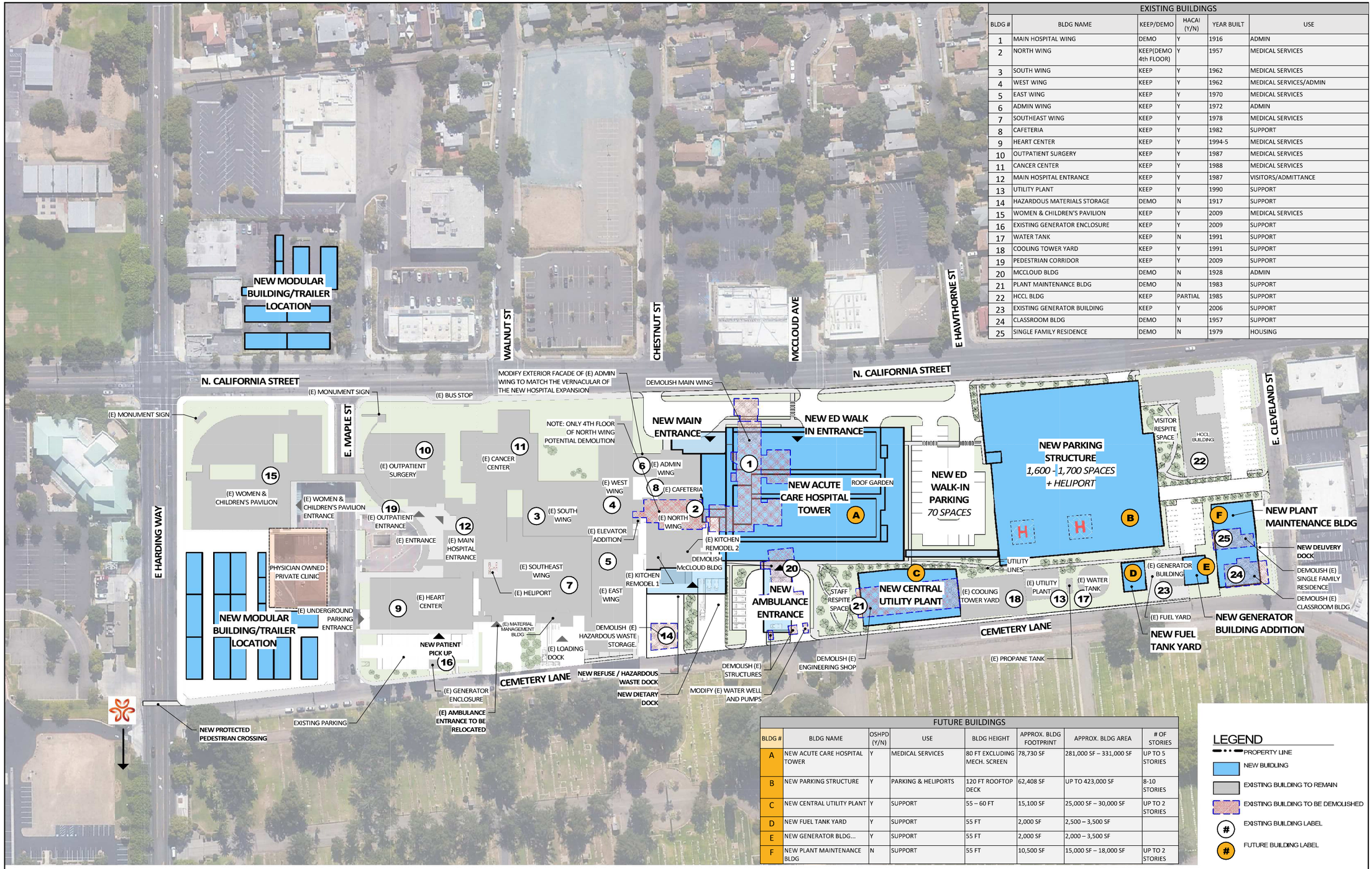
DIGNITY HEALTH

Dignity Health

3.1-3

EXISTING SITE PLAN

Figure 4 – Site Master Plan (Phases 1-4)
Source: St. Joseph's Medical Center of Stockton Master Development Plan



EXISTING BUILDINGS

BLDG #	BLDG NAME	KEEP/DEMO	HACAI (Y/N)	YEAR BUILT	USE
1	MAIN HOSPITAL WING	DEMO	Y	1916	ADMIN
2	NORTH WING	KEEP(DEMO 4th FLOOR)	Y	1957	MEDICAL SERVICES
3	SOUTH WING	KEEP	Y	1962	MEDICAL SERVICES
4	WEST WING	KEEP	Y	1962	MEDICAL SERVICES/ADMIN
5	EAST WING	KEEP	Y	1970	MEDICAL SERVICES
6	ADMIN WING	KEEP	Y	1972	ADMIN
7	SOUTHEAST WING	KEEP	Y	1978	MEDICAL SERVICES
8	CAFETERIA	KEEP	Y	1982	SUPPORT
9	HEART CENTER	KEEP	Y	1994-5	MEDICAL SERVICES
10	OUTPATIENT SURGERY	KEEP	Y	1987	MEDICAL SERVICES
11	CANCER CENTER	KEEP	Y	1988	MEDICAL SERVICES
12	MAIN HOSPITAL ENTRANCE	KEEP	Y	1987	VISITORS/ADMITTANCE
13	UTILITY PLANT	KEEP	Y	1990	SUPPORT
14	HAZARDOUS MATERIALS STORAGE	DEMO	N	1917	SUPPORT
15	WOMEN & CHILDREN'S PAVILION	KEEP	Y	2009	MEDICAL SERVICES
16	EXISTING GENERATOR ENCLOSURE	KEEP	Y	2009	SUPPORT
17	WATER TANK	KEEP	N	1991	SUPPORT
18	COOLING TOWER YARD	KEEP	Y	1991	SUPPORT
19	PEDESTRIAN CORRIDOR	KEEP	Y	2009	SUPPORT
20	MCCLOUD BLDG	DEMO	N	1928	ADMIN
21	PLANT MAINTENANCE BLDG	DEMO	N	1983	SUPPORT
22	HCCL BLDG	KEEP	PARTIAL	1985	SUPPORT
23	EXISTING GENERATOR BUILDING	KEEP	Y	2006	SUPPORT
24	CLASSROOM BLDG	DEMO	N	1957	SUPPORT
25	SINGLE FAMILY RESIDENCE	DEMO	N	1979	HOUSING

FUTURE BUILDINGS

BLDG #	BLDG NAME	OSHPD (Y/N)	USE	BLDG HEIGHT	APPROX. BLDG FOOTPRINT	APPROX. BLDG AREA	# OF STORIES
A	NEW ACUTE CARE HOSPITAL TOWER	Y	MEDICAL SERVICES	80 FT EXCLUDING MECH. SCREEN	78,730 SF	281,000 SF – 331,000 SF	UP TO 5 STORIES
B	NEW PARKING STRUCTURE	Y	PARKING & HELIPORTS	120 FT ROOFTOP DECK	62,408 SF	UP TO 423,000 SF	8-10 STORIES
C	NEW CENTRAL UTILITY PLANT	Y	SUPPORT	55 – 60 FT	15,100 SF	25,000 SF – 30,000 SF	UP TO 2 STORIES
D	NEW FUEL TANK YARD	Y	SUPPORT	55 FT	2,000 SF	2,500 – 3,500 SF	
E	NEW GENERATOR BLDG...	Y	SUPPORT	55 FT	2,000 SF	2,000 – 3,500 SF	
F	NEW PLANT MAINTENANCE BLDG	N	SUPPORT	55 FT	10,500 SF	15,000 SF – 18,000 SF	UP TO 2 STORIES

LEGEND

- PROPERTY LINE
- NEW BUILDING
- EXISTING BUILDING TO REMAIN
- EXISTING BUILDING TO BE DEMOLISHED
- # EXISTING BUILDING LABEL
- # FUTURE BUILDING LABEL

Scale: 1" = 60' - 0"

SITE MASTER PLAN

10/7/2021

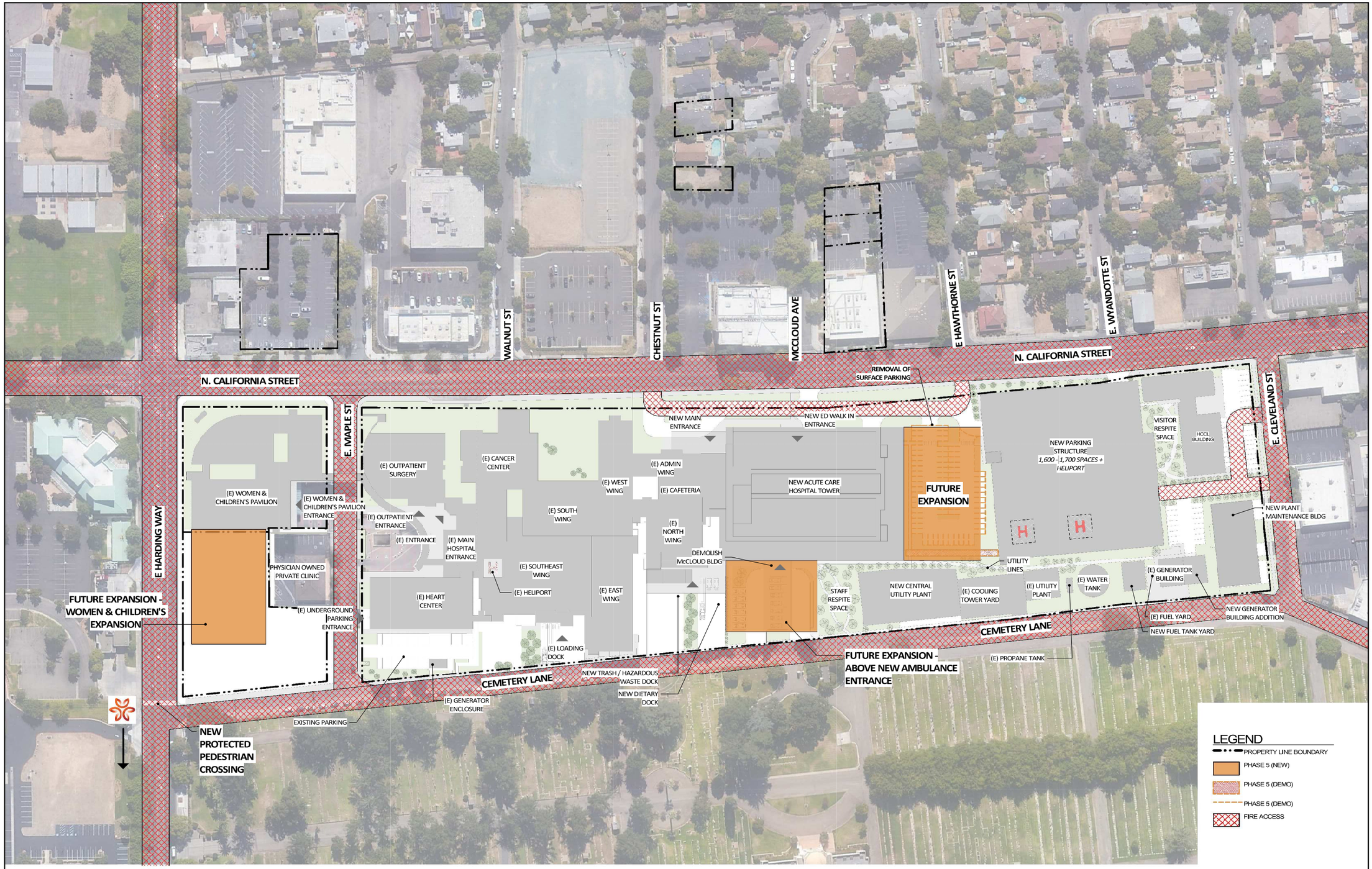
St. Joseph's Medical Center Hospital Expansion Project

DIGNITY HEALTH

Dignity Health

4.1-1
SITE MASTER PLAN

Figure 5 – Site Master Plan (Phase 5)
Source: St. Joseph's Medical Center of Stockton Master Development Plan



PHASE 5 SITE DIAGRAM - OPTION A

10/7/2021

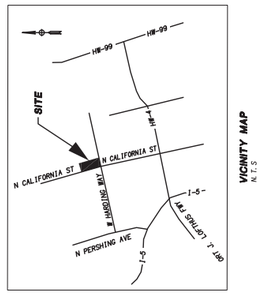
St. Joseph's Medical Center Hospital Expansion Project

DIGNITY HEALTH

Dignity Health

4.4-1
PHASE 5 SITE DIAGRAM - OPTION A

Figure 6 – Topographic Survey
Source: Morton & Pitalo, Inc. (2022)



VICINITY MAP
N.T.S.

GRAPHIC SCALE
1 in = 60 ft
60 30 0 60 120

LEGEND

- POWER OR TELEPHONE POLE W/GUY
- PARK LIGHT OR POLE LIGHT
- TRAFFIC SIGNAL (ELECTROLIER)
- TRAFFIC SIGNAL
- MANHOLE
- CLEANOUT
- DRAIN INLET
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- WATER METER
- BACKFLOW DEVICE
- AWIT ST VALVE
- DOUBLE DETECTOR CHECK VALVE
- REDUCED PRESS. DEVICE
- POST INDICATOR VALVE
- DIMENSION POINT
- MONUMENT FOUND AS NOTED
- ROAD SIGN
- EDGE OF PAVEMENT
- VALVES
- ASPHALTIC CONCRETE
- ASBESTOS
- BEGINNING
- BUILDING
- BUILDING SETBACK LINE
- CENTER LINE
- CHAIN LINK FENCE
- CAST IRON PIPE
- CORRUGATED METAL PIPE
- COMMUNICATIONS
- CONCRETE
- DRAIN INLET
- DRAIN MANHOLE
- ELECTRIC
- OVERHEAD ELECTRIC
- EDGE OF PAVEMENT
- ELEVATION
- FINISHED FLOOR
- FLOW LINE
- FENCE
- FOUND
- GAS METER
- GRATE
- GAS VALVE
- HANDICAP CONTROL VALVE
- INVERT
- IRON PIPE
- JOINT POLE
- LANDSCAPE EASEMENT
- OVERHEAD ELECTRICITY & TELEPHONE
- PROPOSED ELECTRICITY & TELEPHONE
- PACIFIC TELEPHONE & TELEGRAPH
- PUBLIC UTILITY EASEMENT
- POLYVINYL CHLORIDE
- RETAINING
- RIGHT OF WAY
- STREET LIGHT BOX
- SEWER MANHOLE
- SIDEWALK
- STORM MANHOLE
- TOP BACK OF CURB
- TELEPHONE CLOSURE
- TELEPHONE
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- TRAFFIC SIGNAL BOX
- UNDERGROUND
- UTILITY
- WATER BOX
- WOOD
- WATER METER
- STORM DRAINAGE
- SANITARY SEWER
- UNDERGROUND WATER UTILITY
- UNDERGROUND GAS UTILITY
- UNDERGROUND ELECTRIC UTILITY
- UNDERGROUND TELEPHONE UTILITY

BENCHMARK

CITY BM — EL=13.59 (NAVD88)

BRASS DISK MARKING CGS MONUMENT STAMPED "15-8" IN MONUMENT WELL AT THE INTERSECTION OF THE APPROXIMATE CENTERLINE OF SAN JOAQUIN STREET AND THE CENTER OF THE NORTH LANE OF THE TRAFFIC ALONG HARDING WAY.

NOT FOR CONSTRUCTION

SCALE:		COMPUTED:	MJC
HORIZ. 1" =	60'	DRAWN:	FP
VERT. 1" =	N/A	CHECKED:	MJC

MORTON & PITALO, INC.
CIVIL ENGINEERING • LAND PLANNING • LAND SURVEYING
LANDSCAPE ARCHITECTURE • TRAFFIC ENGINEERING
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survey email: stoking@mpengr.com • web: www.mpengr.com

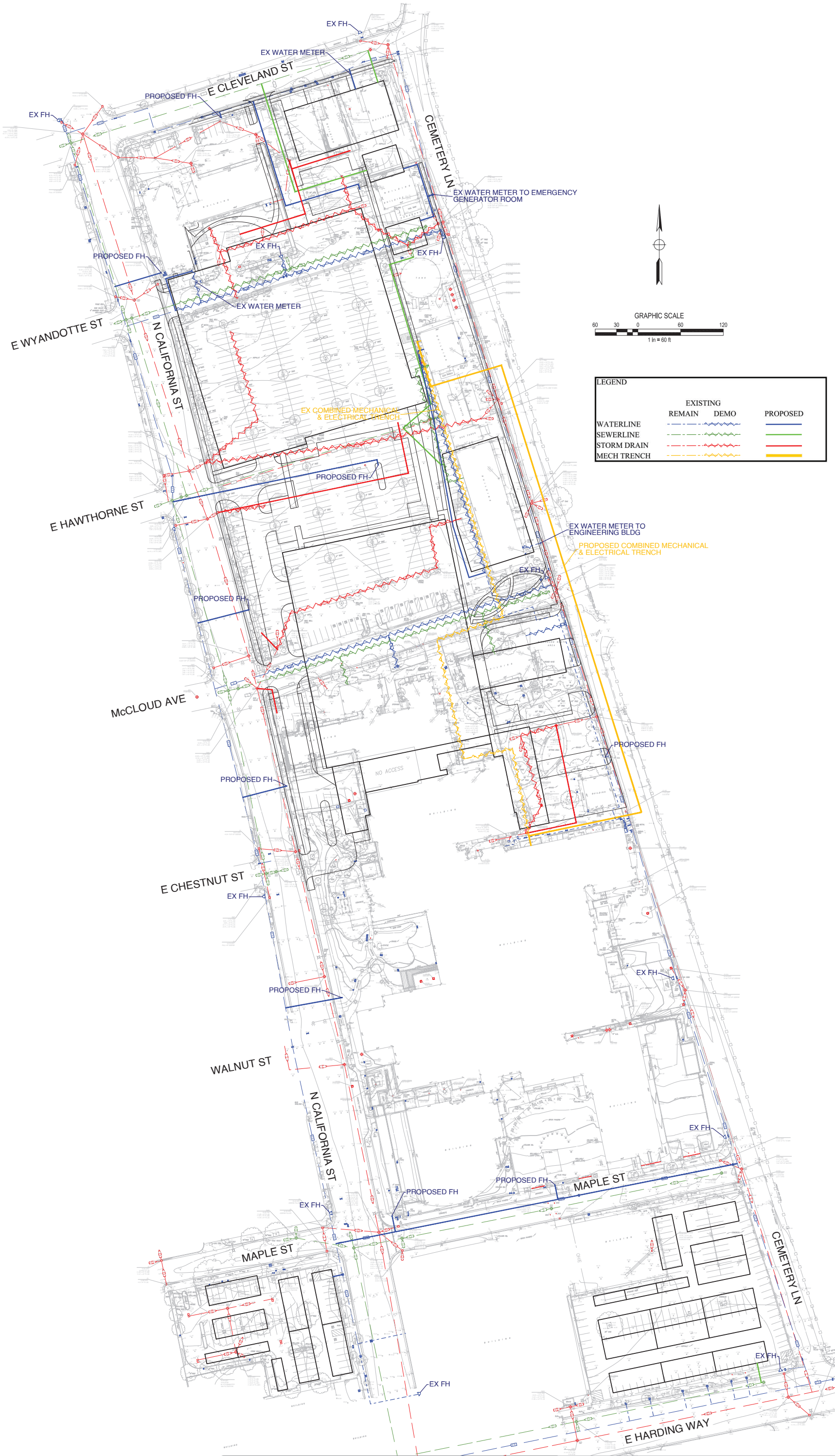
TOPOGRAPHIC SURVEY FOR
ST. JOSEPH MEDICAL CENTER
STOCKTON, CALIFORNIA

DATE JANUARY 2022
SHEET 1
OF 1

JOB NO. 21-0074-00

Plot: 3/2/2022 8:55:40 | Plotted by: STOKING | File: N:\PROJECTS\2021\21-0074-00\SURVEY\WORKING\21-0074-00 | Sheet: ALTA2019.dwn | Project: 21-0074-00

Figure 7 –Proposed Utility Plan
Source: Morton & Pitalo, Inc. (2022)



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TOPOGRAPHIC SURVEY FOR

ST. JOSEPH MEDICAL CENTER

PROPOSED UTILITY PLAN

STOCKTON, CALIFORNIA

Figure 8 – Existing Water Quality Map
Source: Morton & Pitalo, Inc. (2022)



St. Joseph's Medical Center
Pre-Development Water Quality Shed Map

Figure 9 – Proposed Water Quality Map
Source: Morton & Pitalo, Inc. (2022)



St. Joseph's Medical Center
Post-Development Water Quality Shed Map

Section D: Stormwater Pollution Control Measures

D-1: Summary Matrix of Control Measures

Site Design Controls		Number	Description
☐	*Conserve Natural Areas*		Not applicable-the project area is fully developed.
☐	*Protect Slopes and Channels*		Not applicable-the project area is fully developed.
☒	*Minimize Soil Compaction*		Minimize compaction of landscape areas.
☒	*Minimize Impervious Area*		Post-development impervious areas will be less than pre-development areas
Source Control Measures		**Number**	**Description**
☒	*Storm Drain Message and Signage*		Storm drain messaging per City of Stockton S-1 will be included on all storm drain inlets, manholes, and access points.
☒	*Outdoor Material Storage Area Design*		Outdoor material storage will be per City of Stockton S-2.
☒	*Outdoor Trash Storage and Waste Handling Area Design*		Outdoor trash storage and waste handling will be per City of Stockton S-3.
☒	*Outdoor Loading/Unloading Dock Area Design*		Outdoor loading dock area will be per City of Stockton S-4.
☐	*Outdoor Repair/Maintenance Bay Design*		Not applicable.
☐	*Outdoor Vehicle Equipment/Accessory Washing Area Design*		Not applicable.
☐	*Fueling Area Design*		Not applicable.
Volume Reduction Controls		**Number**	**Description**
☐	*Rain Garden (V-1)*		Not applicable-volume reduction controls not required.
☐	*Rain Barrel/Cistern (V-2)*		Not applicable-volume reduction controls not required.
☐	*Interception Trees (V-4)*		Not applicable-volume reduction controls not required.
☐	*Grassy Channel (V-5)*		Not applicable-volume reduction controls not required.
☐	*Vegetated Buffer Strip (V-6)*		Not applicable-volume reduction controls not required.

Proposed LID Treatment Controls		Number	Description
☐	*Biofiltration (L-1)*		May be substituted in lieu of Grassy Swale.
☐	*Stormwater Planter (L-2)*		May be substituted in lieu of Grassy Swale.
☐	*Tree-well Filter (L-3)*		May be substituted in lieu of Grassy Swale.
☐	*Infiltration Basin (L-4)*		May be substituted in lieu of Grassy Swale.
☐	*Infiltration Trench/Dry Well (L-5)*		Not anticipated to be used.
☐	*Porous Pavement Filter (L-6)*		May be substituted in lieu of Grassy Swale.
☐	*Vegetated (Dry) Swale (L-7)*		Not anticipated to be used.
☒	*Grassy Swale (L-8)*		Grassy swales will be per City of Stockton L-8.
☐	*Grassy Filter Strip (L-9)*		Not anticipated to be used.
Proposed Conventional Treatment Controls		**Number**	**Description**
☐	*Constructed Wetland (C-1)*		Not anticipated to be used.
☐	*Extended Detention Basin (C-2)*		Not anticipated to be used.
☐	*Wet Pond (C-3)*		Not anticipated to be used.
☒	*Proprietary Device (C-4)*		Proprietary devices will be per City of Stockton C-4.
☒	*Trash Full Capture System (C-5)*		Trash capture system will be per City of Stockton C-5.

D-2: Site Design Controls

Site Design Controls protect sensitive environmental features such as riparian areas, wetlands, and steep slopes. Development should be located on the least sensitive portion of the site. Additionally, the project should minimize impervious cover and soil compaction. These controls will help to reduce runoff volume and is the first step (and possibly the most inexpensive control measure) in meeting the VRR (see **Section 5** of the 2020 SWQCCP). Additional guidance on Site Design Controls can be found in **Section 3** of the 2020 SWQCCP. Minimizing or eliminating the use of curb and gutter so that roadway runoff drains to swales and other VRMs or LID Treatment Controls is strongly encouraged where the slope and density permit.

Site Design Controls
G-1: Conserve Natural Areas
Not applicable-the project area is fully developed.
G-2: Protect Slopes and Channels
Not applicable-the project area is fully developed.
G-3: Minimize Soil Compaction
Minimize compaction of landscape areas.
G-4: Minimize Impervious Area
Post-development impervious areas will be less than pre-development areas

D-3: Source Control Measures

All Priority New Development and Significant Redevelopment projects must implement applicable Source Controls. Source Controls are operational practices that prevent pollution by reducing potential pollutants at the source. The Priority Projects must implement the source control measures as specified in **Table 2-2** of the 2020 SWQCCP.

Source Control Measures
S-1: Storm Drain Message and Signage
Storm drain messaging per City of Stockton S-1 will be included on all storm drain inlets, manholes, and access points.
S-2: Outdoor Material Storage Area Design
Outdoor material storage will be per City of Stockton S-2.
S-3: Outdoor Trash Storage and Waste Handling Area Design
Outdoor trash storage and waste handling will be per City of Stockton S-3.
S-4: Outdoor Loading/Unloading Dock Area Design
Outdoor loading dock area will be per City of Stockton S-4.

S-5: Outdoor Repair/Maintenance Bay Design

Not applicable.

S-6: Outdoor Vehicle Equipment/Accessory Washing Area Design

Not applicable.

S-7: Fueling Area Design

Not applicable.

Volume Reduction Requirement Summary Worksheet

City of Stockton/ County of San Joaquin
2009 Stormwater Quality Control Criteria Plan
Volume Reduction Calculator (Updated July 16, 2010)

▶Make sure that Macros are enabled while using the Calculator

▶This calculator is solely for the purposes of determining compliance with the Volume Reduction Requirement. This is not a substitute and should not be used to determine compliance with SQDV/SQDF or any other new development/redevelopment requirements.

▶Volume Reduction is only given to Volume Reduction Measures and LID Treatment Controls. Volume Reduction is not given to Conventional Treatment Controls including wet ponds and proprietary controls.

▶The Calculator is intended as a companion to the SWQCCP and not to replace or be independant of it. Therefore all of the details contained within the SWQCCP are not contained within the calculator.

▶Instructions: Fill in the yellow boxes with the requested information. Numbers in the remainder of the boxes will be automatically filled out for you.

▷Each of the following worksheets will assist you in calculating the volume reduction achieved for Volume Reduction Measures and LID Treatment Controls. A worksheet must be filled out for each Volume Reduction Measure and LID Treatment Control (e.g., if there are 3 Rain Gardens proposed on the site, 3 Rain Garden worksheets must be filled out).

▷Once the information is filled out for the proposed Volume Reduction Measures and LID Treatment Controls, click in the **red** box below. This will run a macro that will sum up the volume reduction achieved by Volume Reduction Measures and LID Treatment Controls. NOTE to Mac Users: The Mac version of Excel may not be capable of running macros so you may have to manually sum up the volume reduction gained from Volume Reduction Measures and LID Treatment Controls.

Project:	St. Joseph's Medical Center
Detail:	
Design by:	Morton & Pitalo, Inc
Date:	2/16/2022

1. PRE-PROJECT CHARACTERISTICS		**Notes**
a. Total Project Area, ft^2 (A_{PRE})	433280.0	Total Project Area must be entered first before any other calculations can be made
b. Weighted Runoff Coefficient (C_{rPRE})	0.86	Go to "Cr Calcs" to calculate (orange tab)
c. Volume Reduction Requirement storm depth, inches (d)	0.51	Avg. 85th percentile, 24-hour storm depth for Stockton area
d. Significant Redevelopment Volume Reduction Credit, inches ($Redev_{credit}$) An additive credit of 0.05 inches is available for five types of redevelopment projects: - Siginificant Redevelopment (as defined in Section 2.1 of 2009 SWQCCP) - Brownfield redevelopment - High density (>7 units/acre) - Vertical Density (FAR of 2 or >18 units/acre) - Mixed use and Transit Oriented Development (within 1/2 mile of public transit)	0.00	- Credits are additive such that a maximum credit of 0.25 inches is possible for a project that meets all five criteria. - New development projects are not eligible for the criteria.
e. Revised Volume Reduction Requirement storm depth, inches ($d_{revised}$)	0.51	
f. Pre-project Runoff Volume, ft^3 (Vol_{PRE}) $Vol_{PRE} = (d_{revised}/12) \times A_{PRE} \times C_{rPRE}$	15795.8	

2. POST-PROJECT CHARACTERISTICS		**Notes**
a. Total Project Area, ft^2 (A_{POST})	433280.0	
b. Weighted Runoff Coefficient (C_{rPOST})	0.83	Go to "Cr Calcs" to calculate (orange tab)
c. Volume Reduction Requirement storm depth, inches (d)	0.51	

d. Significant Redevelopment Volume Reduction Credit, inches ($Redev_{credit}$) An additive credit of 0.05 inches is available for five types of redevelopment: - Siginificant Redevelopment (as defined in Section 2.1 of 2009 SWQCCP) - Brownfield redevelopment - High density (>7 units/acre) - Vertical Density (FAR of 2 or >18 units/acre) - Mixed use and Transit Oriented Development (within 1/2 mile of public transit)	0.00	- Credits are additive such that a maximum credit of 0.25 inches is possible for a project that meets all five criteria. - New development projects are not eligible for the criteria.
e. Revised Volume Reduction Requirement storm depth, inches ($d_{revised}$)	0.51	
f. Post-project Runoff Volume, ft^3 (Vol_{POST}) Vol_{POST}= (0.51/12) x A_{POST} x C_{rPOST}	15358.7	

VOLUME RUNOFF REDUCTION REQUIREMENT, ft^3 (VRR) **VRR = Vol_{POST} – Vol_{PRE}**	-437.1

3. VOLUME REDUCTION MEASURES		**Notes**
a. Total Volume Reduction from Volume Reduction Measures, ft^3 ($\sum Vol_{VRM}$)	0.0	Click in red box below to tally the volume reduction achieved by Volume Reduction Measurs and LID Treatment Controls.
b. Remaining Volume Reduction required from LID Treatment Controls, ft^3 (VRR_{TREAT}) VRR_{TREAT} = VRR – $\sum Vol_{VRM}$	-437.1	

4. LID TREATMENT CONTROLS		**Notes**
a. Total Volume Reduction from LID Treatment Controls, ft^3 ($\sum Vol_{TREAT}$)	3145.5	CLICK IN BOX TO LEFT to tally the volume reduction achived by Volume Reduction Measures and LID Treatment Controls.
b. Total Volume Reduction Provided, ft^3 ($VRR_{PROVIDED}$) $VRR_{PROVIDED}$ = $\sum Vol_{VRM}$ + $\sum Vol_{TREAT}$	3145.5	

VOLUME REDUCTION REMAINING, ft^3 (VRR_{REMAIN}) **VRR_{REMAIN} = VRR – $VRR_{PROVIDED}$**	-3582.6

Design Data for Volume Reduction Measures

RUNOFF COEFFICIENT CALCULATIONS

▸ Total Site Area must be entered in "Summary Sheet" before you can proceed

PRE-PROJECT WEIGHTED RUNOFF COEFFICIENT

Site Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Total Area ($A_{element}/A_{PRE}$)	Weighted Runoff Coefficient (C_{rPRE})	Notes
Disturbed Soils: Type C/D Soil	0.25		0.00	0.00	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 though 3 below
Managed Turf: Type C/D Soil	0.25	57069.0	0.13	0.03	
Asphalt/concrete pavement	0.95	376210.0	0.87	0.82	Includes roofs
			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	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:	0.40		0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**433279.0**		**0.86**	Make sure the Total for the Element Area column adds up to the Total Area of the Site (A_{PRE})

*Adapted from the Center for Watershed Protection, Ellicott City, MD

POST-PROJECT WEIGHTED RUNOFF COEFFICIENT

Site Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Total Area ($A_{element}/A_{PRE}$)	Weighted Runoff Coefficient (C_{rPOST})	Notes
Asphalt/concrete pavement	0.95		0.00	0.00	Select a site element from the drop down list; a corresponding runoff coefficient will appear
Asphalt/concrete pavement	0.95	361518.0	0.83	0.79	Includes roofs
Asphalt/concrete pavement	0.95		0.00	0.00	
Asphalt/concrete pavement	0.95		0.00	0.00	
Asphalt/concrete pavement	0.95		0.00	0.00	
Managed Turf: Type C/D Soil	0.25	71761.0	0.17	0.04	
Disturbed Soils: Type C/D Soil	0.25		0.00	0.00	
Disturbed Soils: Type C/D Soil	0.25		0.00	0.00	
Disturbed Soils: Type C/D Soil	0.25		0.00	0.00	
Disturbed Soils: Type C/D Soil	0.25		0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**433279.0**		**0.83**	Make sure the Total for the Element Area column adds up to the Total Area of the Site (A_{PRE})

*Adapted from the Center for Watershed Protection, Ellicott City, MD

D-5: Treatment Controls

Proposed LID Treatment Controls
Bioretention (L-1)
Stormwater Planter (L-2)
Tree-well Filter (L-3)
Infiltration Basin (L-4)
Infiltration Trench/Dry Well (L-5)
Porous Pavement Filter (L-6)

Vegetated (Dry) Swale (L-7)

Grassy Swale (L-8)

Grass swales will be per City of Stockton L-8.

Grassy Filter Strip (L-9)

Proposed Conventional Treatment Controls
Constructed Wetland (C-1)
Extended Detention Basin (C-2)
Wet Pond (C-3)
Proprietary Devices(C-4)[3]
Proprietary devices will be per City of Stockton C-4.
Trash Full Capture Systems (C-5)
Trash capture system will be per City of Stockton C-5.

Design Data for Treatment Control Measures

St. Joseph's Medical Center

Water Quality Summary

DMA	Total Area, sf	Pre-Development			Post-Development			Pre-Development Runoff C (1)	Post-Development Runoff C (1)	Water Quality Treatment
		Impervious, sf	Pervious, sf	Percent Impervious	Impervious, sf	Pervious, sf	Percent Impervious			
1	15664	13475	2189	86%	10962	4702	70%	0.85	0.74	Grassy Swale 1
2	11372	10691	681	94%	4743	6629	42%	0.91	0.54	Grassy Swale 2
3	44010	41873	2137	95%	40553	3457	92%	0.92	0.90	Grassy Swale 3
4	35868	35069	799	98%	25446	10422	71%	0.93	0.75	Grassy Swale 4
5	39004	37798	1206	97%	30438	8566	78%	0.93	0.80	Grassy Swale 5
6	41338	31912	9426	77%	33680	7658	81%	0.79	0.82	Grassy Swale 6
7	8754	6887	1867	79%	6152	2602	70%	0.80	0.74	Grassy Swale 7
8	10388	10185	203	98%	7509	2879	72%	0.94	0.76	Grassy Swale 8
9	53388	52249	1138	98%	48530	4857	91%	0.94	0.89	Grassy Swale 9
10	55324	48748	6576	88%	45150	10174	82%	0.87	0.82	Grassy Swale 10
11	48189	33030	15159	69%	44623	3566	93%	0.73	0.90	Grassy Swale 11
12	29675	20620	9055	69%	27369	2306	92%	0.74	0.90	Grassy Swale 12
13	40306	33673	6633	84%	36364	3942	90%	0.83	0.88	Existing Proprietary Control Devices
Total	433280	376210	57069	87%	361519	71761	83%	0.86	0.83	

(1) Runoff C, Impervious = 0.95, Pervious HSG D = 0.25

St. Joseph's Medical Center

Grassy Swale Treatment Calculation

DMA	Grassy Swale #	Area (sf)	Runoff C	WQ Rainfall Intensity (in/hr)	SQDF (cfs)
1	1	15664	0.74	0.20	0.05
2	2	11372	0.54	0.20	0.03
3	3	44010	0.90	0.20	0.18
4	4	35868	0.75	0.20	0.12
5	5	39004	0.80	0.20	0.14
6	6	41338	0.82	0.20	0.16
7	7	8754	0.74	0.20	0.03
8	8	10388	0.76	0.20	0.04
9	9	53388	0.89	0.20	0.22
10	10	55324	0.82	0.20	0.21
11	11	48189	0.90	0.20	0.20
12	12	29675	0.90	0.20	0.12

Grassy Swale								
Bottom Width (ft)	Side Slopes	Slope %	n-value	Depth (ft)	Depth (in)	Velocity (fps)	Contact Time (min)	Minimum Length (ft)
2.0	3:1	0.5	0.2	0.16	1.9	0.13	7.0	55
2.0	3:1	0.5	0.2	0.12	1.4	0.11	7.0	46
2.0	3:1	0.5	0.2	0.32	3.8	0.19	7.0	80
2.0	3:1	0.5	0.2	0.25	3.0	0.17	7.0	71
2.0	3:1	0.5	0.2	0.28	3.4	0.18	7.0	76
2.0	3:1	0.5	0.2	0.30	3.6	0.18	7.0	76
2.0	3:1	0.5	0.2	0.12	1.4	0.11	7.0	46
2.0	3:1	0.5	0.2	0.14	1.7	0.12	7.0	50
2.0	3:1	0.5	0.2	0.35	4.2	0.21	7.0	88
2.0	3:1	0.5	0.2	0.34	4.1	0.20	7.0	84
2.0	3:1	0.5	0.2	0.33	4.0	0.20	7.0	84
2.0	3:1	0.5	0.2	0.25	3.0	0.17	7.0	71

LID TREATMENT CONTROL:
GRASSY SWALE (L-8)
UNIQUE ID: DMA 1-GRASSY SWALE 1

▸ A separate worksheet must be completed for each grassy swale within the proposed development project (e.g., 3 grassy swales proposed = 3 separate grassy swale worksheets; one for each swale). Copy this spreadsheet as many times as necessary to accommodate all the grassy swales in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Grassy Swale (L-8)", check the "Create a Copy" box, and hit OK.

▸ The Volume Reduction allowed for Grassy Swales is based on the SQDV. However, please note that the SQDF should be used when sizing Grassy Swales. The following are the steps necessary to calculate the Volume Reduction Requirement for Grassy Swales.

1) GRASSY SWALE DRAINAGE AREA

Design Parameter	Criteria	Notes
a. Drainage Area, ft^2 ($A_{drainage}$)	15664.0	Drainage area to grassy swale

2) WEIGHTED RUNOFF COEFFICIENT FOR GRASSY SWALE DRAINAGE AREA

▸ Identify the area if each element within the Grassy Swale's drainage area.

Drainage Area Post-Construction Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Drainage Area ($A_{element}/A_{drainage}$)	Weighted Runoff Coefficient (C_{ra})	Notes
Asphalt/concrete pavement	0.95	10962.0	0.70	0.66	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 through 3 below
Disturbed Soils: Type C/D Soil	0.25	4702.0	0.30	0.08	
			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	
			0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**15664.0**		**0.74**	Make sure the Total for the Element Area column adds up to the Total Area of Drainage Area

3) EFFECTIVE TRIBUTARY AREA

▸ Subtract out the Tributary Impervious Area Credits associated with the Volume Reduction Measures located within the Grassy Swale's drainage area.

Drainage Area Post-Construction Element	Element Area, ft^2 ($A_{element}$)	Tributary Impervious Area Credit* (A_{credit}), ft^2	Effective Area (A_{eff}), ft^2
Asphalt/concrete pavement	10962.0		10962.0
Disturbed Soils: Type C/D Soil	4702.0		4702.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
Permeable Pavement	0.0		0.0
Other1:	0.0		0.0
Other2:	0.0		0.0
Other 3:	0.0		0.0
TOTAL EFFECTIVE AREA (A_{eff})			**15664.0**

*Tributary Impervious Area Credit (A_{credit}) must be obtained from Volume Reduction Measures (e.g., rain gardens and interception trees) within the tributary area of the grassy swale. A_{credit} was calculated in and can be obtained from the Volume Reduction Measure worksheets.

4) VOLUME REDUCTION FOR GRASSY SWALE

Design Parameter	Criteria	Notes
a. Unit Basin Storage Volume (V_u)	0.44	Obtain unit basin storage volume for 48-hour drawdown using the C_{ra} calculated above and SWQCCP Figure 6-1
b. Soil Volume Reduction Factor, ft^3 (V_{soils}) Use one of the following: V_{soils} for A and B soils = 0.50 V_{soils} C and D soils = 0.25	0.25	V_{soils} is volume reduction factor allowed for infiltration, which varies with soil permeability.
b. Volume Reduction, ft^3 ($Vol_{reduction}$) = (V_u x A_{eff} / 12 in/ft) x V_{soils}	143.6	- aka SQDV x V_{soils} - Volume reduction achieved by grassy filter strip

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Feb 16 2022

Grassy Swale #1

Trapezoidal

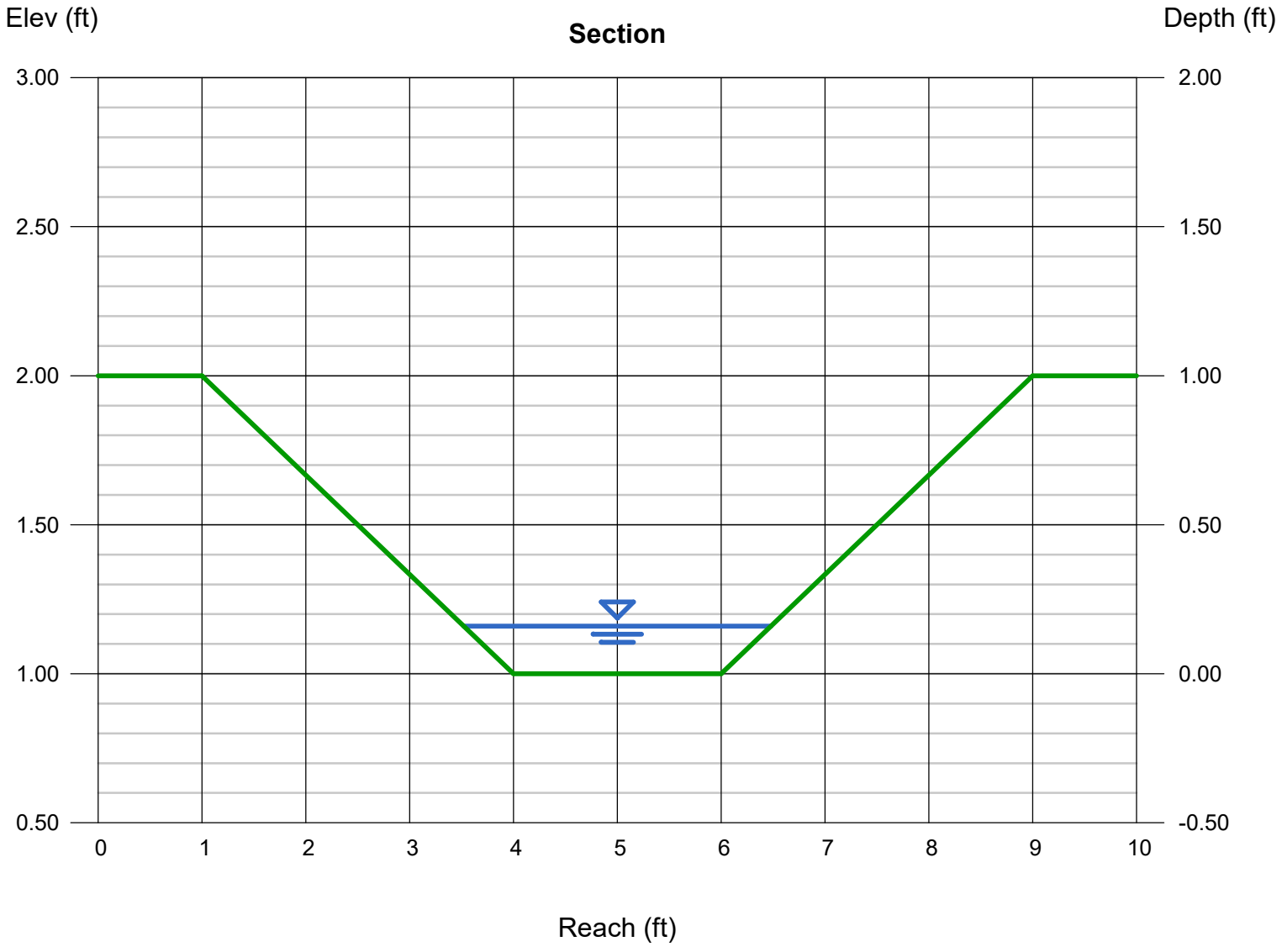
Bottom Width (ft)	= 2.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.200

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.05

Highlighted

Depth (ft)	= 0.16
Q (cfs)	= 0.050
Area (sqft)	= 0.40
Velocity (ft/s)	= 0.13
Wetted Perim (ft)	= 3.01
Crit Depth, Yc (ft)	= 0.03
Top Width (ft)	= 2.96
EGL (ft)	= 0.16



LID TREATMENT CONTROL:
GRASSY SWALE (L-8)
UNIQUE ID: DMA 2-GRASSY SWALE 2

▸ A separate worksheet must be completed for each grassy swale within the proposed development project (e.g., 3 grassy swales proposed = 3 separate grassy swale worksheets; one for each swale). Copy this spreadsheet as many times as necessary to accommodate all the grassy swales in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Grassy Swale (L-8)", check the "Create a Copy" box, and hit OK.

▸ The Volume Reduction allowed for Grassy Swales is based on the SQDV. However, please note that the SQDF should be used when sizing Grassy Swales. The following are the steps necessary to calculate the Volume Reduction Requirement for Grassy Swales.

1) GRASSY SWALE DRAINAGE AREA

Design Parameter	Criteria	Notes
a. Drainage Area, ft^2 ($A_{drainage}$)	11372.0	Drainage area to grassy swale

2) WEIGHTED RUNOFF COEFFICIENT FOR GRASSY SWALE DRAINAGE AREA

▸ Identify the area if each element within the Grassy Swale's drainage area.

Drainage Area Post-Construction Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Drainage Area ($A_{element}/A_{drainage}$)	Weighted Runoff Coefficient (C_{ra})	Notes
Asphalt/concrete pavement	0.95	4743.0	0.42	0.40	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 through 3 below
Disturbed Soils: Type C/D Soil	0.25	6629.0	0.58	0.15	
			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	
			0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**11372.0**		**0.54**	Make sure the Total for the Element Area column adds up to the Total Area of Drainage Area

3) EFFECTIVE TRIBUTARY AREA

▸ Subtract out the Tributary Impervious Area Credits associated with the Volume Reduction Measures located within the Grassy Swale's drainage area.

Drainage Area Post-Construction Element	Element Area, ft^2 ($A_{element}$)	Tributary Impervious Area Credit* (A_{credit}), ft^2	Effective Area (A_{eff}), ft^2
Asphalt/concrete pavement	4743.0		4743.0
Disturbed Soils: Type C/D Soil	6629.0		6629.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
Permeable Pavement	0.0		0.0
Other1:	0.0		0.0
Other2:	0.0		0.0
Other 3:	0.0		0.0
TOTAL EFFECTIVE AREA (A_{eff})			**11372.0**

*Tributary Impervious Area Credit (A_{credit}) must be obtained from Volume Reduction Measures (e.g., rain gardens and interception trees) within the tributary area of the grassy swale. A_{credit} was calculated in and can be obtained from the Volume Reduction Measure worksheets.

4) VOLUME REDUCTION FOR GRASSY SWALE

Design Parameter	Criteria	Notes
a. Unit Basin Storage Volume (V_u)	0.44	Obtain unit basin storage volume for 48-hour drawdown using the C_{fa} calculated above and SWQCCP Figure 6-1
b. Soil Volume Reduction Factor, ft^3 (V_{soils}) Use one of the following: V_{soils} for A and B soils = 0.50 V_{soils} C and D soils = 0.25	0.25	V_{soils} is volume reduction factor allowed for infiltration, which varies with soil permeability.
b. Volume Reduction, ft^3 ($Vol_{reduction}$) = (V_u x A_{eff} / 12 in/ft) x V_{soils}	104.2	- aka SQDV x V_{soils} - Volume reduction achieved by grassy filter strip

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Feb 16 2022

Grassy Swale #2

Trapezoidal

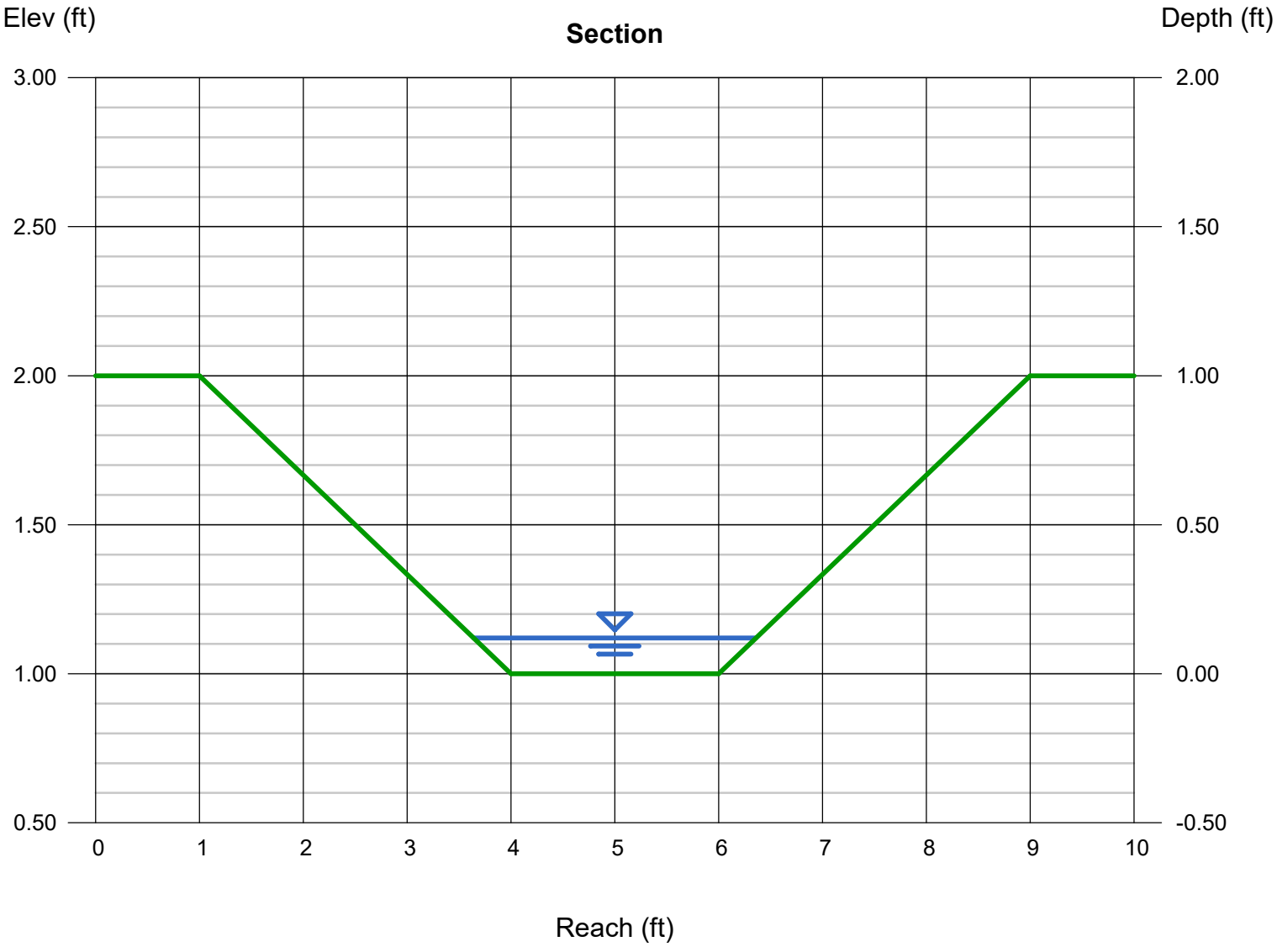
Bottom Width (ft)	= 2.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.200

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.03

Highlighted

Depth (ft)	= 0.12
Q (cfs)	= 0.030
Area (sqft)	= 0.28
Velocity (ft/s)	= 0.11
Wetted Perim (ft)	= 2.76
Crit Depth, Yc (ft)	= 0.02
Top Width (ft)	= 2.72
EGL (ft)	= 0.12



LID TREATMENT CONTROL:
GRASSY SWALE (L-8)
UNIQUE ID: DMA 3-GRASSY SWALE 3

▸ A separate worksheet must be completed for each grassy swale within the proposed development project (e.g., 3 grassy swales proposed = 3 separate grassy swale worksheets; one for each swale). Copy this spreadsheet as many times as necessary to accommodate all the grassy swales in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Grassy Swale (L-8)", check the "Create a Copy" box, and hit OK.

▸ The Volume Reduction allowed for Grassy Swales is based on the SQDV. However, please note that the SQDF should be used when sizing Grassy Swales. The following are the steps necessary to calculate the Volume Reduction Requirement for Grassy Swales.

1) GRASSY SWALE DRAINAGE AREA

Design Parameter	Criteria	Notes
a. Drainage Area, ft^2 ($A_{drainage}$)	44010.0	Drainage area to grassy swale

2) WEIGHTED RUNOFF COEFFICIENT FOR GRASSY SWALE DRAINAGE AREA

▸ Identify the area if each element within the Grassy Swale's drainage area.

Drainage Area Post-Construction Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Drainage Area ($A_{element}/A_{drainage}$)	Weighted Runoff Coefficient (C_{ra})	Notes
Asphalt/concrete pavement	0.95	40553.0	0.92	0.88	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 through 3 below
Disturbed Soils: Type C/D Soil	0.25	3457.0	0.08	0.02	
			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	
			0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**44010.0**		**0.90**	Make sure the Total for the Element Area column adds up to the Total Area of Drainage Area

3) EFFECTIVE TRIBUTARY AREA

▸ Subtract out the Tributary Impervious Area Credits associated with the Volume Reduction Measures located within the Grassy Swale's drainage area.

Drainage Area Post-Construction Element	Element Area, ft^2 ($A_{element}$)	Tributary Impervious Area Credit* (A_{credit}), ft^2	Effective Area (A_{eff}), ft^2
Asphalt/concrete pavement	40553.0		40553.0
Disturbed Soils: Type C/D Soil	3457.0		3457.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
Permeable Pavement	0.0		0.0
Other1:	0.0		0.0
Other2:	0.0		0.0
Other 3:	0.0		0.0
TOTAL EFFECTIVE AREA (A_{eff})			**44010.0**

*Tributary Impervious Area Credit (A_{credit}) must be obtained from Volume Reduction Measures (e.g., rain gardens and interception trees) within the tributary area of the grassy swale. A_{credit} was calculated in and can be obtained from the Volume Reduction Measure worksheets.

4) VOLUME REDUCTION FOR GRASSY SWALE

Design Parameter	Criteria	Notes
a. Unit Basin Storage Volume (V_u)	0.44	Obtain unit basin storage volume for 48-hour drawdown using the C_{fa} calculated above and SWQCCP Figure 6-1
b. Soil Volume Reduction Factor, ft^3 (V_{soils}) Use one of the following: V_{soils} for A and B soils = 0.50 V_{soils} C and D soils = 0.25	0.25	V_{soils} is volume reduction factor allowed for infiltration, which varies with soil permeability.
b. Volume Reduction, ft^3 ($Vol_{reduction}$) = (V_u x A_{eff} / 12 in/ft) x V_{soils}	403.4	- aka SQDV x V_{soils} - Volume reduction achieved by grassy filter strip

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Feb 16 2022

Grassy Swale #3

Trapezoidal

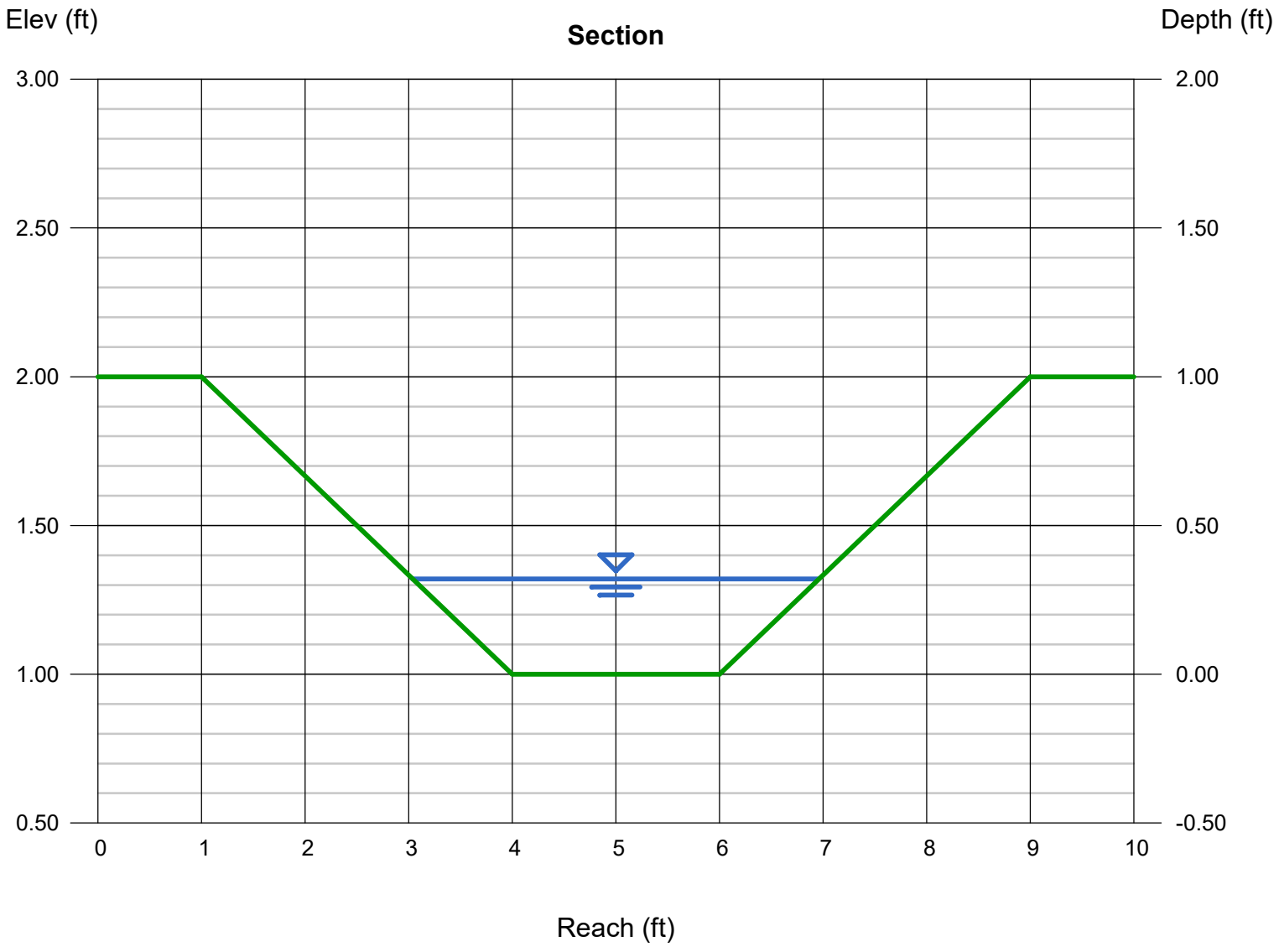
Bottom Width (ft)	= 2.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.200

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.18

Highlighted

Depth (ft)	= 0.32
Q (cfs)	= 0.180
Area (sqft)	= 0.95
Velocity (ft/s)	= 0.19
Wetted Perim (ft)	= 4.02
Crit Depth, Yc (ft)	= 0.07
Top Width (ft)	= 3.92
EGL (ft)	= 0.32



LID TREATMENT CONTROL:
GRASSY SWALE (L-8)
UNIQUE ID: DMA 4-GRASSY SWALE 4

▸ A separate worksheet must be completed for each grassy swale within the proposed development project (e.g., 3 grassy swales proposed = 3 separate grassy swale worksheets; one for each swale). Copy this spreadsheet as many times as necessary to accommodate all the grassy swales in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Grassy Swale (L-8)", check the "Create a Copy" box, and hit OK.

▸ The Volume Reduction allowed for Grassy Swales is based on the SQDV. However, please note that the SQDF should be used when sizing Grassy Swales. The following are the steps necessary to calculate the Volume Reduction Requirement for Grassy Swales.

1) GRASSY SWALE DRAINAGE AREA

Design Parameter	Criteria	Notes
a. Drainage Area, ft^2 ($A_{drainage}$)	35868.0	Drainage area to grassy swale

2) WEIGHTED RUNOFF COEFFICIENT FOR GRASSY SWALE DRAINAGE AREA

▸ Identify the area if each element within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Drainage Area ($A_{element}/A_{drainage}$)	Weighted Runoff Coefficient (C_{ra})	Notes
Asphalt/concrete pavement	0.95	25446.0	0.71	0.67	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 through 3 below
Disturbed Soils: Type C/D Soil	0.25	10422.0	0.29	0.07	
			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	
			0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**35868.0**		**0.75**	Make sure the Total for the Element Area column adds up to the Total Area of Drainage Area

3) EFFECTIVE TRIBUTARY AREA

▸ Subtract out the Tributary Impervious Area Credits associated with the Volume Reduction Measures located within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Area, ft^2 ($A_{element}$)	Tributary Impervious Area Credit* (A_{credit}), ft^2	Effective Area (A_{eff}), ft^2
Asphalt/concrete pavement	25446.0		25446.0
Disturbed Soils: Type C/D Soil	10422.0		10422.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
Permeable Pavement	0.0		0.0
Other1:	0.0		0.0
Other2:	0.0		0.0
Other 3:	0.0		0.0
TOTAL EFFECTIVE AREA (A_{eff})			**35868.0**

*Tributary Impervious Area Credit (A_{credit}) must be obtained from Volume Reduction Measures (e.g., rain gardens and interception trees) within the tributary area of the grassy swale. A_{credit} was calculated in and can be obtained from the Volume Reduction Measure worksheets.

4) VOLUME REDUCTION FOR GRASSY SWALE

Design Parameter	Criteria	Notes
a. Unit Basin Storage Volume (V_u)	0.37	Obtain unit basin storage volume for 48-hour drawdown using the C_{fa} calculated above and SWQCCP Figure 6-1
b. Soil Volume Reduction Factor, ft^3 (V_{soils}) Use one of the following: V_{soils} for A and B soils = 0.50 V_{soils} C and D soils = 0.25	0.25	V_{soils} is volume reduction factor allowed for infiltration, which varies with soil permeability.
b. Volume Reduction, ft^3 ($Vol_{reduction}$) = (V_u x A_{eff} / 12 in/ft) x V_{soils}	276.5	- aka SQDV x V_{soils} - Volume reduction achieved by grassy filter strip

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Feb 16 2022

Grassy Swale #4

Trapezoidal

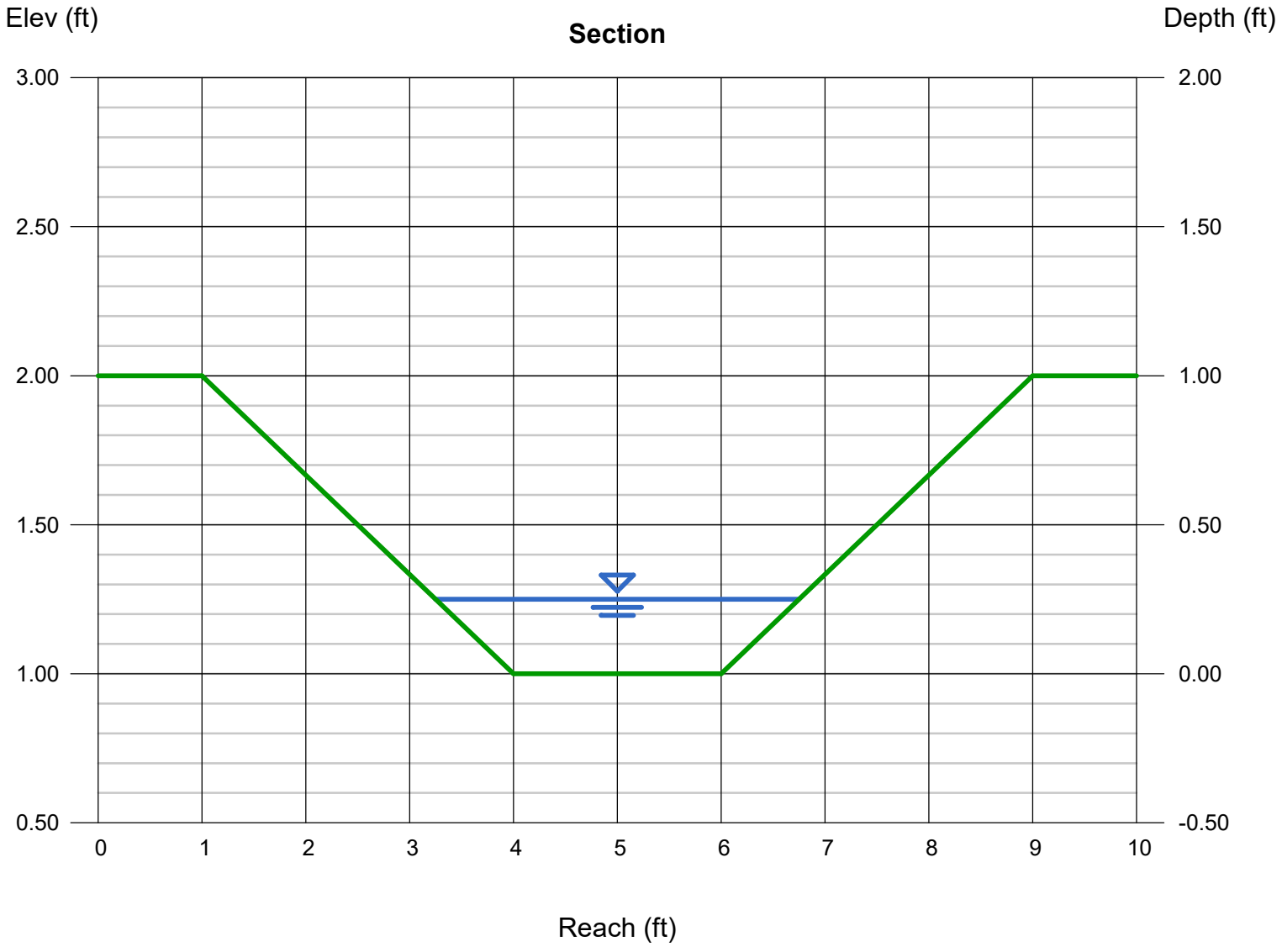
Bottom Width (ft)	= 2.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.200

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.12

Highlighted

Depth (ft)	= 0.25
Q (cfs)	= 0.120
Area (sqft)	= 0.69
Velocity (ft/s)	= 0.17
Wetted Perim (ft)	= 3.58
Crit Depth, Yc (ft)	= 0.05
Top Width (ft)	= 3.50
EGL (ft)	= 0.25



LID TREATMENT CONTROL:
GRASSY SWALE (L-8)
UNIQUE ID: DMA 5-GRASSY SWALE 5

▸ A separate worksheet must be completed for each grassy swale within the proposed development project (e.g., 3 grassy swales proposed = 3 separate grassy swale worksheets; one for each swale). Copy this spreadsheet as many times as necessary to accommodate all the grassy swales in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Grassy Swale (L-8)", check the "Create a Copy" box, and hit OK.

▸ The Volume Reduction allowed for Grassy Swales is based on the SQDV. However, please note that the SQDF should be used when sizing Grassy Swales. The following are the steps necessary to calculate the Volume Reduction Requirement for Grassy Swales.

1) GRASSY SWALE DRAINAGE AREA

Design Parameter	Criteria	Notes
a. Drainage Area, ft^2 ($A_{drainage}$)	39004.0	Drainage area to grassy swale

2) WEIGHTED RUNOFF COEFFICIENT FOR GRASSY SWALE DRAINAGE AREA

▸ Identify the area if each element within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Drainage Area ($A_{element}/A_{drainage}$)	Weighted Runoff Coefficient (C_{ra})	Notes
Asphalt/concrete pavement	0.95	30438.0	0.78	0.74	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 through 3 below
Disturbed Soils: Type C/D Soil	0.25	8566.0	0.22	0.05	
			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	
			0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**39004.0**		**0.80**	Make sure the Total for the Element Area column adds up to the Total Area of Drainage Area

3) EFFECTIVE TRIBUTARY AREA

▸ Subtract out the Tributary Impervious Area Credits associated with the Volume Reduction Measures located within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Area, ft^2 ($A_{element}$)	Tributary Impervious Area Credit* (A_{credit}), ft^2	Effective Area (A_{eff}), ft^2
Asphalt/concrete pavement	30438.0		30438.0
Disturbed Soils: Type C/D Soil	8566.0		8566.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
Permeable Pavement	0.0		0.0
Other1:	0.0		0.0
Other2:	0.0		0.0
Other 3:	0.0		0.0
TOTAL EFFECTIVE AREA (A_{eff})			**39004.0**

*Tributary Impervious Area Credit (A_{credit}) must be obtained from Volume Reduction Measures (e.g., rain gardens and interception trees) within the tributary area of the grassy swale. A_{credit} was calculated in and can be obtained from the Volume Reduction Measure worksheets.

4) VOLUME REDUCTION FOR GRASSY SWALE

Design Parameter	Criteria	Notes
a. Unit Basin Storage Volume (V_u)	0.37	Obtain unit basin storage volume for 48-hour drawdown using the C_{fa} calculated above and SWQCCP Figure 6-1
b. Soil Volume Reduction Factor, ft^3 (V_{soils}) Use one of the following: V_{soils} for A and B soils = 0.50 V_{soils} C and D soils = 0.25	0.25	V_{soils} is volume reduction factor allowed for infiltration, which varies with soil permeability.
b. Volume Reduction, ft^3 ($Vol_{reduction}$) = (V_u x A_{eff} / 12 in/ft) x V_{soils}	300.7	- aka SQDV x V_{soils} - Volume reduction achieved by grassy filter strip

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Feb 16 2022

Grassy Swale #5

Trapezoidal

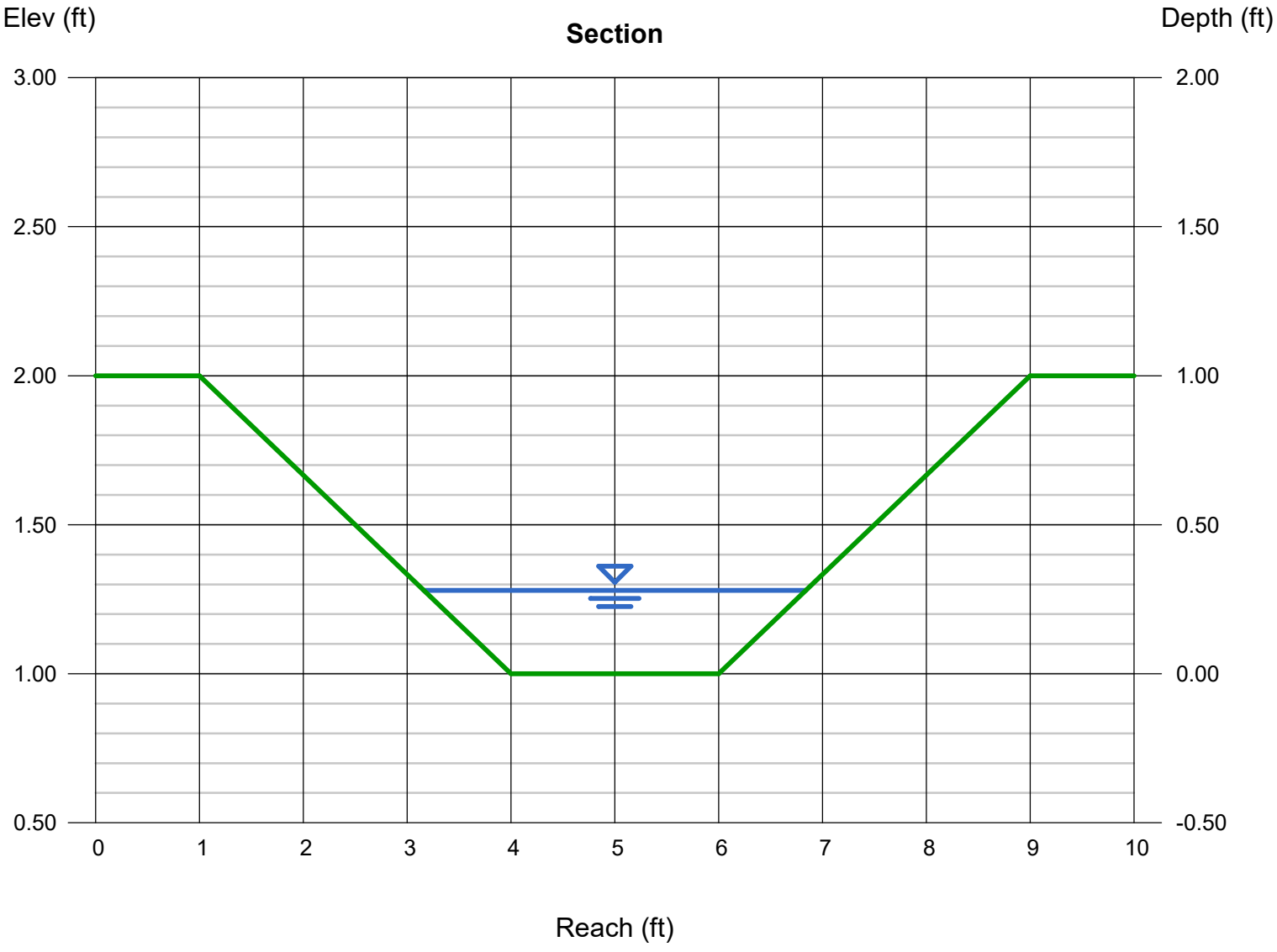
Bottom Width (ft)	= 2.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.200

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.14

Highlighted

Depth (ft)	= 0.28
Q (cfs)	= 0.140
Area (sqft)	= 0.80
Velocity (ft/s)	= 0.18
Wetted Perim (ft)	= 3.77
Crit Depth, Yc (ft)	= 0.06
Top Width (ft)	= 3.68
EGL (ft)	= 0.28



LID TREATMENT CONTROL:
GRASSY SWALE (L-8)
UNIQUE ID: DMA 6-GRASSY SWALE 6

▸ A separate worksheet must be completed for each grassy swale within the proposed development project (e.g., 3 grassy swales proposed = 3 separate grassy swale worksheets; one for each swale). Copy this spreadsheet as many times as necessary to accommodate all the grassy swales in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Grassy Swale (L-8)", check the "Create a Copy" box, and hit OK.

▸ The Volume Reduction allowed for Grassy Swales is based on the SQDV. However, please note that the SQDF should be used when sizing Grassy Swales. The following are the steps necessary to calculate the Volume Reduction Requirement for Grassy Swales.

1) GRASSY SWALE DRAINAGE AREA

Design Parameter	Criteria	Notes
a. Drainage Area, ft^2 ($A_{drainage}$)	41338.0	Drainage area to grassy swale

2) WEIGHTED RUNOFF COEFFICIENT FOR GRASSY SWALE DRAINAGE AREA

▸ Identify the area if each element within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Drainage Area ($A_{element}/A_{drainage}$)	Weighted Runoff Coefficient (C_{ra})	Notes
Asphalt/concrete pavement	0.95	33680.0	0.81	0.77	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 through 3 below
Disturbed Soils: Type C/D Soil	0.25	7658.0	0.19	0.05	
			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	
			0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**41338.0**		**0.82**	Make sure the Total for the Element Area column adds up to the Total Area of Drainage Area

3) EFFECTIVE TRIBUTARY AREA

▸ Subtract out the Tributary Impervious Area Credits associated with the Volume Reduction Measures located within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Area, ft^2 ($A_{element}$)	Tributary Impervious Area Credit* (A_{credit}), ft^2	Effective Area (A_{eff}), ft^2
Asphalt/concrete pavement	33680.0		33680.0
Disturbed Soils: Type C/D Soil	7658.0		7658.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
Permeable Pavement	0.0		0.0
Other1:	0.0		0.0
Other2:	0.0		0.0
Other 3:	0.0		0.0
TOTAL EFFECTIVE AREA (A_{eff})			**41338.0**

*Tributary Impervious Area Credit (A_{credit}) must be obtained from Volume Reduction Measures (e.g., rain gardens and interception trees) within the tributary area of the grassy swale. A_{credit} was calculated in and can be obtained from the Volume Reduction Measure worksheets.

4) VOLUME REDUCTION FOR GRASSY SWALE

Design Parameter	Criteria	Notes
a. Unit Basin Storage Volume (V_u)	0.37	Obtain unit basin storage volume for 48-hour drawdown using the C_{fa} calculated above and SWQCCP Figure 6-1
b. Soil Volume Reduction Factor, ft^3 (V_{soils}) Use one of the following: V_{soils} for A and B soils = 0.50 V_{soils} C and D soils = 0.25	0.25	V_{soils} is volume reduction factor allowed for infiltration, which varies with soil permeability.
b. Volume Reduction, ft^3 ($Vol_{reduction}$) = (V_u x A_{eff} / 12 in/ft) x V_{soils}	318.6	- aka SQDV x V_{soils} - Volume reduction achieved by grassy filter strip

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Feb 16 2022

Grassy Swale #6

Trapezoidal

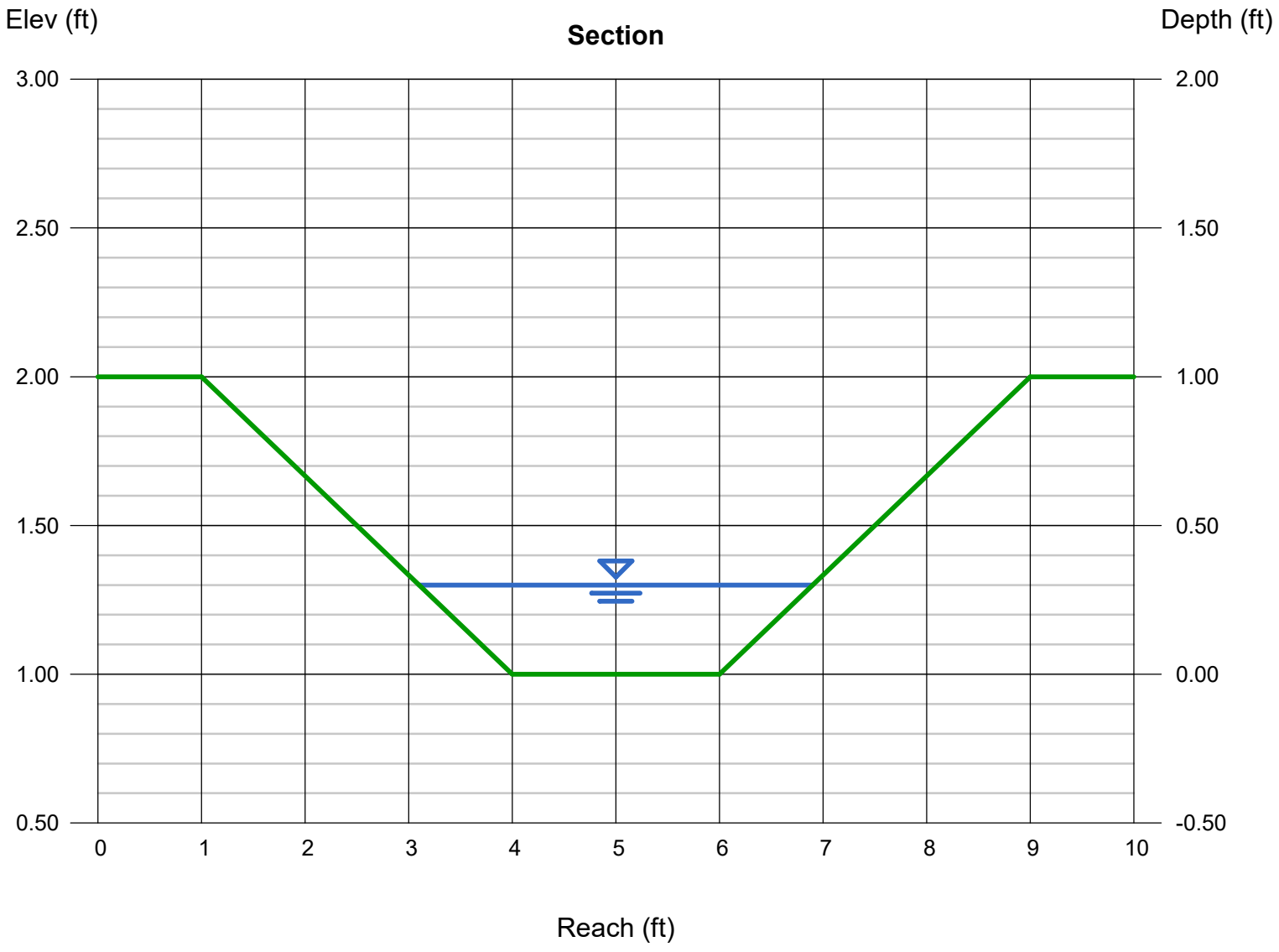
Bottom Width (ft)	= 2.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.200

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.16

Highlighted

Depth (ft)	= 0.30
Q (cfs)	= 0.160
Area (sqft)	= 0.87
Velocity (ft/s)	= 0.18
Wetted Perim (ft)	= 3.90
Crit Depth, Yc (ft)	= 0.06
Top Width (ft)	= 3.80
EGL (ft)	= 0.30



LID TREATMENT CONTROL:
GRASSY SWALE (L-8)
UNIQUE ID: DMA 7-GRASSY SWALE 7

▸ A separate worksheet must be completed for each grassy swale within the proposed development project (e.g., 3 grassy swales proposed = 3 separate grassy swale worksheets; one for each swale). Copy this spreadsheet as many times as necessary to accommodate all the grassy swales in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Grassy Swale (L-8)", check the "Create a Copy" box, and hit OK.

▸ The Volume Reduction allowed for Grassy Swales is based on the SQDV. However, please note that the SQDF should be used when sizing Grassy Swales. The following are the steps necessary to calculate the Volume Reduction Requirement for Grassy Swales.

1) GRASSY SWALE DRAINAGE AREA

Design Parameter	Criteria	Notes
a. Drainage Area, ft^2 ($A_{drainage}$)	8754.0	Drainage area to grassy swale

2) WEIGHTED RUNOFF COEFFICIENT FOR GRASSY SWALE DRAINAGE AREA

▸ Identify the area if each element within the Grassy Swale's drainage area.

Drainage Area Post-Construction Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Drainage Area ($A_{element}/A_{drainage}$)	Weighted Runoff Coefficient (C_{ra})	Notes
Asphalt/concrete pavement	0.95	6152.0	0.70	0.67	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 through 3 below
Disturbed Soils: Type C/D Soil	0.25	2602.0	0.30	0.07	
			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	
			0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**8754.0**		**0.74**	Make sure the Total for the Element Area column adds up to the Total Area of Drainage Area

3) EFFECTIVE TRIBUTARY AREA

▸ Subtract out the Tributary Impervious Area Credits associated with the Volume Reduction Measures located within the Grassy Swale's drainage area.

Drainage Area Post-Construction Element	Element Area, ft^2 ($A_{element}$)	Tributary Impervious Area Credit* (A_{credit}), ft^2	Effective Area (A_{eff}), ft^2
Asphalt/concrete pavement	6152.0		6152.0
Disturbed Soils: Type C/D Soil	2602.0		2602.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
Permeable Pavement	0.0		0.0
Other1:	0.0		0.0
Other2:	0.0		0.0
Other 3:	0.0		0.0
TOTAL EFFECTIVE AREA (A_{eff})			**8754.0**

*Tributary Impervious Area Credit (A_{credit}) must be obtained from Volume Reduction Measures (e.g., rain gardens and interception trees) within the tributary area of the grassy swale. A_{credit} was calculated in and can be obtained from the Volume Reduction Measure worksheets.

4) VOLUME REDUCTION FOR GRASSY SWALE

Design Parameter	Criteria	Notes
a. Unit Basin Storage Volume (V_u)	0.44	Obtain unit basin storage volume for 48-hour drawdown using the C_{fa} calculated above and SWQCCP Figure 6-1
b. Soil Volume Reduction Factor, ft^3 (V_{soils}) Use one of the following: V_{soils} for A and B soils = 0.50 V_{soils} C and D soils = 0.25	0.25	V_{soils} is volume reduction factor allowed for infiltration, which varies with soil permeability.
b. Volume Reduction, ft^3 ($Vol_{reduction}$) = (V_u x A_{eff} / 12 in/ft) x V_{soils}	80.2	- aka SQDV x V_{soils} - Volume reduction achieved by grassy filter strip

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Feb 16 2022

Grassy Swale #7

Trapezoidal

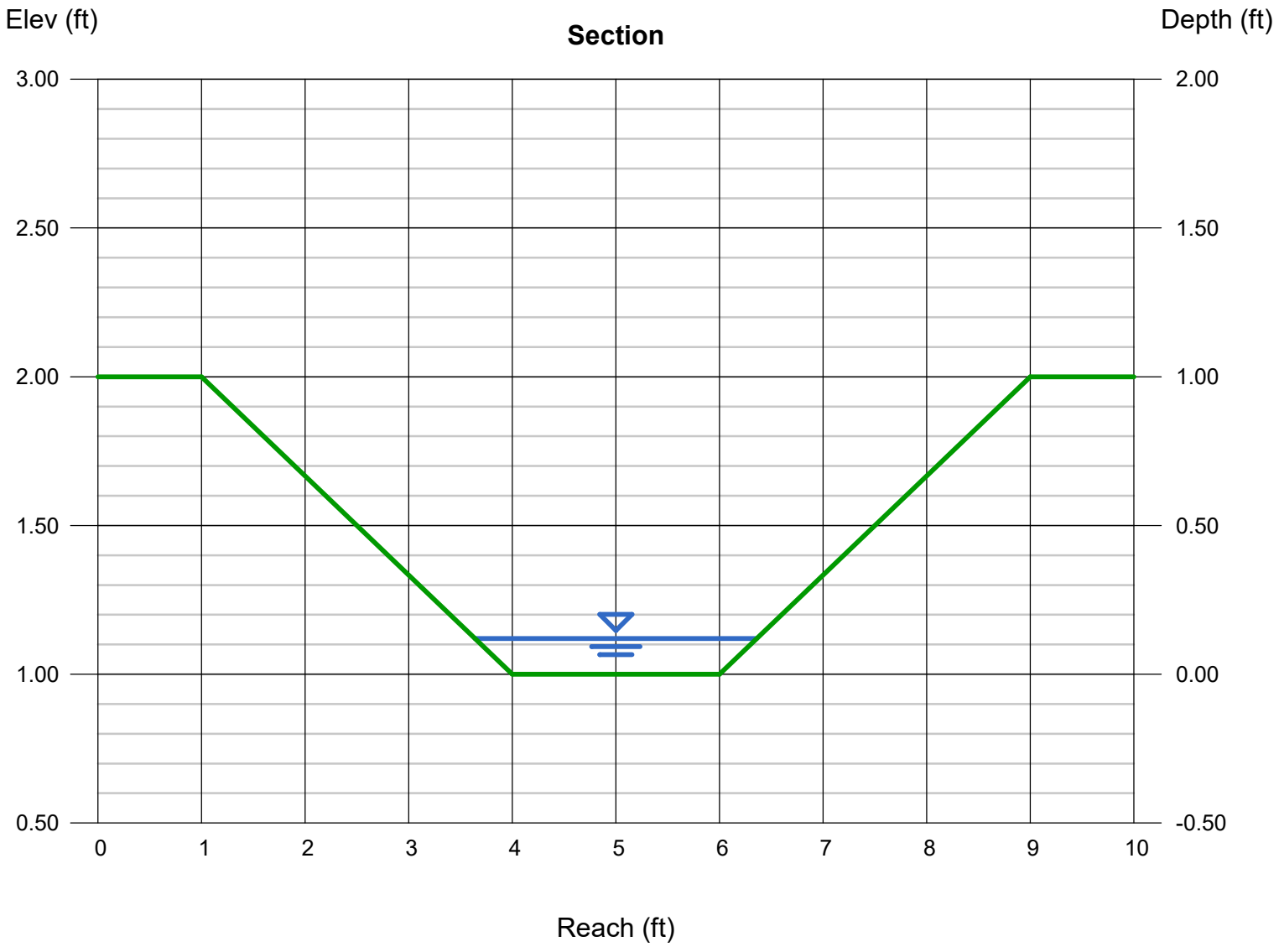
Bottom Width (ft)	= 2.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.200

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.03

Highlighted

Depth (ft)	= 0.12
Q (cfs)	= 0.030
Area (sqft)	= 0.28
Velocity (ft/s)	= 0.11
Wetted Perim (ft)	= 2.76
Crit Depth, Yc (ft)	= 0.02
Top Width (ft)	= 2.72
EGL (ft)	= 0.12



LID TREATMENT CONTROL:
GRASSY SWALE (L-8)
UNIQUE ID: DMA 8-GRASSY SWALE 8

▸ A separate worksheet must be completed for each grassy swale within the proposed development project (e.g., 3 grassy swales proposed = 3 separate grassy swale worksheets; one for each swale). Copy this spreadsheet as many times as necessary to accommodate all the grassy swales in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Grassy Swale (L-8)", check the "Create a Copy" box, and hit OK.

▸ The Volume Reduction allowed for Grassy Swales is based on the SQDV. However, please note that the SQDF should be used when sizing Grassy Swales. The following are the steps necessary to calculate the Volume Reduction Requirement for Grassy Swales.

1) GRASSY SWALE DRAINAGE AREA

Design Parameter	Criteria	Notes
a. Drainage Area, ft^2 ($A_{drainage}$)	10388.0	Drainage area to grassy swale

2) WEIGHTED RUNOFF COEFFICIENT FOR GRASSY SWALE DRAINAGE AREA

▸ Identify the area if each element within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Drainage Area ($A_{element}/A_{drainage}$)	Weighted Runoff Coefficient (C_{ra})	Notes
Asphalt/concrete pavement	0.95	7509.0	0.72	0.69	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 through 3 below
Disturbed Soils: Type C/D Soil	0.25	2879.0	0.28	0.07	
			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	
			0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**10388.0**		**0.76**	Make sure the Total for the Element Area column adds up to the Total Area of Drainage Area

3) EFFECTIVE TRIBUTARY AREA

▸ Subtract out the Tributary Impervious Area Credits associated with the Volume Reduction Measures located within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Area, ft^2 ($A_{element}$)	Tributary Impervious Area Credit* (A_{credit}), ft^2	Effective Area (A_{eff}), ft^2
Asphalt/concrete pavement	7509.0		7509.0
Disturbed Soils: Type C/D Soil	2879.0		2879.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
Permeable Pavement	0.0		0.0
Other1:	0.0		0.0
Other2:	0.0		0.0
Other 3:	0.0		0.0
TOTAL EFFECTIVE AREA (A_{eff})			**10388.0**

*Tributary Impervious Area Credit (A_{credit}) must be obtained from Volume Reduction Measures (e.g., rain gardens and interception trees) within the tributary area of the grassy swale. A_{credit} was calculated in and can be obtained from the Volume Reduction Measure worksheets.

4) VOLUME REDUCTION FOR GRASSY SWALE

Design Parameter	Criteria	Notes
a. Unit Basin Storage Volume (V_u)	0.37	Obtain unit basin storage volume for 48-hour drawdown using the C_{fa} calculated above and SWQCCP Figure 6-1
b. Soil Volume Reduction Factor, ft^3 (V_{soils}) Use one of the following: V_{soils} for A and B soils = 0.50 V_{soils} C and D soils = 0.25	0.25	V_{soils} is volume reduction factor allowed for infiltration, which varies with soil permeability.
b. Volume Reduction, ft^3 ($Vol_{reduction}$) = (V_u x A_{eff} / 12 in/ft) x V_{soils}	80.1	- aka SQDV x V_{soils} - Volume reduction achieved by grassy filter strip

Channel Report

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Grassy Swale #8

Trapezoidal

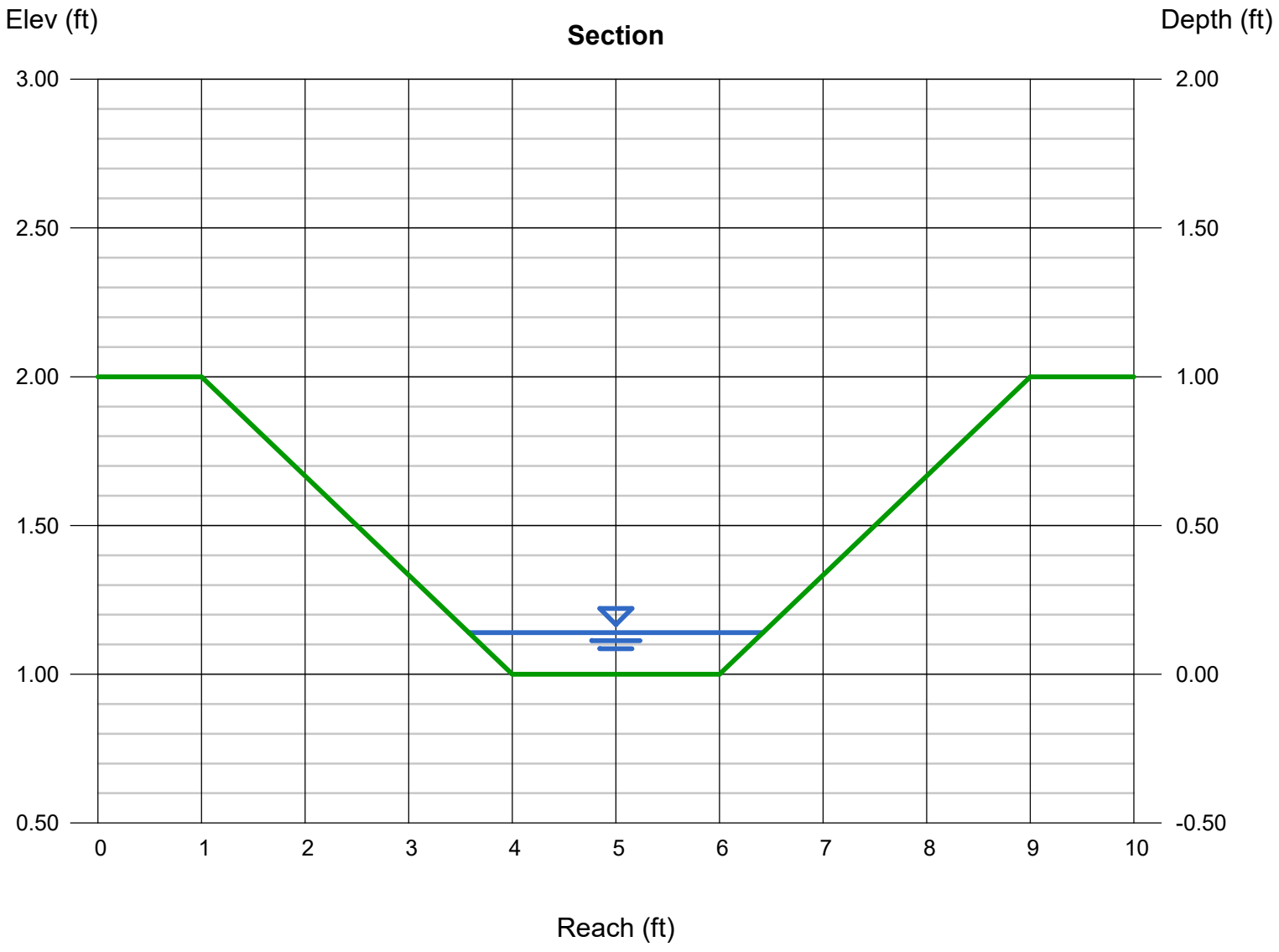
Bottom Width (ft)	= 2.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.200

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.04

Highlighted

Depth (ft)	= 0.14
Q (cfs)	= 0.040
Area (sqft)	= 0.34
Velocity (ft/s)	= 0.12
Wetted Perim (ft)	= 2.89
Crit Depth, Yc (ft)	= 0.03
Top Width (ft)	= 2.84
EGL (ft)	= 0.14



LID TREATMENT CONTROL:
GRASSY SWALE (L-8)
UNIQUE ID: DMA 9-GRASSY SWALE 9

▸ A separate worksheet must be completed for each grassy swale within the proposed development project (e.g., 3 grassy swales proposed = 3 separate grassy swale worksheets; one for each swale). Copy this spreadsheet as many times as necessary to accommodate all the grassy swales in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Grassy Swale (L-8)", check the "Create a Copy" box, and hit OK.

▸ The Volume Reduction allowed for Grassy Swales is based on the SQDV. However, please note that the SQDF should be used when sizing Grassy Swales. The following are the steps necessary to calculate the Volume Reduction Requirement for Grassy Swales.

1) GRASSY SWALE DRAINAGE AREA

Design Parameter	Criteria	Notes
a. Drainage Area, ft^2 ($A_{drainage}$)	53388.0	Drainage area to grassy swale

2) WEIGHTED RUNOFF COEFFICIENT FOR GRASSY SWALE DRAINAGE AREA

▸ Identify the area if each element within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Drainage Area ($A_{element}/A_{drainage}$)	Weighted Runoff Coefficient (C_{ra})	Notes
Asphalt/concrete pavement	0.95	48531.0	0.91	0.86	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 through 3 below
Disturbed Soils: Type C/D Soil	0.25	4857.0	0.09	0.02	
			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	
			0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**53388.0**		**0.89**	Make sure the Total for the Element Area column adds up to the Total Area of Drainage Area

3) EFFECTIVE TRIBUTARY AREA

▸ Subtract out the Tributary Impervious Area Credits associated with the Volume Reduction Measures located within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Area, ft^2 ($A_{element}$)	Tributary Impervious Area Credit* (A_{credit}), ft^2	Effective Area (A_{eff}), ft^2
Asphalt/concrete pavement	48531.0		48531.0
Disturbed Soils: Type C/D Soil	4857.0		4857.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
Permeable Pavement	0.0		0.0
Other1:	0.0		0.0
Other2:	0.0		0.0
Other 3:	0.0		0.0
TOTAL EFFECTIVE AREA (A_{eff})			**53388.0**

*Tributary Impervious Area Credit (A_{credit}) must be obtained from Volume Reduction Measures (e.g., rain gardens and interception trees) within the tributary area of the grassy swale. A_{credit} was calculated in and can be obtained from the Volume Reduction Measure worksheets.

4) VOLUME REDUCTION FOR GRASSY SWALE

Design Parameter	Criteria	Notes
a. Unit Basin Storage Volume (V_u)	0.37	Obtain unit basin storage volume for 48-hour drawdown using the C_{fa} calculated above and SWQCCP Figure 6-1
b. Soil Volume Reduction Factor, ft^3 (V_{soils}) Use one of the following: V_{soils} for A and B soils = 0.50 V_{soils} C and D soils = 0.25	0.25	V_{soils} is volume reduction factor allowed for infiltration, which varies with soil permeability.
b. Volume Reduction, ft^3 ($Vol_{reduction}$) = (V_u x A_{eff} / 12 in/ft) x V_{soils}	411.5	- aka SQDV x V_{soils} - Volume reduction achieved by grassy filter strip

Channel Report

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Grassy Swale #9

Trapezoidal

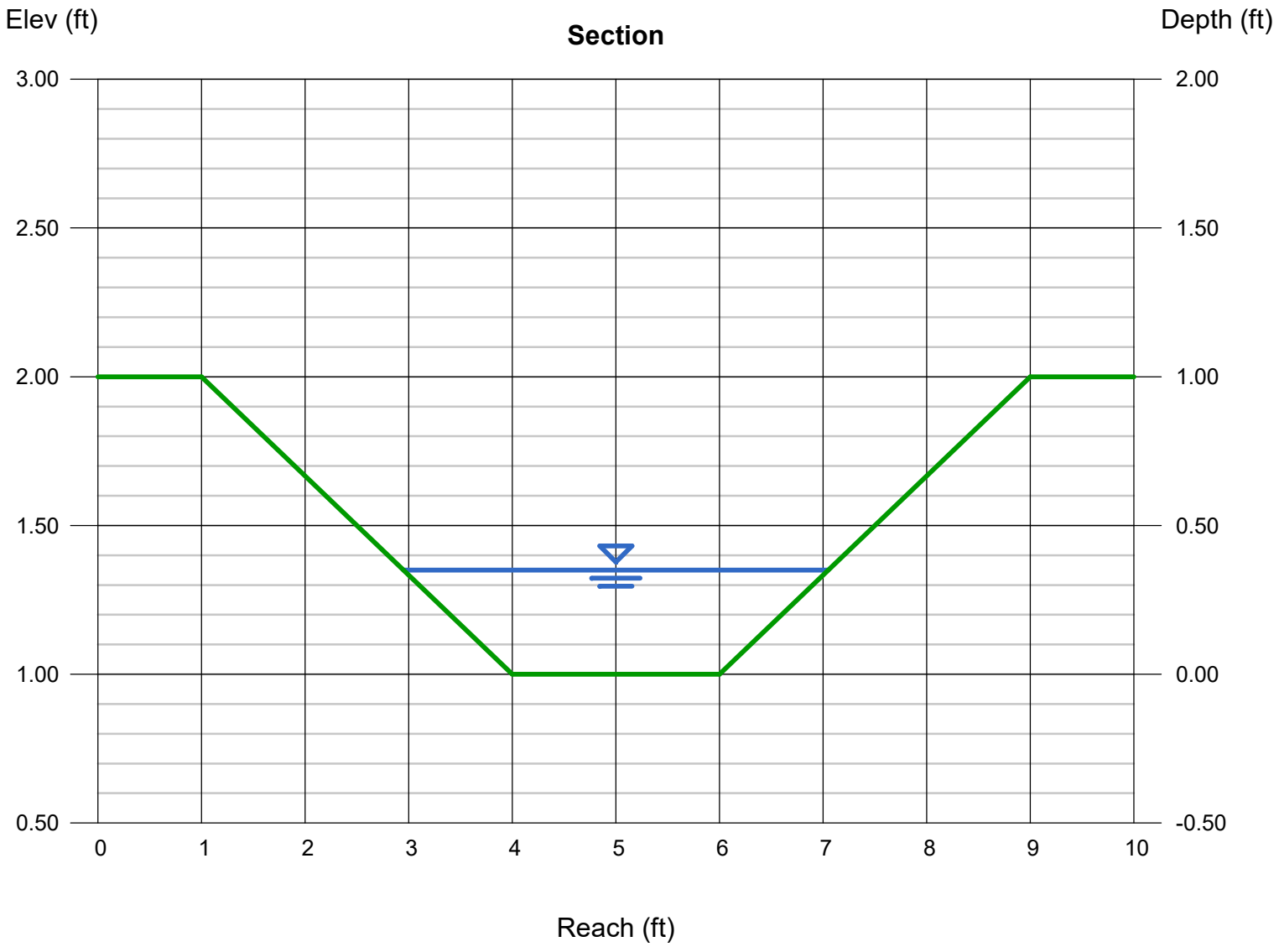
Bottom Width (ft)	= 2.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.200

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.22

Highlighted

Depth (ft)	= 0.35
Q (cfs)	= 0.220
Area (sqft)	= 1.07
Velocity (ft/s)	= 0.21
Wetted Perim (ft)	= 4.21
Crit Depth, Yc (ft)	= 0.07
Top Width (ft)	= 4.10
EGL (ft)	= 0.35



LID TREATMENT CONTROL:
GRASSY SWALE (L-8)
UNIQUE ID: DMA 10-GRASSY SWALE 10

▸ A separate worksheet must be completed for each grassy swale within the proposed development project (e.g., 3 grassy swales proposed = 3 separate grassy swale worksheets; one for each swale). Copy this spreadsheet as many times as necessary to accommodate all the grassy swales in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Grassy Swale (L-8)", check the "Create a Copy" box, and hit OK.

▸ The Volume Reduction allowed for Grassy Swales is based on the SQDV. However, please note that the SQDF should be used when sizing Grassy Swales. The following are the steps necessary to calculate the Volume Reduction Requirement for Grassy Swales.

1) GRASSY SWALE DRAINAGE AREA

Design Parameter	Criteria	Notes
a. Drainage Area, ft^2 ($A_{drainage}$)	55324.0	Drainage area to grassy swale

2) WEIGHTED RUNOFF COEFFICIENT FOR GRASSY SWALE DRAINAGE AREA

▸ Identify the area if each element within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Drainage Area ($A_{element}/A_{drainage}$)	Weighted Runoff Coefficient (C_{ra})	Notes
Asphalt/concrete pavement	0.95	45150.0	0.82	0.78	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 through 3 below
Disturbed Soils: Type C/D Soil	0.25	10174.0	0.18	0.05	
			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	
			0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**55324.0**		**0.82**	Make sure the Total for the Element Area column adds up to the Total Area of Drainage Area

3) EFFECTIVE TRIBUTARY AREA

▸ Subtract out the Tributary Impervious Area Credits associated with the Volume Reduction Measures located within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Area, ft^2 ($A_{element}$)	Tributary Impervious Area Credit* (A_{credit}), ft^2	Effective Area (A_{eff}), ft^2
Asphalt/concrete pavement	45150.0		45150.0
Disturbed Soils: Type C/D Soil	10174.0		10174.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
Permeable Pavement	0.0		0.0
Other1:	0.0		0.0
Other2:	0.0		0.0
Other 3:	0.0		0.0
TOTAL EFFECTIVE AREA (A_{eff})			**55324.0**

*Tributary Impervious Area Credit (A_{credit}) must be obtained from Volume Reduction Measures (e.g., rain gardens and interception trees) within the tributary area of the grassy swale. A_{credit} was calculated in and can be obtained from the Volume Reduction Measure worksheets.

4) VOLUME REDUCTION FOR GRASSY SWALE

Design Parameter	Criteria	Notes
a. Unit Basin Storage Volume (V_u)	0.37	Obtain unit basin storage volume for 48-hour drawdown using the C_{fa} calculated above and SWQCCP Figure 6-1
b. Soil Volume Reduction Factor, ft^3 (V_{soils}) Use one of the following: V_{soils} for A and B soils = 0.50 V_{soils} C and D soils = 0.25	0.25	V_{soils} is volume reduction factor allowed for infiltration, which varies with soil permeability.
b. Volume Reduction, ft^3 ($Vol_{reduction}$) = (V_u x A_{eff} / 12 in/ft) x V_{soils}	426.5	- aka SQDV x V_{soils} - Volume reduction achieved by grassy filter strip

Channel Report

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Grassy Swale #10

Trapezoidal

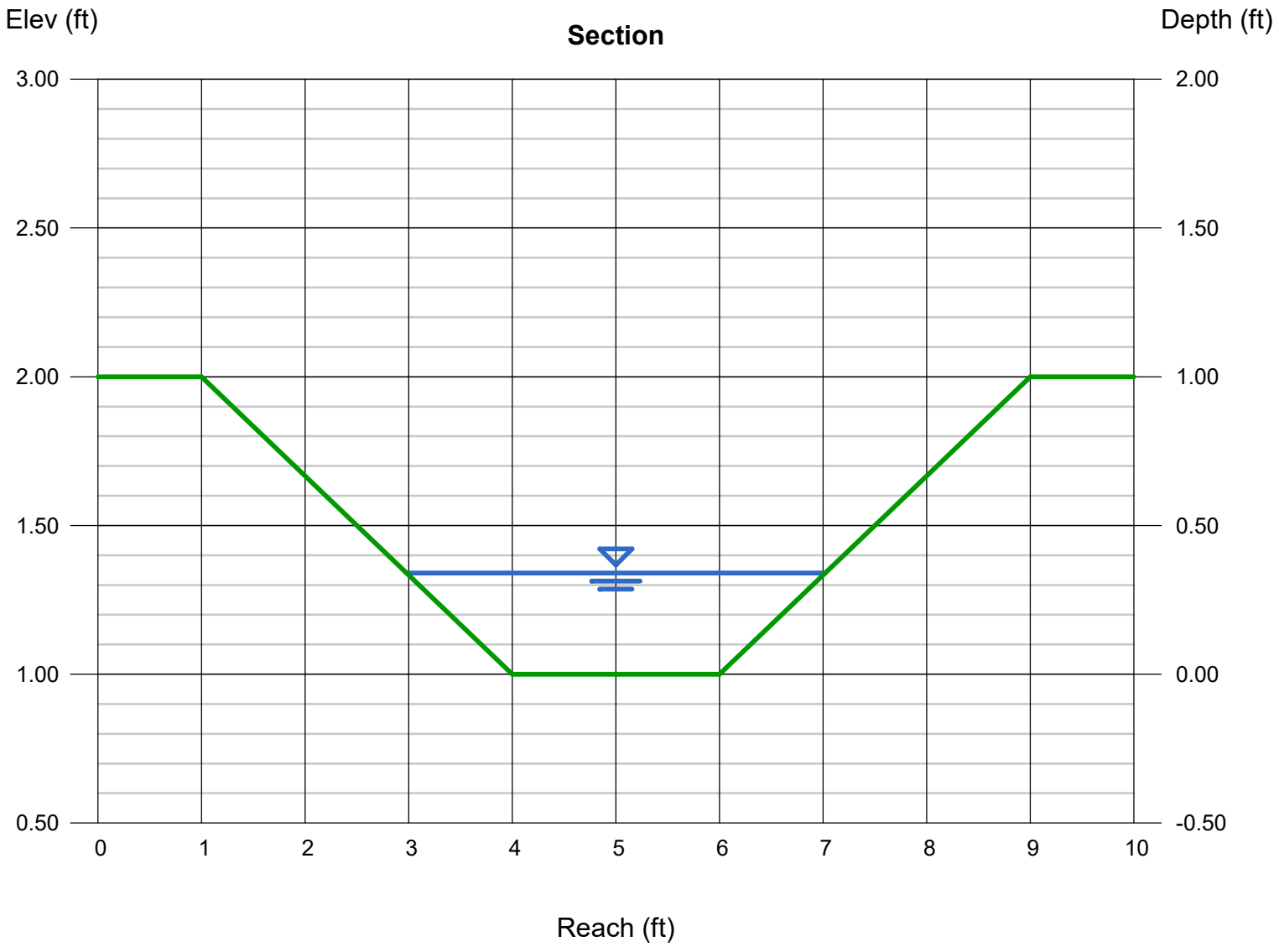
Bottom Width (ft)	= 2.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.200

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.21

Highlighted

Depth (ft)	= 0.34
Q (cfs)	= 0.210
Area (sqft)	= 1.03
Velocity (ft/s)	= 0.20
Wetted Perim (ft)	= 4.15
Crit Depth, Yc (ft)	= 0.07
Top Width (ft)	= 4.04
EGL (ft)	= 0.34



LID TREATMENT CONTROL:
GRASSY SWALE (L-8)
UNIQUE ID: DMA 11-GRASSY SWALE 11

▸ A separate worksheet must be completed for each grassy swale within the proposed development project (e.g., 3 grassy swales proposed = 3 separate grassy swale worksheets; one for each swale). Copy this spreadsheet as many times as necessary to accommodate all the grassy swales in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Grassy Swale (L-8)", check the "Create a Copy" box, and hit OK.

▸ The Volume Reduction allowed for Grassy Swales is based on the SQDV. However, please note that the SQDF should be used when sizing Grassy Swales. The following are the steps necessary to calculate the Volume Reduction Requirement for Grassy Swales.

1) GRASSY SWALE DRAINAGE AREA

Design Parameter	Criteria	Notes
a. Drainage Area, ft^2 ($A_{drainage}$)	48189.0	Drainage area to grassy swale

2) WEIGHTED RUNOFF COEFFICIENT FOR GRASSY SWALE DRAINAGE AREA

▸ Identify the area if each element within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Drainage Area ($A_{element}/A_{drainage}$)	Weighted Runoff Coefficient (C_{ra})	Notes
Asphalt/concrete pavement	0.95	44623.0	0.93	0.88	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 through 3 below
Disturbed Soils: Type C/D Soil	0.25	3566.0	0.07	0.02	
			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	
			0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**48189.0**		**0.90**	Make sure the Total for the Element Area column adds up to the Total Area of Drainage Area

3) EFFECTIVE TRIBUTARY AREA

▸ Subtract out the Tributary Impervious Area Credits associated with the Volume Reduction Measures located within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Area, ft^2 ($A_{element}$)	Tributary Impervious Area Credit* (A_{credit}), ft^2	Effective Area (A_{eff}), ft^2
Asphalt/concrete pavement	44623.0		44623.0
Disturbed Soils: Type C/D Soil	3566.0		3566.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
Permeable Pavement	0.0		0.0
Other1:	0.0		0.0
Other2:	0.0		0.0
Other 3:	0.0		0.0
TOTAL EFFECTIVE AREA (A_{eff})			**48189.0**

*Tributary Impervious Area Credit (A_{credit}) must be obtained from Volume Reduction Measures (e.g., rain gardens and interception trees) within the tributary area of the grassy swale. A_{credit} was calculated in and can be obtained from the Volume Reduction Measure worksheets.

4) VOLUME REDUCTION FOR GRASSY SWALE

Design Parameter	Criteria	Notes
a. Unit Basin Storage Volume (V_u)	0.37	Obtain unit basin storage volume for 48-hour drawdown using the C_{fa} calculated above and SWQCCP Figure 6-1
b. Soil Volume Reduction Factor, ft^3 (V_{soils}) Use one of the following: V_{soils} for A and B soils = 0.50 V_{soils} C and D soils = 0.25	0.25	V_{soils} is volume reduction factor allowed for infiltration, which varies with soil permeability.
b. Volume Reduction, ft^3 ($Vol_{reduction}$) = (V_u x A_{eff} / 12 in/ft) x V_{soils}	371.5	- aka SQDV x V_{soils} - Volume reduction achieved by grassy filter strip

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Grassy Swale #11

Trapezoidal

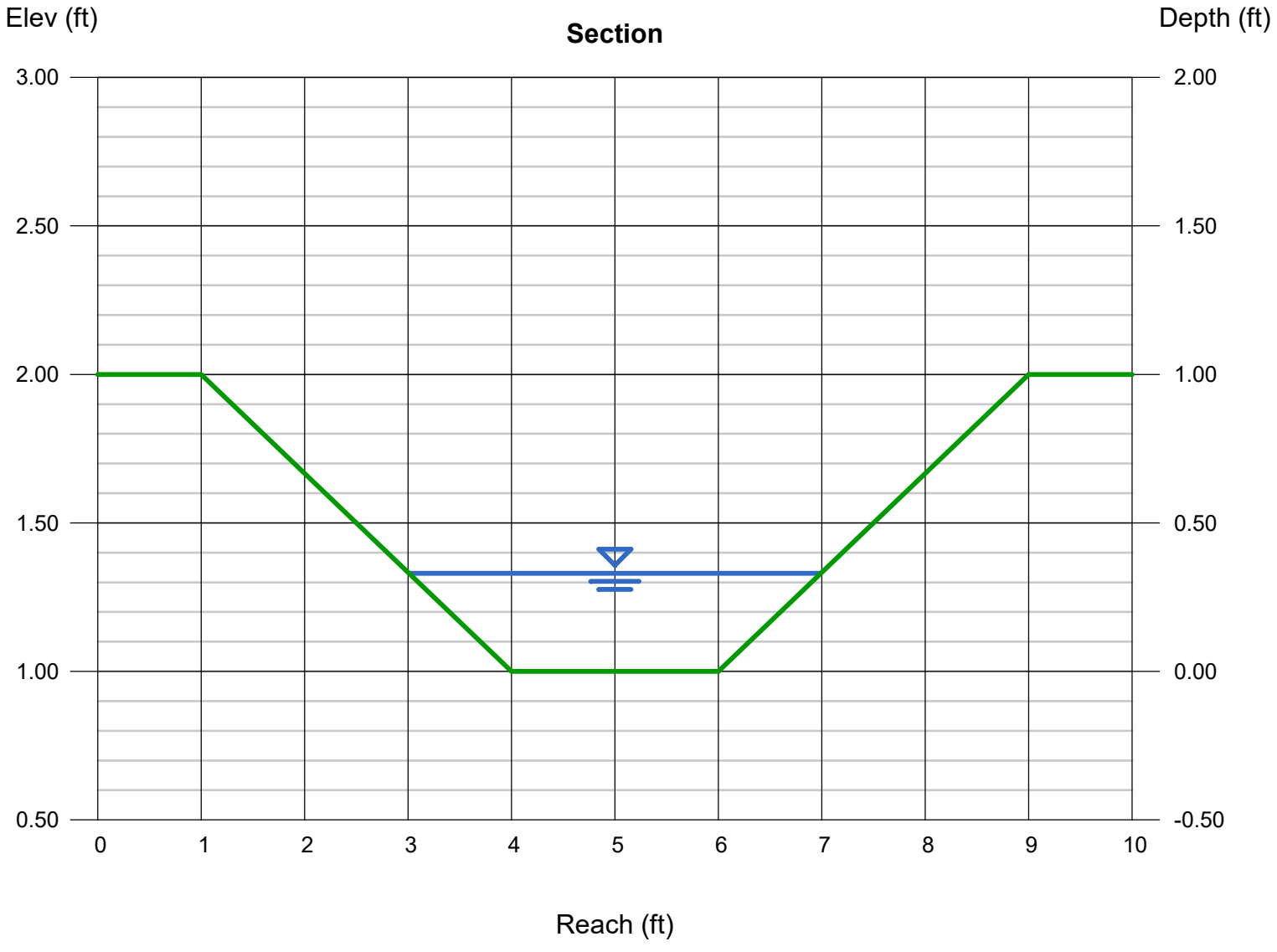
Bottom Width (ft)	= 2.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.200

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.20

Highlighted

Depth (ft)	= 0.33
Q (cfs)	= 0.200
Area (sqft)	= 0.99
Velocity (ft/s)	= 0.20
Wetted Perim (ft)	= 4.09
Crit Depth, Yc (ft)	= 0.07
Top Width (ft)	= 3.98
EGL (ft)	= 0.33



LID TREATMENT CONTROL:
GRASSY SWALE (L-8)
UNIQUE ID: DMA 12-GRASSY SWALE 12

▸ A separate worksheet must be completed for each grassy swale within the proposed development project (e.g., 3 grassy swales proposed = 3 separate grassy swale worksheets; one for each swale). Copy this spreadsheet as many times as necessary to accommodate all the grassy swales in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Grassy Swale (L-8)", check the "Create a Copy" box, and hit OK.

▸ The Volume Reduction allowed for Grassy Swales is based on the SQDV. However, please note that the SQDF should be used when sizing Grassy Swales. The following are the steps necessary to calculate the Volume Reduction Requirement for Grassy Swales.

1) GRASSY SWALE DRAINAGE AREA

Design Parameter	Criteria	Notes
a. Drainage Area, ft^2 ($A_{drainage}$)	29675.0	Drainage area to grassy swale

2) WEIGHTED RUNOFF COEFFICIENT FOR GRASSY SWALE DRAINAGE AREA

▸ Identify the area if each element within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Drainage Area ($A_{element}/A_{drainage}$)	Weighted Runoff Coefficient (C_{ra})	Notes
Asphalt/concrete pavement	0.95	27369.0	0.92	0.88	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 through 3 below
Disturbed Soils: Type C/D Soil	0.25	2306.0	0.08	0.02	
			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	
			0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**29675.0**		**0.90**	Make sure the Total for the Element Area column adds up to the Total Area of Drainage Area

3) EFFECTIVE TRIBUTARY AREA

▸ Subtract out the Tributary Impervious Area Credits associated with the Volume Reduction Measures located within the Grassy Swale's drainage area

Drainage Area Post-Construction Element	Element Area, ft^2 ($A_{element}$)	Tributary Impervious Area Credit* (A_{credit}), ft^2	Effective Area (A_{eff}), ft^2
Asphalt/concrete pavement	27369.0		27369.0
Disturbed Soils: Type C/D Soil	2306.0		2306.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
	0.0		0.0
Permeable Pavement	0.0		0.0
Other1:	0.0		0.0
Other2:	0.0		0.0
Other 3:	0.0		0.0
TOTAL EFFECTIVE AREA (A_{eff})			**29675.0**

*Tributary Impervious Area Credit (A_{credit}) must be obtained from Volume Reduction Measures (e.g., rain gardens and interception trees) within the tributary area of the grassy swale. A_{credit} was calculated in and can be obtained from the Volume Reduction Measure worksheets.

4) VOLUME REDUCTION FOR GRASSY SWALE

Design Parameter	Criteria	Notes
a. Unit Basin Storage Volume (V_u)	0.37	Obtain unit basin storage volume for 48-hour drawdown using the C_{fa} calculated above and SWQCCP Figure 6-1
b. Soil Volume Reduction Factor, ft^3 (V_{soils}) Use one of the following: V_{soils} for A and B soils = 0.50 V_{soils} C and D soils = 0.25	0.25	V_{soils} is volume reduction factor allowed for infiltration, which varies with soil permeability.
b. Volume Reduction, ft^3 ($Vol_{reduction}$) = (V_u x A_{eff} / 12 in/ft) x V_{soils}	228.7	- aka SQDV x V_{soils} - Volume reduction achieved by grassy filter strip

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Feb 16 2022

Grassy Swale #12

Trapezoidal

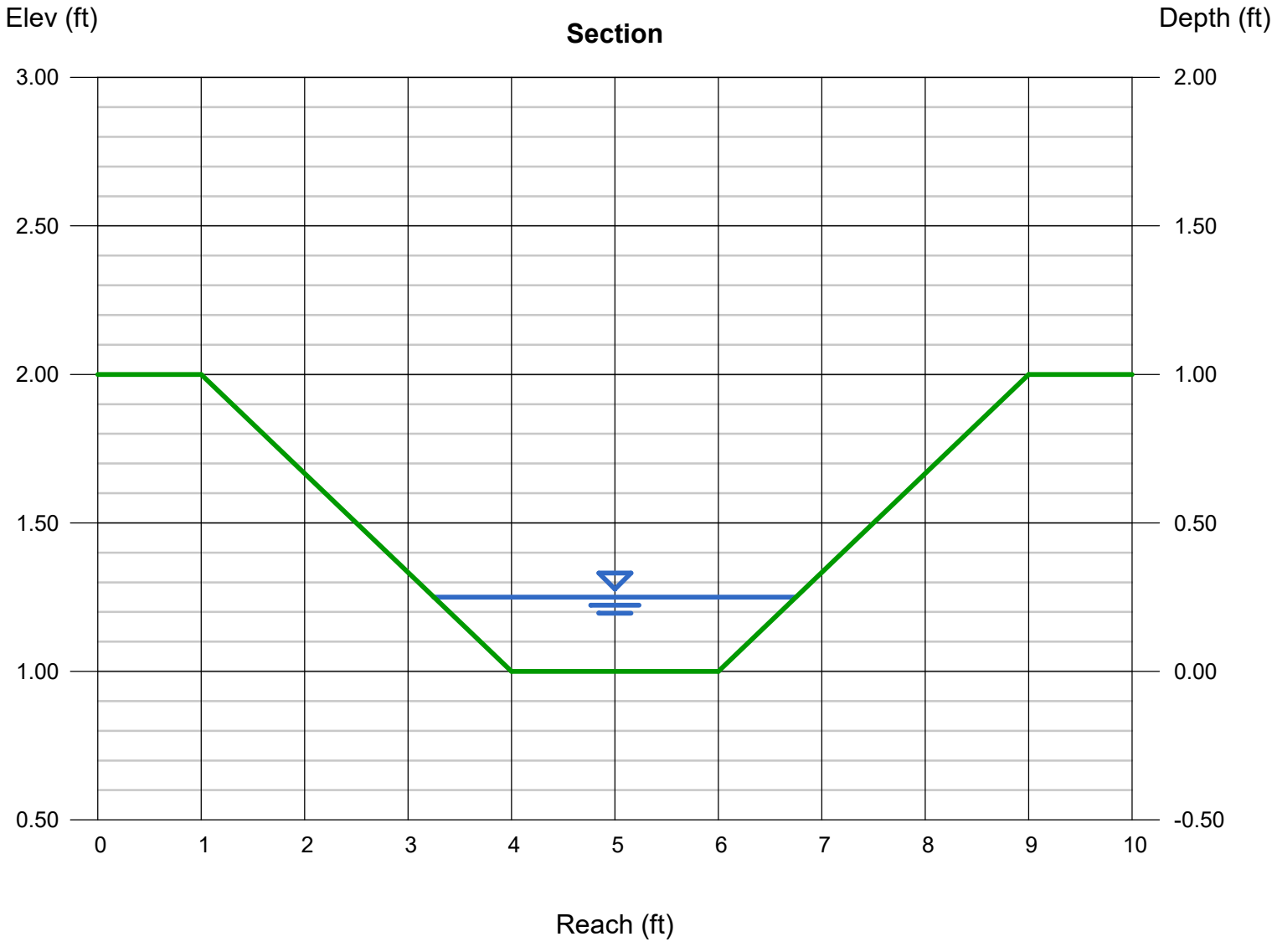
Bottom Width (ft)	= 2.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.200

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.12

Highlighted

Depth (ft)	= 0.25
Q (cfs)	= 0.120
Area (sqft)	= 0.69
Velocity (ft/s)	= 0.17
Wetted Perim (ft)	= 3.58
Crit Depth, Yc (ft)	= 0.05
Top Width (ft)	= 3.50
EGL (ft)	= 0.25



St. Joseph's Medical Center

Proprietary Control Device Treatment Calculation

DMA	Area (sf)	Runoff C	WQ Rainfall Intensity (in/hr)	SQDF (cfs)
13	40306	0.88	0.20	0.16

Section E: Maintenance Plan and Responsibility

Structural Control Measure	Location (lat/long)	APN	Description of Control Measure	Maintenance Requirements	Responsible Party	Anticipated Transfer of Responsibility

Maintenance Plan and Responsibility form to be completed for Final Stormwater Quality Control Plan

Responsible Party Contact Information

Responsible Party Name	Department/ Company	Address	Phone Number	Email

Responsible Party Contact Information to be completed for Final Stormwater Quality Control Plan

A detailed maintenance plan will be prepared in accordance with SWQCCP requirements at the time of final design. The following maintenance plan is to be used as a guide during preparation of the final plan.

Stormwater Treatment Device Access and Maintenance Agreement
to be completed for Final Stormwater Quality Control Plan

STORMWATER TREATMENT DEVICE ACCESS AND MAINTENANCE AGREEMENT

After recorded, return to:
Mario Caballero
Stormwater Division
Municipal Utilities Department
City of Stockton
2500 Navy Drive
Stockton, CA 95206

MUNICIPAL UTILITIES DEPARTMENT
After Recording Transmit Copy to:

___ Owner of Record
___ Municipal Utilities Department
___City Clerk (Original)

OWNER NAME (S) _____
(as shown on deed) &
MAILING ADDRESS _____

O&M CONTACT _____
PERSON & PHONE #
_____

FACILITY NAME _____
AND ADDRESS
_____

ASSESSOR PARCEL NO. _____

THIS AGREEMENT is made and entered into in Stockton, California, this _____ day of _____, by and between _____.hereinafter referred to as "Owner" and the CITY OF STOCKTON, a municipal corporation, located in the County of San Joaquin, State of California hereinafter referred to as "CITY,"

WHEREAS, the Owner owns real property ("Property") in the City of Stockton, County of San Joaquin, State of California, depicted in Exhibit "A" and intends to install a pollution control system described in Exhibit "B", both of which are attached hereto and incorporated herein by this reference;

WHEREAS, at the time of initial approval of development project known as _____ within the Property described herein, the City required the project to employ on-site control measures to minimize pollutants in urban runoff;

WHEREAS, the Owner has chosen to install a_____, hereinafter referred to as "Device," as the onsite control measure to minimize pollutants in urban runoff;

WHEREAS, said Device has been installed in accordance with the requirements of the City of Stockton Stormwater Quality Control Criteria Plan and the Owner's plans and specifications accepted by the City;

WHEREAS, said Device, with installation on private property and draining only private property, is a private facility with all operation, maintenance and replacement; therefore, the sole responsibility of the Owner in accordance with the terms of this Agreement;

WHEREAS, the Owner is aware that periodic and continuous maintenance, including, but not necessarily limited to, sediment removal, is required to assure peak performance of Device and that, furthermore, such maintenance activity will require compliance with all Local, State, or Federal laws and regulations, including those pertaining to confined space and waste disposal methods, in effect at the time such maintenance occurs;

NOW THEREFORE, it is mutually stipulated and agreed as follows:

1. Owner hereby provides the City or City's designee complete access, of any duration, to the Device and its immediate vicinity at any time, upon reasonable notice, or in the event of emergency, as determined by City's Director of Municipal Utilities with no advance notice, for the purpose of inspection, sampling, testing of the Device, and in case of emergency, to undertake all necessary repairs or other preventative measures at owner's expense as provided in paragraph 3 below. The Owner/Operator shall retain all operation and maintenance records at the facility for City inspection, and a copy shall be provided to the City if requested. City shall make every effort at all times to minimize or avoid interference with Owner's use of the Property.

2. Owner shall use its best efforts to diligently maintain the Device in a manner assuring peak performance at all times. All reasonable precautions shall be exercised by Owner and Owner's representative or contractor in the removal and extraction of material(s) from the Device and the ultimate disposal of the material(s) in a manner consistent with all relevant laws and regulations in effect at the time. When requested from time to time by the City, the Owner shall provide the City with documentation identifying the material(s) removed, the quantity, and disposal destination.

3. In the event Owner, or its successors or assigns, fails to accomplish the necessary maintenance contemplated by this Agreement, within five (5) days of being given written notice by the City, the City is hereby authorized to cause any maintenance necessary to be done and charge the

entire cost and expense to the Owner or Owner's successors or assigns, including administrative costs, attorney's fees and interest thereon at the maximum rate authorized by the Civil Code from the date of the notice of expense until paid in full, and Owner hereby agrees to pay such charge within 30 days of receipt of City's written demand for payment.

4. The City may require the owner to post security in form and for a time period satisfactory to the City of guarantee the performance of the obligations stated herein. Should the Owner fail to perform the obligations under the Agreement, the City may, in the case of a cash bond, act for the Owner using the proceeds from it, or in the case of a surety bond, require the sureties to perform the obligations of the Agreement. As an additional remedy, the Director may withdraw any previous stormwater related approval with respects to the property on which a Device has been installed until such time as Owner repays to City its reasonable costs incurred in accordance with paragraph 3 above.

5. This agreement shall be recorded in the Office of the Recorder of San Joaquin County, California, at the expense of the Owner and shall constitute notice to all successors and assigns of the title to said Property of the obligation herein set forth, and also a lien in such amount as will fully reimburse the City, including interest as herein above set forth, subject to foreclosure in event of default in payment.

6. In event of legal action occasioned by any default or action of the Owner, or its successors or assigns, then the Owner and its successors or assigns agree(s) to pay all costs incurred by the City in enforcing the terms of this Agreement, including reasonable attorney's fees and costs, and that the same shall become a part of the lien against said Property.

7. It is the intent of the parties hereto that burdens and benefits herein undertaken shall constitute covenants that run with said Property and constitute a lien there against.

8. The obligations herein undertaken shall be binding upon the heirs, successors, executors, administrators and assigns of the parties hereto. The term "Owner" shall include not only the present Owner, but also its heirs, successors, executors, administrators, and assigns. Owner shall notify any successor to title of all or part of the Property about the existence of this Agreement. Owner shall provide such notice prior to such successor obtaining an interest in all or part of the Property. Owner shall provide a copy of such notice to the City at the same time such notice is provided to the successor.

9. Time is of the essence in the performance of this Agreement.

10. Any notice or demand for payment to a party required or called for in this Agreement shall be served in person, or by deposit in the U.S. Mail, first class postage prepaid, to addresses listed on Page 1 of this agreement either for the Owner or City. Notice(s) shall be deemed effective upon receipt, or seventy-two (72) hours after deposit in the U.S. Mail, whichever is earlier. A party may change a notice address only by providing written notice thereof to the other party.

IN WITNESS THEREOF, the parties hereto have affixed their signatures as of the date first written above.

CITY OF STOCKTON, a
Municipal Corporation

ATTEST: APPROVED AS TO FORM:

By _____
HARRY BLACK
CITY MANAGER

OFFICE OF THE CITY ATTORNEY

By _____
Deputy City Attorney

_____
NAME OF PROPERTY OWNER

By _____
PROPERTY OWNER

Name _____

Title _____

CITY ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF SAN JOAQUIN _____

On _____ before me, _____
(Insert Name and Title of Officer)

personally appeared _____,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____ **(Seal)**
Signature of Notary

OWNER ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF _____)

On _____before me, _____
(Insert Name and Title of Officer)

personally appeared _____,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

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Signature of Notary

OWNER ACKNOWLEDGMENT

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STATE OF CALIFORNIA
COUNTY OF _____)

On _____before me, _____
(Insert Name and Title of Officer)

personally appeared _____,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____ **(Seal)**
Signature of Notary

EXHIBIT A

(Deed Copy)

Deeds to be provided for Final Stormwater Quality Control Plan

EXHIBIT B

(Operation & Maintenance Plan)

Stormwater Treatment Device Access and Maintenance Plan

Facility Information:
Name: _____
Street: _____
City:_____ **State:**_____ **Zip:**_____
APN:_____

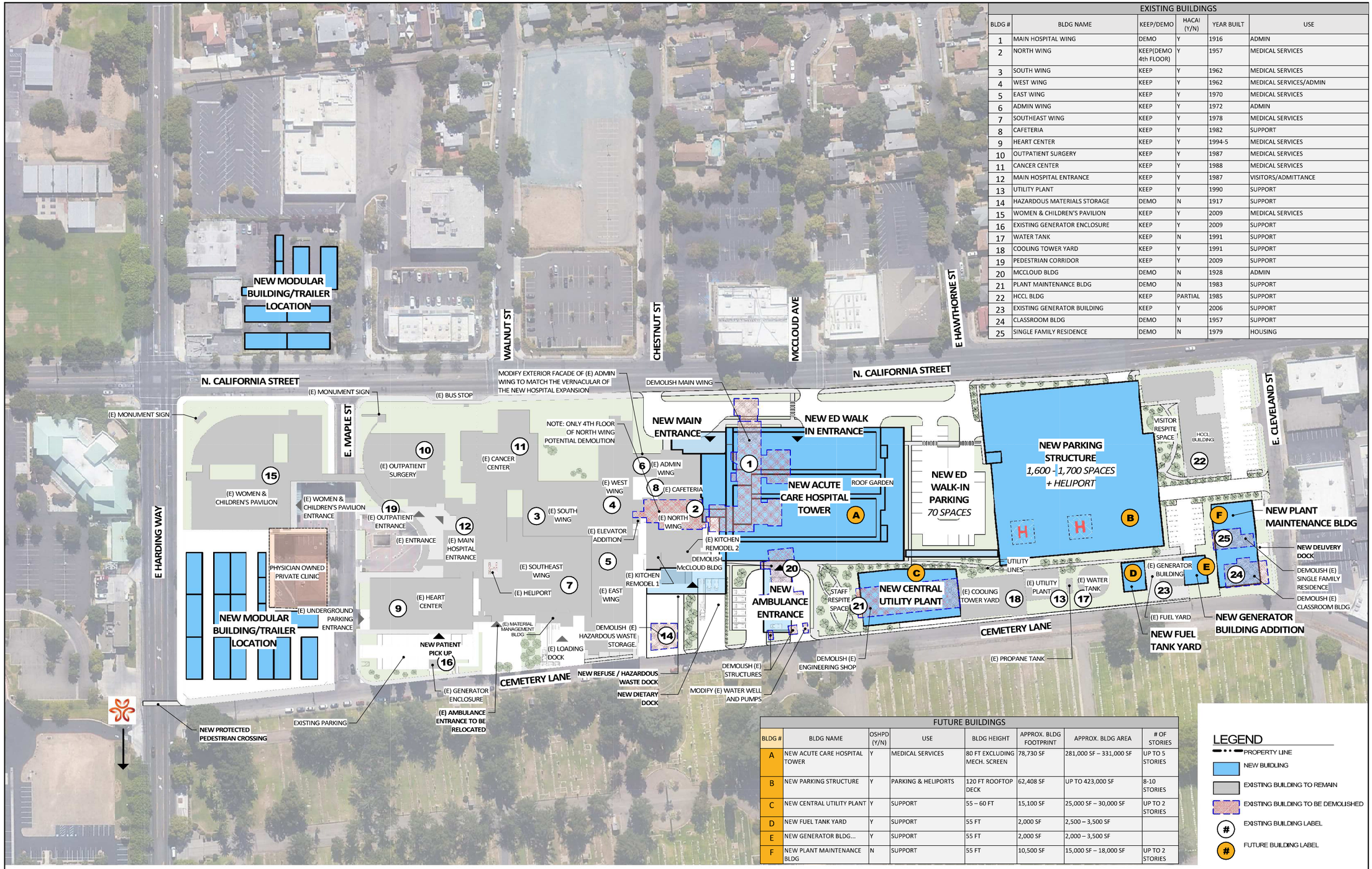
O&M Contact Information:
Contact Person: _____
Phone Number: _____
Email Address: _____

Property Owner Information:
Owner Name *(as shown on deed)*:
_____
Mailing Address:
Street: _____
City:_____ **State:**_____ **Zip:**_____
Phone Number: _____
Email Address: _____

Stormwater Treatment Device Access and Maintenance Plan to be completed for Final Stormwater Quality Control Plan

ATTACHMENT 1:

SITE MAPS



EXISTING BUILDINGS

BLDG #	BLDG NAME	KEEP/DEMO	HACAI (Y/N)	YEAR BUILT	USE
1	MAIN HOSPITAL WING	DEMO	Y	1916	ADMIN
2	NORTH WING	KEEP(DEMO 4th FLOOR)	Y	1957	MEDICAL SERVICES
3	SOUTH WING	KEEP	Y	1962	MEDICAL SERVICES
4	WEST WING	KEEP	Y	1962	MEDICAL SERVICES/ADMIN
5	EAST WING	KEEP	Y	1970	MEDICAL SERVICES
6	ADMIN WING	KEEP	Y	1972	ADMIN
7	SOUTHEAST WING	KEEP	Y	1978	MEDICAL SERVICES
8	CAFETERIA	KEEP	Y	1982	SUPPORT
9	HEART CENTER	KEEP	Y	1994-5	MEDICAL SERVICES
10	OUTPATIENT SURGERY	KEEP	Y	1987	MEDICAL SERVICES
11	CANCER CENTER	KEEP	Y	1988	MEDICAL SERVICES
12	MAIN HOSPITAL ENTRANCE	KEEP	Y	1987	VISITORS/ADMITTANCE
13	UTILITY PLANT	KEEP	Y	1990	SUPPORT
14	HAZARDOUS MATERIALS STORAGE	DEMO	N	1917	SUPPORT
15	WOMEN & CHILDREN'S PAVILION	KEEP	Y	2009	MEDICAL SERVICES
16	EXISTING GENERATOR ENCLOSURE	KEEP	Y	2009	SUPPORT
17	WATER TANK	KEEP	N	1991	SUPPORT
18	COOLING TOWER YARD	KEEP	Y	1991	SUPPORT
19	PEDESTRIAN CORRIDOR	KEEP	Y	2009	SUPPORT
20	MCCLOUD BLDG	DEMO	N	1928	ADMIN
21	PLANT MAINTENANCE BLDG	DEMO	N	1983	SUPPORT
22	HCCL BLDG	KEEP	PARTIAL	1985	SUPPORT
23	EXISTING GENERATOR BUILDING	KEEP	Y	2006	SUPPORT
24	CLASSROOM BLDG	DEMO	N	1957	SUPPORT
25	SINGLE FAMILY RESIDENCE	DEMO	N	1979	HOUSING

FUTURE BUILDINGS

BLDG #	BLDG NAME	OSHPD (Y/N)	USE	BLDG HEIGHT	APPROX. BLDG FOOTPRINT	APPROX. BLDG AREA	# OF STORIES
A	NEW ACUTE CARE HOSPITAL TOWER	Y	MEDICAL SERVICES	80 FT EXCLUDING MECH. SCREEN	78,730 SF	281,000 SF – 331,000 SF	UP TO 5 STORIES
B	NEW PARKING STRUCTURE	Y	PARKING & HELIPORTS	120 FT ROOFTOP DECK	62,408 SF	UP TO 423,000 SF	8-10 STORIES
C	NEW CENTRAL UTILITY PLANT	Y	SUPPORT	55 – 60 FT	15,100 SF	25,000 SF – 30,000 SF	UP TO 2 STORIES
D	NEW FUEL TANK YARD	Y	SUPPORT	55 FT	2,000 SF	2,500 – 3,500 SF	
E	NEW GENERATOR BLDG...	Y	SUPPORT	55 FT	2,000 SF	2,000 – 3,500 SF	
F	NEW PLANT MAINTENANCE BLDG	N	SUPPORT	55 FT	10,500 SF	15,000 SF – 18,000 SF	UP TO 2 STORIES

LEGEND

- PROPERTY LINE
- NEW BUILDING
- EXISTING BUILDING TO REMAIN
- EXISTING BUILDING TO BE DEMOLISHED
- # EXISTING BUILDING LABEL
- # FUTURE BUILDING LABEL

Scale: 1" = 60' - 0"

SITE MASTER PLAN

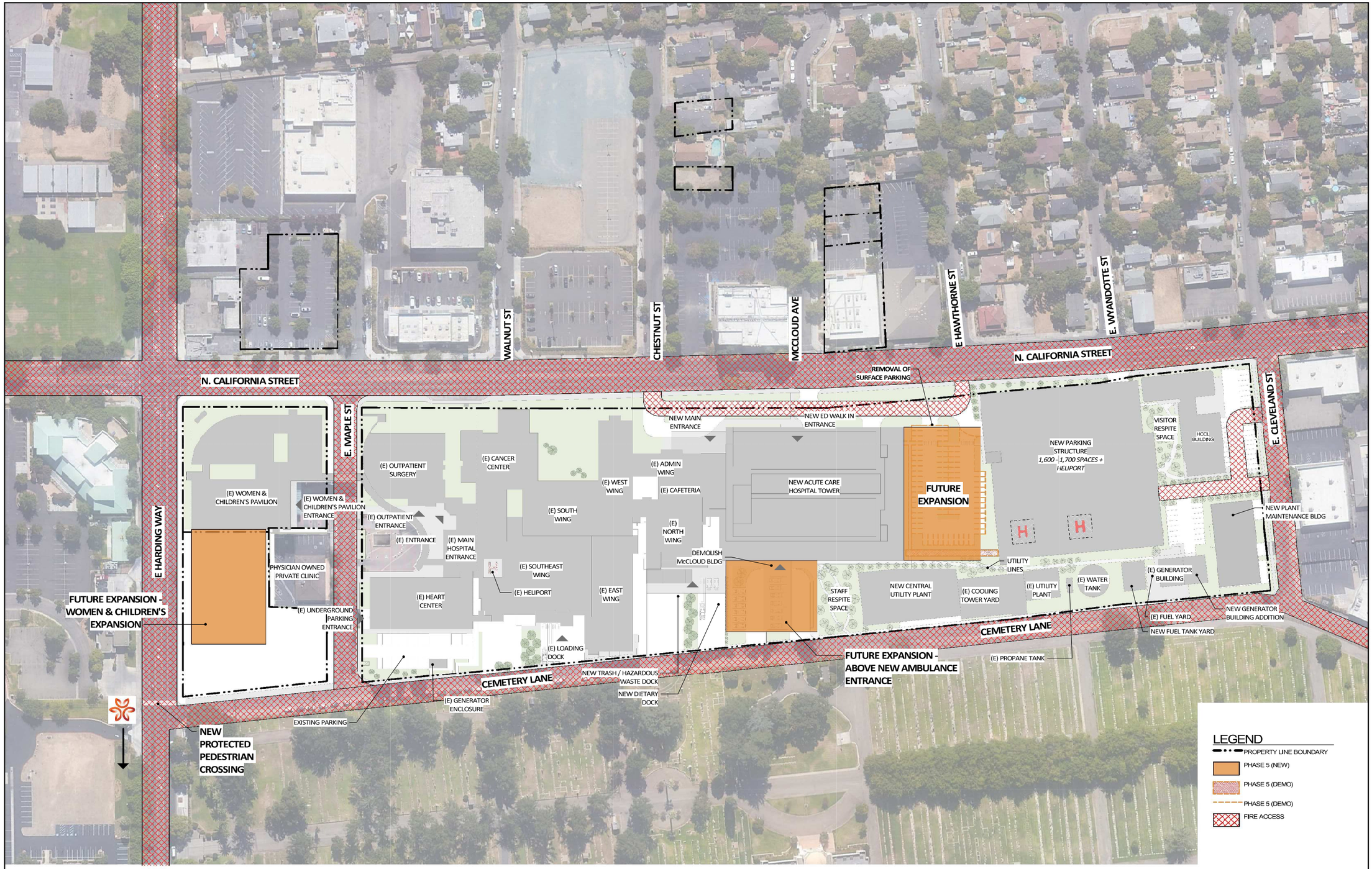
10/7/2021

St. Joseph's Medical Center Hospital Expansion Project

DIGNITY HEALTH

Dignity Health

4.1-1
SITE MASTER PLAN



PHASE 5 SITE DIAGRAM - OPTION A

10/7/2021

St. Joseph's Medical Center Hospital Expansion Project

DIGNITY HEALTH

Dignity Health

4.4-1
PHASE 5 SITE DIAGRAM - OPTION A

ATTACHMENT 2:

MAINTENANCE MATRIX

CITY OF STOCKTON

Maintenance Matrix: *Complete a detailed description of the inspection frequency, maintenance activities, and best management practices for applicable stormwater control measures.*

Site Design Controls		Number	Device Description/Type	Maintenance Frequency	Maintenance Activity	Best Management Practices
☐	*Conserve Natural Areas*					
☐	*Protect Slopes and Channels*					
☐	*Minimize Soil Compaction*					
☒	*Minimize Impervious Area*		Impervious Areas	As needed	Maintain impervious areas	Maintain impervious areas
Source Control Measures		**Number**	**Device Description/Type**	**Maintenance Frequency**	**Maintenance Activity**	**Best Management Practices**
☒	*Storm Drain Message and Signage*		Drainage Inlets	As needed	Inspect storm drain message	Remove any obstruction
☒	*Outdoor Material Storage Area Design*		Outdoor Storage Areas	As needed	Inspect storage area	Remove any obstruction
☒	*Outdoor Trash Storage and Waste Handling Area Design*		Trash Storage Areas	As needed	Inspect trash enclosure	Remove any obstruction
☒	*Outdoor Loading/Unloading Dock Area Design*		Loading Dock Area	As needed	Inspect for spills	See detailed spill plan
☐	*Outdoor Repair/Maintenance Bay Design*					
☐	*Outdoor Vehicle Equipment/Accessory Washing Area Design*					
☐	*Fueling Area Design*					

Volume Reduction Controls		Number	Device Description/Type	Maintenance Frequency	Maintenance Activity	Best Management Practices
☐	*Rain Garden (V-1)*					
☐	*Rain Barrel/Cistern (V-2)*					
☐	*Interception Trees (V-4)*					
☐	*Grassy Channel (V-5)*					
☐	*Vegetated Buffer Strip (V-6)*					
Proposed LID Treatment Controls		**Number**	**Device Description/Type**	**Maintenance Frequency**	**Maintenance Activity**	**Best Management Practices**
☐	*Bioretention (L-1)*					
☐	*Stormwater Planter (L-2)*					
☐	*Tree-well Filter (L-3)*					
☐	*Infiltration Basin (L-4)*					
☐	*Infiltration Trench/Dry Well (L-5)*					
☐	*Porous Pavement Filter (L-6)*					
☐	*Vegetated (Dry) Swale (L-7)*					
☒	*Grassy Swale (L-8)*		Grassy Swale	As needed	Mow, remove sediment, repair channel, replace vegetation	Mow, remove sediment, repair channel, replace vegetation
☐	*Grassy Filter Strip (L-9)*					

Proposed Conventional Treatment Controls		Number	Device Description/Type	Maintenance Frequency	Maintenance Activity	Best Management Practices
☐	*Constructed Wetland (C-1)*					
☐	*Extended Detention Basin (C-2)*					
☐	*Wet Pond (C-3)*					
☒	*Proprietary Device (C-4)*		Proprietary Device	As needed	Inspect device	Remove all captured material from device
☒	*Trash Full Capture System (C-5)*		Trash Capture Device	As needed	Inspect catch basin filter	Remove all captured trash from filter

Proposed Conventional Treatment Controls	Number	Device Description/Type	Maintenance Frequency	Maintenance Activity	Best Management Practices
Private Storm Drain System		Storm Drain Outfalls Storm Drain Inlets	Before each rainy season	1-Inspect the storm drain outfall 2-Examine all catch basins 3-Look for obstructions, vegetation, debris, litter, sediment, etc. blocking the outfall or catch basin	Remove obstructions
			Before each rainy season and after the first heavy rain	1-Inspect the entire storm drain system from upstream to outfall 2-Observe the flow of water for signs of blockage	Find and remove any obstructions. Flush system if necessary.

CITY OF STOCKTON

ATTACHMENT 3:

STORMWATER INSPECTION AND MAINTENANCE LOG

CITY OF STOCKTON

Stormwater Inspection and Maintenance Log to be completed for Final Stormwater Quality Control Plan

Stormwater Inspection and Maintenance Log

Facility Name:	
Address:	
BMP Type/ID:	
Begin Date:	**End Date:**

Date	Routine	Monthly	Rainy Season	Inspected by	Observation	Actions Taken	Exceptions Noted	Comments

ATTACHMENT 4:

WATER QUALITY WATERSHED MAP



St. Joseph's Medical Center
Post-Development Water Quality Shed Map

CITY OF STOCKTON

ATTACHMENT 5:

FACT SHEETS FOR:
BIORETENTION
STORMWATER PLANTER
TREE WELL FILTER
POUROUS PAVEMNET FILTER
GRASSY SWALE
PROPRIETARY CONTROL DEVICE
TRASH CAPTURE DEVICE



Description

A bioretention area is a vegetated shallow depression that is designed to receive, retain, and infiltrate rainwater runoff from downspouts, piped inlets, or sheet flow from adjoining paved areas. A shallow surcharge or ponding zone is provided above the vegetated surface for temporary storage of the captured runoff. During stormwater events, runoff accumulates in the surcharge zone and gradually infiltrates the surface and filters through the engineered soil matrix, filling the void spaces of the matrix before infiltrating the underlying soil or being collected by an underdrain system. Treatment of the runoff occurs through a variety of natural mechanisms as the runoff filters through the root zone of the vegetation and during detention of the runoff in the pore space of the engineered soil matrix. A portion of the water held in the root zone of the soil media is returned to the atmosphere through transpiration by the plants. Bioretention areas are typically planted with native, drought tolerant plant species that do not require fertilization and can withstand wet soils for at least 24 hours, such as wildflowers, sedges, rushes, ferns, shrubs and small trees. Root systems of the plants enhance infiltration, moisture redistribution, and diverse microbial populations involved in biofiltration.

Bioretention is similar in most respects to a rain garden, but differs in the typical size and level of engineering design criteria specified for construction.

If underlying soils are rapidly permeable with permeability greater than the engineered soil layers (typically types A or B soils), the bioretention area can be constructed without an underdrain pipe, in which case all of the captured runoff will infiltrate into the underlying soil profile. If less permeable underlying soils (types C or D) are present or slopes are steep, an underdrain is required to prevent excessive ponding. [2] However, a portion of the captured runoff will infiltrate into the underlying soil, the amount of which will depend on the permeability of the underlying soils.

[2] Bioretention facilities with an underdrain are sometimes referred to as biofiltration facilities.

Advantages



- Low installation cost.
- Enhances site aesthetics.
- Reduces stormwater volume and pollutant discharge.
- Potential water conservation.
- Can be designed to meet trash control requirements.
- Easy maintenance

Limitations

- Not suitable for industrial sites or sites where spills may occur unless infiltration is prevented by impermeable liner.
- Requires underdrains for low permeability soils or steep slopes.
- May require individual owners/tenants to perform maintenance.
- Not appropriate for areas with steep slopes or high groundwater.

Planning and Siting Considerations

- Locate bioretention areas sufficiently far from structure foundations to avoid damage to structures (as determined by a structural or geotechnical engineer).
- Maintain a slope of at least 1 percent from impervious surface to bioretention areas inlet.
- Provide for overflow discharge that drains away from building foundations to storm drain system or more suitabel infiltration area.
- Provide underdrain pipe in areas with C and D soils.
- Provide underdrain pipe and impermeable liners in areas subject to spills or pollutant hot spots.

Design Criteria

Design criteria for bioretention are listed in **Table 6-8**. A typical cross section illustrating design features is shown in **Figure 6-2**.

Table 6-8. Bioretention Design Criteria

Design Parameter	Criteria	Notes
Maximum depth of ponding zone (D_{PZ})	12 inches	Depth above top much layer
Depth of top mulch layer	2 - 3 inches	Shredded hardwood or softwood or compost
Depth of planting media	18 - 24 inches	Mix: 60-65% loamy sand + 35-40% compost or 30% loamy sand + 30% course sand + 40 % compost
Aggregate filter blanket	9 - 12 inches	For use with subsurface drain pipe
Subsurface drain pipe	4 - 8 inch	Slotted PVC per American Society for Testing Materials (ASTM) D1785 SCH 40. (Use with C and D soils)
Depth to groundwater	>10 feet	The depth to seasonal high groundwater level should be at least 10 feet from the bottom of the structure.
Excavation side slope of (H:V)	2:1	Maximum steepness

Design Procedure (for Trash Control see below)

Step 1 – Calculate Water Quality Volume (SQDV)

Using the procedures presented in Fact Sheet T-0, determine the SQDV based on a 12-hour drawdown period and the effective contributing area, after allowance for impervious area credits.

Step 2 – Design average ponding depth (D_{PZ})

Select the average SQDV depth between six (6) and twelve (12) inches. Average depth is defined as water volume divided by the water surface area of the planter.

Step 3 – Calculate planter surface area (A_S)

The design surface area of the planter is determined from the design SQDV and D_{PZ} as follows:

A_S = SQDV/ D_{PZ}

Step 4 – Design base courses

Planting media layer – Provide a mix of 60-65% loamy sand + 35-40% compost or 30% loamy sand + 30% course sand + 40 % compost. The long-term hydraulic conductivity of the mix should be ≥ 1.0 in/hr at 80 percent compaction This layer should be a minimum of 18 inches deep, but a deeper layer is recommended to promote healthy vegetation and improve nutrient removal.

Gravel envelope (for subsurface drain pipe) – Place drain pipe on a 3- ft wide, 6-inch deep bed of gravel (Class 2 Permeable Material per Caltrans Spec 68-1.025). Cover top and sides of pipe with gravel to a minimum depth of 12 inches. Do not wrap pipe or gravel envelop with filter fabric to prevent clogging.

Step 5 – Select subbase liner

If expansive soils or rocks are a concern, chemical or petroleum products are handled or stored within the tributary catchment, or infiltration is not desired for any reason, use an impermeable liner at the bottom of the bioretention facility.

Step 6 – Design subsurface drainpipe (if required)

If C or D soils are present or infiltration is not desired, provide subsurface drainpipe with diameter sized for required hydraulic capacity (4-in minimum). Use heavy-walled, slotted PVC pipe (ASTM D1785 SCD 40) to allow pressure water cleaning and root cutting, if necessary. Connect subsurface drainpipe to downstream open conveyance (e.g. swale), another bioretention cell, a dispersion area, or to the storm drain system.

Step 7 – Select vegetation

Select vegetation that:

- Is suited to well-drained soil;
- Will be dense and strong enough to stay upright, even in flowing water;
- Has minimum need for fertilizers;
- Is not prone to pests and is consistent with IPM practices;
- Will withstand being inundated for periods of time; and
- Is consistent with local water conservation ordinance requirements.

Avoid the use of bark or similar buoyant material that will tend to float when the vegetated area is inundated.

Step 8 – Design overflow device

Provide an overflow device with an inlet to open conveyance or to storm drainage system. Set the overflow inlet elevation above the SQDV surcharge water level. A drop inlet or an overflow standpipe with an inverted opening are appropriate overflow devices).

Design Procedure – Trash Control

The design of bioretention facilities can be enhanced to comply with the Statewide Trash Amendments. To meet these requirements, the bioretention facility must:

1. Trap trash particles that are 5 mm or greater, and include a screen at the inlet, overflow, or bypass outlet to trap these particles from either of the following:

    a. The peak flow rate generated by the region specific one-year, one-hour storm event from the applicable subdrainage area, or

    b. The flow capacity of the existing corresponding storm drain design.

    A screen is not required if the BMP has capacity to treat either of these flows through media filtration or infiltration into native or amended soils;

2. Have a minimum treatment capacity for either of the flow rates described in 1.a. or b. above. The Rational Equation method may be used to calculate the peak flow rate for runoff from a small subdrainage area that is approximately 50 acres or less. The Rational Equation is expressed as Q = CiA, where:

    Q = design peak runoff rate, cfs,
    C = runoff coefficient, dimensionless,

i = rainfall intensity as determined per the rainfall isohyetal map specific to each region, inches/hour, and
A = subdrainage area, acres.

Other calculation methods for drainage areas greater than 50 acres are allowed, provided a registered California licensed professional engineer documents the calculations within the design plans.

3. The bioretention BMP design plans must be stamped and signed by a registered California licensed professional civil engineer (see Bus. & Prof. Code Section 6702, et seq.).

The facility must meet State-sanctioned requirements detailed in the *Certified Multi-Benefit Treatment Systems Complying With Trash Full Capture System Requirements*, authorized March 9, 2018, and any subsequent revisions. Requirements can be accessed at https://www.waterboards.ca.gov/water_issues/programs/stormwater/trash_implementation.html .

Volume Reduction Calculation

Bioretention may be used to achieve the VRRs in addition to treatment control requirements. The volume reduction for a bioretention area is less if subsurface drain pipe is provided, because less infiltration will occur. The calculation procedure for volume reduction for bioretention is presented in **Table 6-9.**

Table 6-9. Bioretention Volume Reduction Calculation

Design Parameter	Criteria	Notes
Bioretention with Subsurface Drain Pipe		Required for C and D soils
1. Ponding Zone		Infiltration allowance for water in ponding zone water = 0.25
a. Depth of ponding zone (D_{PZ})	D_{PZ} = _____ ft	
b. Area of ponding zone (A_{PZ})	A_{PZ} = _____ ft^2	
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer (D_{PM})	D_{PM} = _____ ft	
b. Area of planting media layer (A_{PM})	A_{PM} = _____ ft^2	
3. Gravel Zone		Porosity of gravel zone = 0.30
a. Depth of gravel below pipe (D_{GZ})	D_{GZ} = _____ ft	Minimum depth below pipe = 6 in
b. Area of gravel below pipe (A_{GZ})	A_{GZ} = _____ ft^2	Minimum width of gravel = 3 ft
4. Volume Reduction for bioretention ($Vol_{reduction}$)		
$Vol_{reduction} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (D_{GZ} \times A_{GX} \times 0.3)$	$V_{reduction}$ = _____ ft^3	
Bioretention without Subsurface Drain Pipe		Recommended for A and B soils
1. Ponding Zone		
c. Depth of ponding zone (D_{PZ})	D_{PZ} = _____ ft	
d. Area of ponding zone (A_{PZ})	A_{PZ} = _____ ft^2	
2. Planting Media Layer		
c. Depth of planting media layer (D_{PM})	D_{PM} = _____ ft	Minimum depth = 18 inches
d. Area of planting media layer (A_{PM})	A_{PM} = _____ ft^2	
3. Volume Reduction for bioretention ($Vol_{reduction}$)		
$Vol_{reduction} = (D_{PZ} \times A_{PZ}) + (D_{PM} \times A_{PM} \times 0.10)$	$Vol_{reduction}$= _____ ft^3	Available Water Holding Capacity of planting media layer = 0.1 x volume

Construction Considerations

- Divert runoff (other than necessary irrigation) during the period of vegetation establishment. Where runoff diversion is not possible, cover graded and seeded areas with suitable erosion control materials.
- Install sediment controls (e.g., staked straw wattles) around the bioretention area to prevent high sediment loads from entering the area during ongoing construction activities.
- Avoid compaction of native soils below planting media layer or gravel zone.
- Repair, seed, or re-plant damaged areas immediately.

Long-Term Maintenance

The City or County may require execution of a maintenance agreement with the property owner prior to final acceptance of a private development project, which includes treatment controls such as Bioretention. Such agreements will typically include requirements such as those outlined in **Table 6-10**. The property owner or his/her designee is responsible for compliance with the agreement. Maintenance agreements and plans with shared controls or controls located on more than one property must address shared maintenance responsibilities. The maintenance agreement and plan will provide the City or County designee with complete access to the device and its immediate vicinity at any time. Maintenance of the device is the sole responsibility of the owner. A sample maintenance agreement is presented in **Appendix D**. See **Appendix E** for additional Maintenance Plan requirements and suggested template.

Table 6-10. Inspection and Maintenance Requirements for Bioretention Areas

Activity	Schedule
Remulch void areas	As needed
Treat diseased trees and shrubs	As needed
Water plants daily for two weeks	At project completion
Inspect soil and repair eroded areas	Monthly
Remove litter and debris	Monthly
Remove and replace dead and diseased vegetation	Twice per year
Add additional mulch	Once per year
Replace tree stakes and wire	Once per year

If used for trash control, regular maintenance is required to maintain adequate trash capture capacity and to ensure that trapped trash does not migrate offsite. The owner should establish a maintenance schedule based on site-specific factors, including the size of the bioretention BMP, storm frequency, and estimated or measured trash loading area.

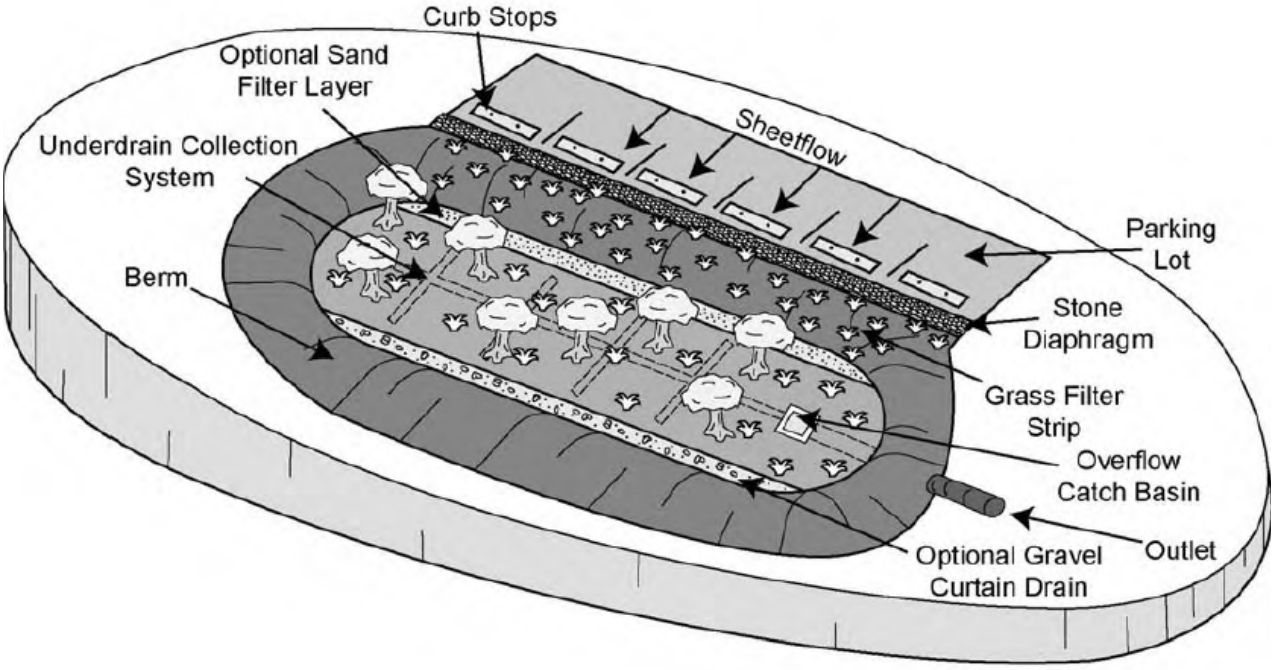


Figure 6-2a. Bioretention Schematic (Source: CWP, 2007)

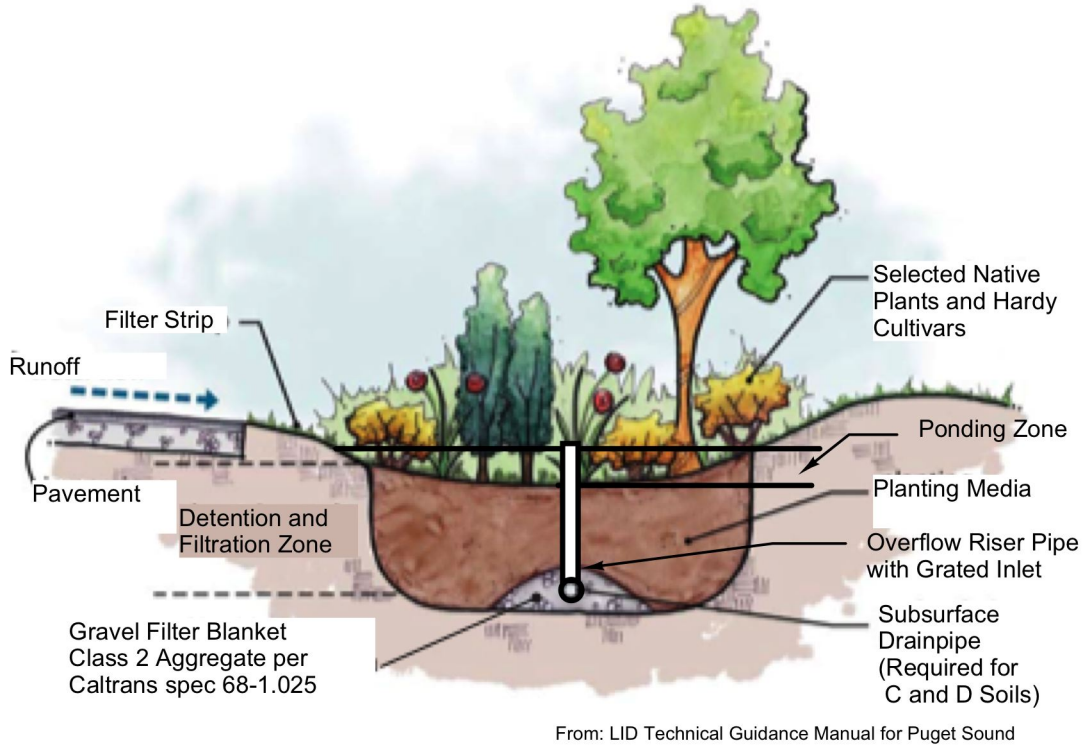


Figure 6-2b. Bioretention Schematic



Source: City of Emeryville, CA

Description

A Stormwater Planter is a vegetated in-ground or above ground planter box containing an engineered soil matrix consisting of layers of topsoil, a sand/peat mixture, and gravel that is designed to receive and capture runoff from downspouts or piped inlets or sheet flow from adjoining paved areas. A shallow surcharge zone is provided above the vegetated surface for temporary storage of the captured runoff. During rainfall events, runoff accumulates in the surcharge zone, gradually infiltrates the surface, and filters through the engineered soil matrix, filling the void spaces of the matrix before infiltrating the underlying soil or being collected by an underdrain system. Treatment of the runoff occurs through a variety of natural mechanisms as the runoff infiltrates through the root zone of the vegetation and during detention of the runoff in the underlying sand/peat bed. Stormwater Planters are typically planted with native, drought tolerant vegetation that does not require fertilization and can withstand wet soils for at least 24 hours, such as wildflowers, sedges, rushes, ferns, shrubs and small trees.

If Infiltration Stormwater Planters are used, the volume of runoff can be reduced through infiltration into underlying soils. For planters underlain with expansive soils or located next to buildings where infiltration of runoff is undesirable, the Flow-through Stormwater Planter with an impermeable bottom liner should be employed. This type of planter features an impermeable bottom liner to prevent infiltration and a perforated underdrain pipe to collect treated runoff. The underdrain gradually dewaters the sand/peat bed over the drawdown period and discharges the runoff to downstream conveyance. If infiltration of runoff is acceptable or desired, the Infiltration Stormwater Planter should be used. If underlying soils are rapidly permeable with permeability greater than the sand/peat layer (typically types A or B soils), the planter can be installed without an underdrain pipe, in which case the SQDV will infiltrate into the underlying soil profile. If less permeable underlying soils (types C or D) are present, an underdrain is required, but a portion of the infiltrated runoff will infiltrate into the underlying soil. See **Figures 6-3** and **6-4** for typical Stormwater Planter configurations.

Stormwater planters are similar in most respects to bioretention areas (see L-1), but differ in the design feature of structural side walls (typically concrete).

Other Names: Bioretention, Infiltration Planter, Flow-through Planter, Biofilter, Porous Landscape Detention, Rain Garden

Advantages

- Relatively inexpensive when integrated into site landscaping.
- Suitable for parking lots and sites with limited open area available for stormwater detention.
- Reduces peak flows during small storm events.
- Enhances site aesthetics.
- Easy maintenance.

Limitations

- Irrigation typically required to maintain vegetation. May conflict with water conservation ordinances or landscape requirements.
- Not appropriate for industrial sites or locations where spills may occur unless infiltration is prevented.
- Not suitable for steeply sloping areas.
- Potential increased cost associated with water proofing of exterior building walls, if needed

Planning and Siting Considerations

- Select location where site topography is relatively flat and allows runoff drainage to the Stormwater Planter.
- Integrate Stormwater Planters into other landscape areas when possible.
- Stormwater Planters may have a non-rectangular footprint to fit the site landscape design.
- In expansive soils, locate Stormwater Planters far enough from structure foundations so as to avoid damage to structures (as determined by a structural or geotechnical engineer), or use a Flow-through Stormwater Planter.

Design Criteria

Design criteria for Stormwater Planters are listed in **Table 6-11**.

Table 6-11. Stormwater Planter Design Criteria

Design Parameter	Criteria	Notes
Drainage area	≤ 1 acre	Ideally suited for small areas such as parking lot islands, perimeter building planters, street medians, roadside swale features, and site entrance or buffer features. Can be implemented on a larger scale.
Design volume	SQDV	See Fact Sheet T-0
Design drawdown time	12 hrs	Period of time over which SQDV drains from planter.
Design average surcharge depth (d_s)	6-12 in.	
Depth to groundwater	> 10 ft	From planter soil surface (without underdrain)
Topsoil layer	6 in. (minimum)	Sandy loam topsoil. Deeper layer recommended for better vegetation establishment. Note: planting media specified for Bioretention (L-1) may be used as an alternate for the topsoil and sand and peat layers.
Sand-peat layer	18 in. (minimum)	75% ASTM C-33 Sand + 25% peat
Gravel layer	9 in.	Class 2 Aggregate per Caltrans Spec 68-1.025

Design Procedure

Step 1 – Calculate Water Quality Volume (SQDV)

Using **Fact Sheet T-0**, determine the contributing area and SQDV based on a 12-hour drawdown period.

Step 2 – Design average ponding zone depth (D_{PZ})

Select the average SQDV depth between six (6) and twelve (12) inches. Average depth is defined as water volume divided by the water surface area of the planter.

Step 3 – Calculate planter surface area (A_S)

The design surface area of the planter is determined from the design SQDV and d_s as follows:

$A_S = SQDV/D_{PZ}$

Step 4 – Design base courses

Topsoil layer – Provide a sandy loam topsoil layer above the sand-peat mix layer. This layer should be a minimum of six (6) inches deep, but a deeper layer is recommended to promote healthy vegetation.

Sand/Peat layer – Provide an 18-inch (minimum) sand and peat layer over a 9-inch gravel layer as shown in **Figures 6-3** and **6-4**. Thoroughly mix 75% sand (ASTM C-33) with 25% peat for filtration and adsorption of contaminants. Note: The planting media mix specified for bioretention (Fact Sheet L-1) may be used as an alternate to the top soil and sand/peat mix.

Gravel envelope (for subsurface drain pipe) – Place drainpipe on a 3- ft wide, 3-inch deep bed of gravel (Class 2 Permeable Material per Caltrans Spec 68-1.025). Cover top and sides of pipe with gravel to a minimum depth of 6 inches. Place a strip of non-woven filter fabric on top of gravel layer that extends 18 inches on either side of the drainpipe. Do not wrap drainpipe or gravel envelop with filter fabric to prevent potential clogging.

Step 5 – Select sub base liner

If expansive soils or rocks are a concern, chemical or petroleum products are handled or stored within the tributary catchment, or infiltration is not desired for any reason, use a Flow-through Stormwater Planter with an impermeable liner (see **Figure 6-4**).

Step 6 – Design subsurface drainpipe (if required)

If C or D soils are present or impermeable liner is used, provide subsurface drainpipe with diameter sized for required hydraulic capacity (4-in minimum). Use heavy-walled, slotted PVC pipe (ASTM D1785 SCD 40) to allow pressure water cleaning and root cutting, if necessary. Connect subsurface drainpipe to downstream open conveyance (e.g. swale) or to the storm drain system.

Step 7 – Select vegetation

Select vegetation that:

- Is suited to well-drained soil;
- Will be dense and strong enough to stay upright, even in flowing water;
- Has minimum need for fertilizers;
- Is not prone to pests and is consistent with IPM practices;
- Will withstand being inundated for periods of time; and
- Is consistent with local water conservation ordinance requirements.

Avoid the use of bark or similar buoyant material that will tend to float when the vegetated area is inundated.

Step 8 – Design overflow device

Provide an overflow device with an inlet to storm drainage system. Set the overflow inlet elevation above the SQDV surcharge water level. A drop inlet or an overflow standpipe with an inverted or grated opening are appropriate overflow devices (see **Figures 6-3 and 6-4**).

Volume Reduction Calculation

Stormwater Planters may be used to achieve the VRRs in addition to treatment control requirements. The volume reduction for a stormwater planter is less if subsurface drainpipe is provided, because less infiltration will occur. The calculation procedure for volume reduction for stormwater planter is presented in **Table 6-12**.

Table 6-12. Stormwater Planter Volume Reduction Calculation

Stormwater Planter with Subsurface Drain Pipe			Required for C and D soils and impermeable liners
1. Ponding Zone			Infiltration allowance for water in ponding zone water = 0.25
a. Depth of ponding zone (D_{PZ})	D_{PZ} = _____	ft	
b. Area of ponding zone (A_{PZ})	A_{PZ} = _____	ft^2	
2. Planting Media Layer			Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer (D_{PM})	D_{PM} = _____	ft	
b. Area of planting media layer (A_{PM})	A_{PM} = _____	ft^2	
3. Gravel Zone			Porosity of gravel zone = 0.30
a. Depth of gravel below pipe (D_{GZ})	D_{GZ} = _____	ft	Minimum depth below pipe = 6 in
b. Area of gravel below pipe (A_{GZ})	A_{GZ} = _____	ft^2	Minimum width of gravel = 3 ft
4. Volume Reduction for planters ($Vol_{reduction}$)			For planters with impermeable liners, volume reduction credit is only given for retention in the planting media layer: $Vol_{reduction} = (D_{PM} \times A_{PM} \times 0.1)$
$Vol_{reduction} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (D_{GZ} \times A_{GX} \times 0.3)$	$Vol_{reduction}$ = _____	ft^3	
Stormwater Planter without Subsurface Drain Pipe			Recommended for A and B soils
1. Ponding Zone			Infiltration allowance for water in ponding zone water = 1.0
a. Depth of ponding zone (D_{PZ})	D_{PZ} = _____	ft	
b. Area of ponding zone (A_{PZ})	A_{PZ} = _____	ft^2	
2. Planting Media Layer			
a. Depth of planting media layer (D_{PM})	D_{PM} = _____	ft	Minimum depth = 18 inches
b. Area of planting media layer (A_{PM})	A_{PM} = _____	ft^2	
3. Volume Reduction for planters ($Vol_{reduction}$)			Available Water Holding Capacity of planting media layer = 0.1 x volume
$Vol_{reduction} = (D_{PZ} \times A_{PZ}) + (D_{PM} \times A_{PM} \times 0.10)$	$Vol_{reduction}$= _____	ft^3	

Construction Considerations

- Divert runoff (other than necessary irrigation) during the period of vegetation establishment. Where runoff diversion is not possible, cover graded and seeded areas with suitable erosion control materials.
- Install sediment controls (e.g., staked straw wattles) around the planter to prevent high sediment loads from entering the planter during ongoing construction activities.

- Avoid compaction of native soils below planting media layer or gravel zone for infiltration planter.
- Repair, seed, or re-plant damaged areas immediately.
- For planters next to buildings, provide water proofing of exterior building walls as directed by architect or structural engineer.

Long-Term Maintenance

The City and the County require execution of a maintenance agreement with the property owner prior to final acceptance of a private development project, which includes treatment controls such as Stormwater Planters. Such agreements will typically include requirements such as those outlined in **Table 6-13**. The property owner or his/her designee is responsible for compliance with the agreement. The maintenance agreement and plan will provide the City or County designee with complete access to the device and its immediate vicinity at any time. Maintenance of the device is the sole responsibility of the owner. Sample agreements are presented in **Appendix D**. See **Appendix E** for additional Maintenance Plan requirements and suggested template.

Table 6-13. Inspection and Maintenance Requirements for Stormwater Planters

Activity	Schedule
Trim vegetation (as applicable) and remove weeds to limit unwanted vegetation	As required
Remove litter and debris from landscape area	As required
Use integrated pest management (IPM) techniques	As required
Inspect the planter to determine if runoff is infiltrating properly	At least twice per year during storm events. Additional inspections after periods of heavy runoff are desirable.
If infiltration is significantly reduced, remove and replace topsoil and sand/peat layer	May be required every 5 to 10 years or more frequently, depending on sediment loads

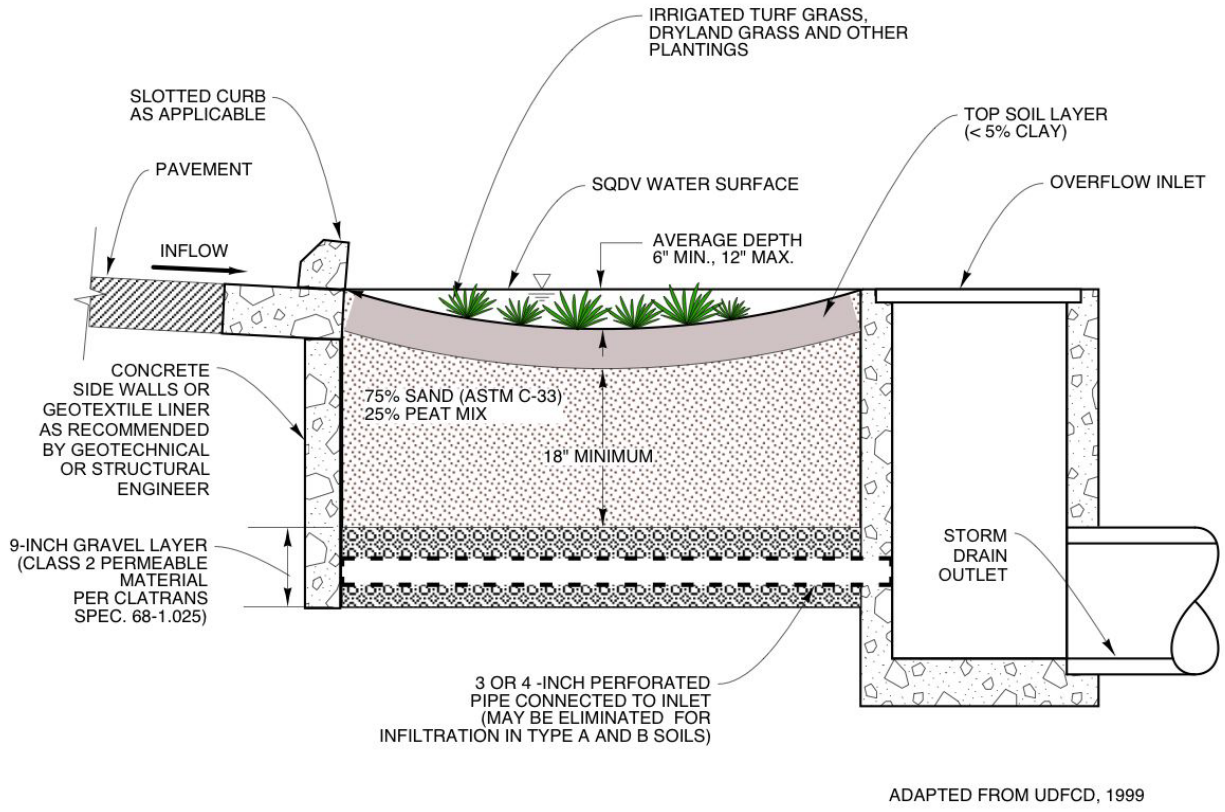


Figure 6-3. Infiltration Stormwater Planter Configuration

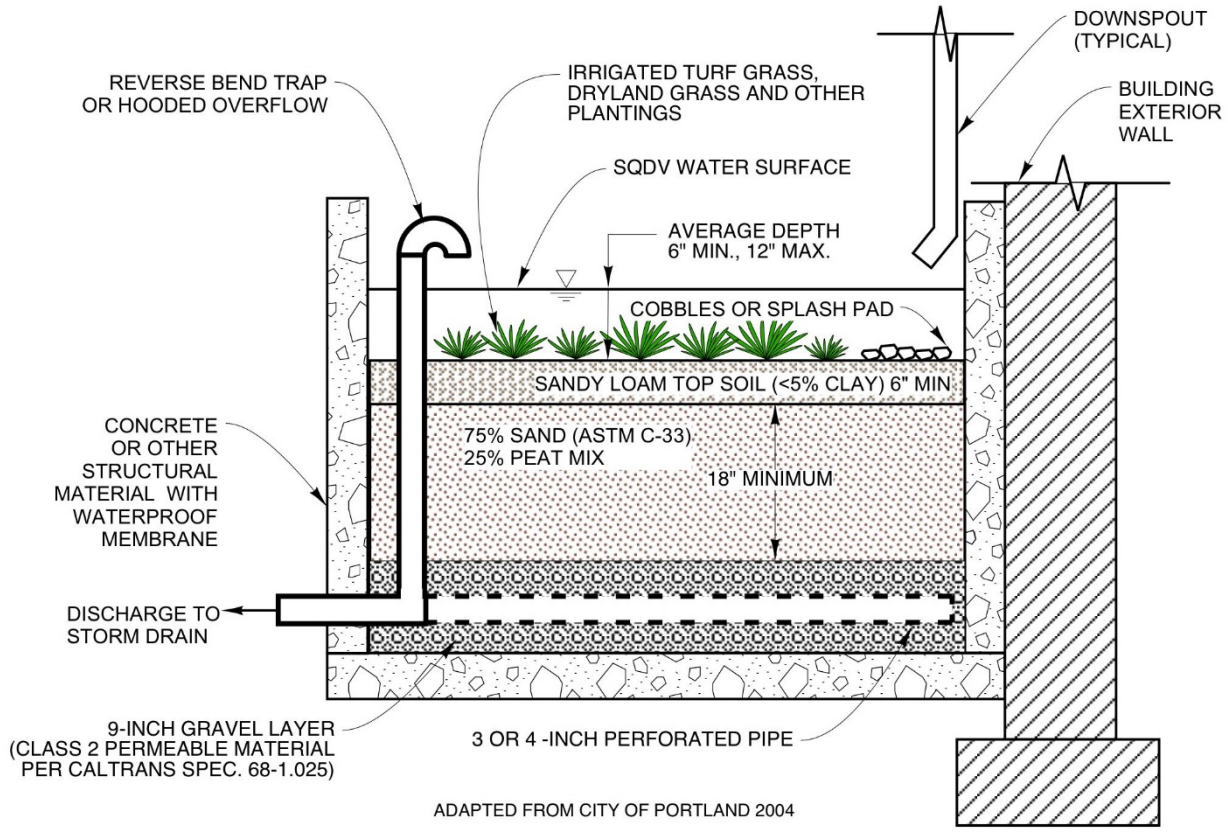


Figure 6-4. Flow-through Stormwater Planter Configuration



Source: LID Center (top) and University of New Hampshire Stormwater Center (bottom)

Description

A Tree-well Filter is similar to the Bioretention (L-1) and Stormwater Planters (L-2) and consists of one or multiple chambered pre-cast concrete boxes with a small tree or shrub planted in a bed filled with engineered soil media. A Tree-well Filter is installed along the edge of a parking lot or roadway, where street tree might normally be installed, and is designed to receive, retain, and infiltrate rainwater runoff from adjoining paved areas. During stormwater events, runoff flows into the chamber and gradually infiltrates the surface and filters through the engineered soil matrix, filling the void spaces of the matrix before infiltrating the underlying soil or being collected by an underdrain system. Treatment of the runoff occurs through a variety of natural mechanisms as the runoff filters through the root zone of the vegetation and during detention of the runoff in the pore space of the engineered soil matrix. A portion of the water held in the root zone of the soil media is returned to the atmosphere through transpiration by the vegetation.

A Tree-well Filter may be installed in open or closed bottom chambers. If underlying soils are rapidly permeable with permeability greater than the engineered soil layers (typically types A or B soils), the Tree-well Filter can be constructed with an open bottom with an underdrain pipe. If less permeable underlying soils (types C or D) are present an underdrain pipe is required. If infiltration must be avoided due to site constraints, an impermeable liner or concrete bottom should be provided as well as an underdrain pipe.

Other Names: Stormwater Tree Pit, Tree Box Filter

Advantages

- Enhances site aesthetics.
- Integrates well with street landscapes.
- Takes up very little space, may be ideal for highly developed sites.
- Adaptable, may be used in a variety of site conditions.
- Reduces stormwater volume and pollutant discharge.

Disadvantages

- May require individual owners/tenants to perform maintenance.
- Irrigation typically required to maintain vegetation. May conflict with water conservation ordinances for landscape requirements.

- Not appropriate for industrial sites or locations where spills may occur unless infiltration is prevented.

Planning and Siting Considerations

- Select location where site topography is relatively flat and allows runoff drainage to the Tree-well Filter.
- Integrate Tree-well Filters into other landscape areas when possible.
- Tree-well Filters may have a non-rectangular footprint to fit the site landscape design.
- Connect underdrain into storm drain system.

Design Criteria

Design criteria for Tree-well Filters are listed in **Table 6-14**. A Design Data Summary Sheet is provided at the end of this fact sheet.

Table 6-14. Tree-well Filter Design Criteria

Design Parameter	Criteria	Notes
Drainage area	≤ 1 acre	Ideally suited for small areas such as parking lot islands, perimeter building planters, street medians, roadside swale features, and site entrance or buffer features.
Design volume	SQDV	See Fact Sheet T-0
Design drawdown time	12 hrs	Period of time over which SQDV drains from tree well.
Design average ponding depth (d_s)	6-12 in.	
Depth to groundwater	> 10 ft	From tree-well soil surface (without underdrain)
Topsoil layer	6 in. (minimum)	Sandy loam topsoil. Deeper layer recommended for better vegetation establishment
Sand-peat layer	18 in. (minimum)	75% ASTM C-33 Sand + 25% peat. Note: planting media specified for Bioretention (L-1) may be used as an alternate for the topsoil and sand and peat layers.
Gravel layer	9 in.	Class 2 Aggregate per Caltrans Spec 68-1.025

Design Procedure

Step 1 – Calculate Water Quality Volume (SQDV)

Using **Fact Sheet T-0**, determine the contributing area and SQDV based on a 12-hour drawdown period.

Step 2 – Design average surcharge depth (d_s)

Select the average SQDV depth between six (6) and twelve (12) inches. Average depth is defined as water volume divided by the water surface area of the planter.

Step 3 – Calculate tree-well filter surface area (A_S)

The design surface area of the planter is determined from the design SQDV and d_s as follows:

$A_S = SQDV/d_s$

Step 4 – Design base courses

Sand/Peat layer – Provide a 24-inch (minimum) sand and peat layer over a 9-inch gravel layer as shown in **Figures 6-5**. Thoroughly mix 75% sand (ASTM C-33) with 25% peat for filtration and adsorption of contaminants. Note: The planting media mix specified for bioretention (Fact Sheet L-1) may be used as an alternate to the top soil and sand/peat mix.

Gravel envelope (for subsurface drain pipe) – Place drainpipe on a 3- ft wide, 3-inch deep bed of gravel (Class 2 Permeable Material per Caltrans Spec 68-1.025). Cover top and sides of pipe with gravel to a minimum depth of 6 inches. Place a strip of non-woven filter fabric on top of gravel layer that extends 18 inches on either side of the drainpipe. Do not wrap drainpipe or gravel envelop with filter fabric to prevent potential clogging.

Step 5 – Select subbase liner

If expansive soils or rocks are a concern, chemical or petroleum products are handled or stored within the tributary catchment, or infiltration is not desired for any reason, use a Tree-well Filter with an impermeable liner.

Step 6 – Design subsurface drainpipe (if required)

If C or D soils are present or an impermeable liner is used, provide subsurface drainpipe with diameter sized for required hydraulic capacity (4-in minimum). Use heavy-walled, slotted PVC pipe (ASTM D1785 SCD 40) to allow pressure water cleaning and root cutting, if necessary. Connect subsurface drainpipe to downstream open conveyance (e.g. swale) or to the storm drain system.

Step 7 – Select tree

Select tree that:

- Is suited to well-drained soil;
- Will be dense and strong enough to stay upright, even in flowing water;
- Has minimum need for fertilizers;
- Is not prone to pests and is consistent with IPM practices;
- Will withstand being inundated for periods of time; and
- Is consistent with local water conservation ordinance requirements.

Avoid the use of bark or similar buoyant material that will tend to float when the vegetated area is inundated.

Step 8 – Design overflow device

Provide an overflow device with an inlet to storm drainage system. Set the overflow inlet elevation above the SQDV surcharge water level. A drop inlet or an overflow standpipe with an inverted or grated opening are appropriate overflow devices (see **Figure 6-5**).

Volume Reduction Calculation

Tree-well Filters may be used to achieve the VRRs in addition to treatment control requirements. The volume reduction for a tree-well filter is less if an impermeable bottom is used, because less infiltration will occur. The calculation procedure for volume reduction for Tree-well Filter is presented in **Table 6-15.**

Table 6-15. Tree-well Filter Volume Reduction Calculation

Design Parameter	Criteria	Notes
Tree-well Filter with Subsurface Drain Pipe		Required for C and D soils and impermeable bottoms
1. Ponding Zone		Infiltration allowance for water in ponding zone water = 0.25
a. Depth of ponding zone (D_{PZ})	D_{PZ} = _____ ft	
b. Area of ponding zone (A_{PZ})	A_{PZ} = _____ ft^2	
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer (D_{PM})	D_{PM} = _____ ft	
b. Area of planting media layer (A_{PM})	A_{PM} = _____ ft^2	
3. Gravel Zone		Porosity of gravel zone = 0.30
a. Depth of gravel below pipe (D_{GZ})	D_{GZ} = _____ ft	Minimum depth below pipe = 6 in
b. Area of gravel below pipe (A_{GZ})	A_{GZ} = _____ ft^2	Minimum width of gravel = 3 ft
4. Volume Reduction for tree wells ($Vol_{reduction}$)		For tree wells with impermeable liners, volume reduction credit is only given for retention in the planting media layer: $Vol_{reduction} = (D_{PM} \times A_{PM} \times 0.1)$
$Vol_{reduction} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (D_{GZ} \times A_{GX} \times 0.3)$	$Vol_{reduction}$ = _____ ft^3	
Tree Well Filters without Subsurface Drain Pipe		Recommended for A and B soils
1. Ponding Zone		Infiltration allowance for water in ponding zone water = 1.0
a. Depth of ponding zone (D_{PZ})	D_{PZ} = _____ ft	
b. Area of ponding zone (A_{PZ})	A_{PZ} = _____ ft^2	
2. Planting Media Layer		
a. Depth of planting media layer (D_{PM})	D_{PM} = _____ ft	Minimum depth = 18 inches
b. Area of planting media layer (A_{PM})	A_{PM} = _____ ft^2	
3. Volume Reduction for tree wells ($Vol_{reduction}$)		Available Water Holding Capacity of planting media layer = 0.1 x volume
$Vol_{reduction} = (D_{PZ} \times A_{PZ}) + (D_{PM} \times A_{PM} \times 0.10)$	$Vol_{reduction}$= _____ ft^3	

Construction Considerations

- Divert runoff (other than necessary irrigation) during the period of vegetation establishment. Where runoff diversion is not possible, cover graded and seeded areas with suitable erosion control materials.
- Install sediment controls (e.g., staked straw wattles) around the tree-well to prevent high sediment loads from entering the planter during ongoing construction activities.
- Avoid compaction of native soils below planting media layer or gravel zone.
- Repair, seed, or re-plant damaged areas immediately.

Long-Term Maintenance

The City and the County require execution of a maintenance agreement with the property owner prior to final acceptance of a private development project, which includes treatment controls such as Tree-well Filters. Such agreements will typically include requirements such as those outlined in **Table 6-16**. The property owner or his/her designee is responsible for compliance with the agreement. The maintenance agreement and plan will provide the City or County designee with complete access to the device and its immediate vicinity at any time. Maintenance of the device is the sole responsibility of the owner. Sample agreements are presented in **Appendix D**. See **Appendix E** for additional Maintenance Plan requirements and suggested template.

Table 6-16. Inspection and Maintenance Requirements for Tree-well Filters

Activity	Schedule
Trim vegetation (as applicable) and remove weeds to limit unwanted vegetation	As required
Remove litter and debris from landscape area	As required
Use IPM techniques	As required
Inspect the planter to determine if runoff is infiltrating properly	At least twice per year during storm events. Additional inspections after periods of heavy runoff are desirable.
If infiltration is significantly reduced, remove and replace topsoil and sand/peat layer	May be required every 5 to 10 years or more frequently, depending on sediment loads

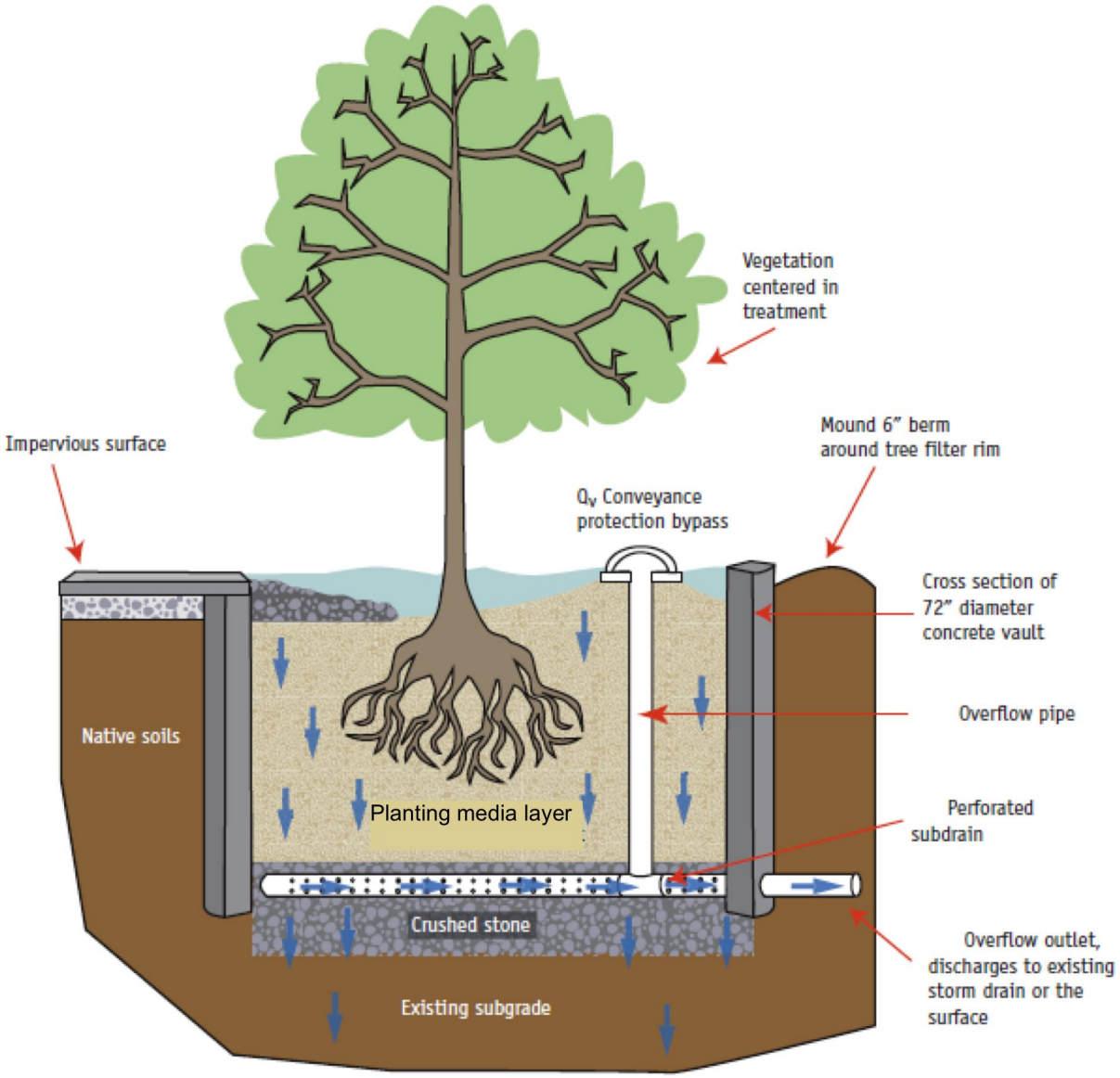


Figure 6-5. Tree-well Filter Schematic (Source: University of New Hampshire, Stormwater Center)


Source: Interlocking Concrete Pavement Institute



Source: Cahill Associates

Description

Porous Pavement Filter (PPF) consists of an installation of permeable interlocking concrete pavers, pervious concrete, or porous asphalt pavement that is flat in all directions and is provided with a surcharge zone to temporarily store the runoff draining from an adjacent area. Stormwater runoff infiltrates into the porous pavement and the sublayers of sand and gravel and slowly exits through an underdrain.

Permeable interlocking concrete pavement is comprised of a layer of durable concrete pavers or blocks separated by joints filled with small stones. Pervious concrete is made from carefully controlled amounts of water and cementitious materials used to create a paste that forms a thick coating around aggregate particles. Unlike conventional concrete, the mixture contains little or no sand, creating a substantial void content between 15% and 25%. Porous asphalt, or "open-graded" asphalt, pavement contains no fine aggregate particles thereby creating void spaces in the pavement, which allows water to collect within and drain through the pavement. An alternative approach is to use stabilized grassy porous pavement, consisting of grass turf reinforced with plastic rings and filter fabric underlain by gravel. A typical cross section of a PPF system is shown in **Figure 6-10**.

Advantages

- Reduces runoff volume and peak flows during small storm events.
- Can serve functional and aesthetic purposes.

Limitations

- The cost of restorative maintenance can be somewhat high when the system seals with sediment and can no longer function properly as a permeable pavement.
- Uneven driving surfaces and potential traps for high-heeled shoes are potential limitations.

Planning and Siting Considerations

- Should only be installed on relatively flat surfaces.
- May be used in low vehicle-movement zones. Potential applications include the following:
    - Low vehicle movement airport zones;

  - Parking aprons and maintenance roads;
  - Crossover/emergency stopping/parking lanes on divided highways;
  - Residential street parking lanes;
  - Residential driveways;
  - Maintenance roads and trails; and
  - Emergency vehicle and fire access lanes in apartment/multi-family/complex situations.
- Vehicle movement lanes that lead up to the porous pavement parking pads should be solid asphalt or concrete pavement.
- Grass can be used in the block voids, but it may require irrigation and lawn care.
- In cases when the subsoils are not free draining, an impermeable liner should be provided to contain the water in the gravel pack and to mitigate concerns about expansive soils.
- Should be located far enough from foundations in expansive soils so as to limit damage to potential structures.
- When a commercial or an industrial site may be handling chemicals and petroleum products that may spill to the ground, an impermeable liner with an underdrain is required to prevent groundwater and soil contamination.

Design Criteria

Design Criteria for the PPF are summarized in **Table 6-22**.

Table 6-22. PPF Design Criteria

Design Parameter	Criteria	Notes
Drawdown time for SQDV	12 h	Minimum
SQDV	80% annual capture	Use **Figure 6-1** @ 12-hr drawdown
Surcharge storage volume above pavement	SQDV	
Depth of surcharge zone	2 in	Maximum depth above pavement
Imperviousness	<60%	Variable with pavement type
Permeable Paver Infill	ASTM No. 8 crushed aggregate	
Base courses	1-inch ASTM No. 8 over 9-inch ASTM No. 57	

Design Procedure

Step 1 – Determine Stormwater Quality Design Volume (SQDV)

Using the *Fact Sheet T-0*, determine the tributary drainage area and SQDV for 12-hour drawdown.

Step 2 – Determine Filter Ponding Zone Storage Volume

The ponding zone storage volume above pavement is equal to 100 percent of the SQDV.

V_{PZ} = 1.0 x SQDV

Step 3 – Determine Filter Surface Area

Calculate minimum required surface area based on surcharge depth of 2 inches above pavement as follows:

Surface Area = SQDV (ft^3)/0.17 (ft)

Step 4 – Select Pavement Type

For permeable pavers, select appropriate modular blocks that have no less than 40 percent of the surface area open. The manufacturer's installation requirements shall be followed with the exception that porous pavement infill material requirements and base course dimension are adhered to.

Step 5 – Porous Pavement Infill

The Modular Block Pavement openings should be filled with ASTM No. 8 crushed stone.

Step 6 – Provide Base Courses

Provide 1-inch ASTM No. 8 crushed stone over 9-inch ASTM No. 57 aggregate base courses as shown in **Figure 6-10.**

Step 6 – Provide Perimeter Wall

Provide a concrete perimeter wall to confine the edges of the PPF area. The wall should be, at the minimum, 6 inches wide and at least 6 inches deeper than all the porous media and modular block depth combined.

Step 7 – Install Subbase

If expansive soils or rock are a concern or the tributary catchment has chemical or petroleum products handled or stored, install an impermeable membrane below the base course. Otherwise install a non-woven geotextile membrane to encourage filtration.

Step 7 – Provide Overflow

Provide an overflow, possibly with an inlet to a storm sewer, set at a maximum of 2 inches above the level of the porous pavement surface. Make sure the 2-inch ponding depth is contained and does not flow out of the area at ends or sides.

Volume Reduction Calculation

PPF may be used to achieve the VRR in addition to treatment control requirements. The volume reduction for a PPF is less if subsurface drainpipe is provided, because less infiltration will occur. If the PPF is constructed with an impermeable liner, no volume reduction credit is given. The calculation procedure for volume reduction for PPF is presented in **Table 6-23**.

Table 6-23. PPF Volume Reduction Calculation

Design Parameter	Criteria	Notes
PPF with Subsurface Drain Pipe		Required for C and D soils
1. Volume Reduction for PPF ($Vol_{reduction}$)		Infiltration allowance for water in ponding zone = 0.25
$Vol_{reduction}$ = (SQDV x 0.25)	$Vol_{reduction}$ = _____ ft^3	No volume reduction credit is given for PPFs with impermeable liners
PPF without Subsurface Drain Pipe		Use with A and B soils only
1. Volume Reduction for PPF ($Vol_{reduction}$)		Infiltration allowance for water in ponding zone water = 1.0
$Vol_{reduction}$ = (SQDV x 1.0)	$Vol_{reduction}$ = _____ ft^3	

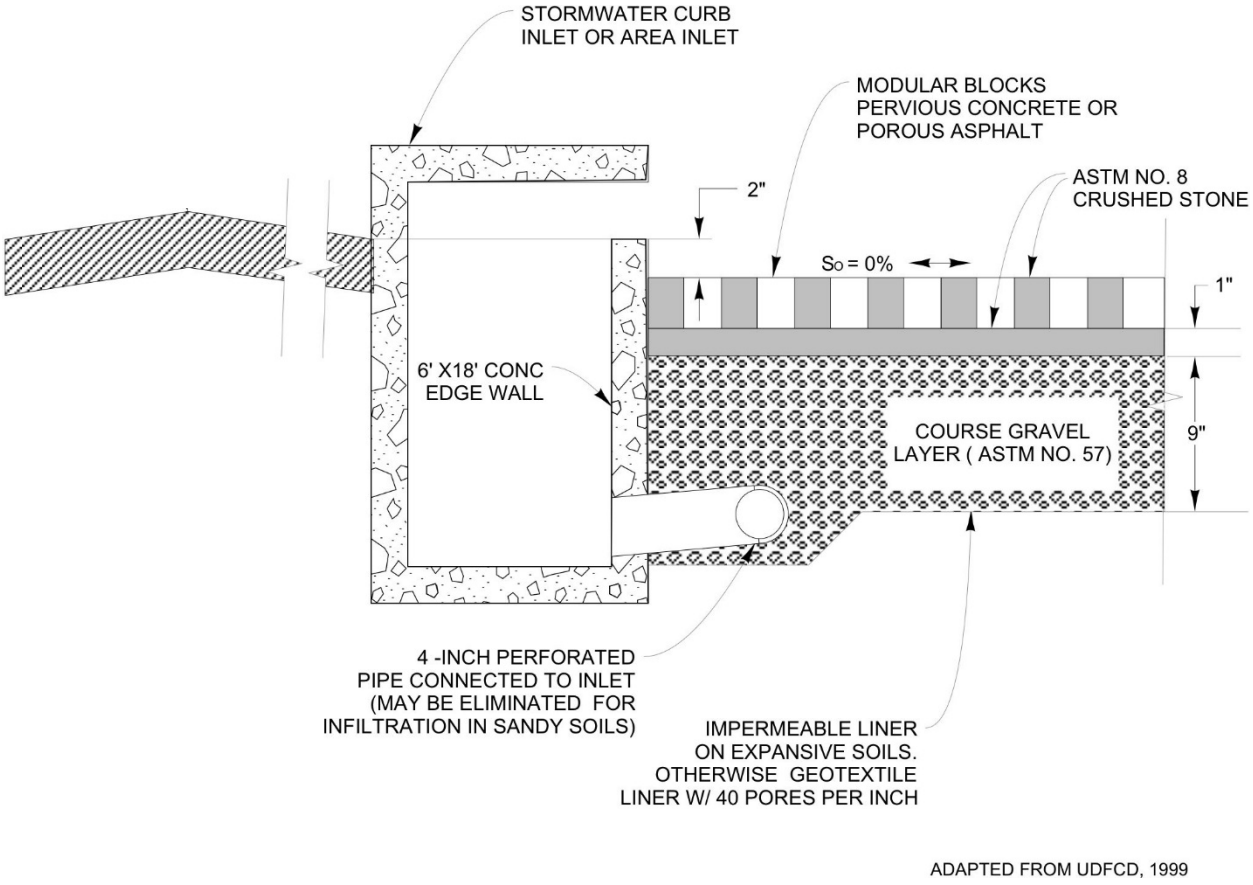


Figure 6-10. Porous Pavement Filter

Construction Considerations

- Before the entire site is graded, the area planned for the PPF should be roped off to prevent heavy equipment from compacting the underlying soils.
- Both prior to and during construction, diversions should be installed around the perimeter of the PPF as needed to prevent runoff and sediment from entering the site until the PPF is in place.

Maintenance Requirements

The City or County requires execution of a maintenance agreement with the property owner prior to final acceptance of a private development project, which includes treatment controls such as PPFs. Such agreements will typically include requirements such as those outlined in **Table 6-24**. The property owner or his/her designee is responsible for compliance with the agreement. The maintenance agreement and plan will provide the City or County designee with complete access to the device and its immediate vicinity at any time. Maintenance of the device is the sole responsibility of the owner. Sample agreements are presented in **Appendix D.** See **Appendix E** for additional Maintenance Plan requirements and suggested template.

Table 6-24. Inspection and Maintenance Requirements for PPF

Activity	Schedule
Inspect pavements to determine if runoff is infiltrating properly. If infiltration is significantly reduced, remove surface aggregate by vacuuming. Dispose of and replace old aggregate with fresh aggregate.	At least twice during the wet season after significant storms. Additional inspections after periods of heavy runoff are desirable.
If stabilized grassy porous pavement is used, trim vegetation and remove weeds to limit unwanted vegetation.	As required.
Remove litter and debris from the pavement area.	As required.



Description

A Grassy Swale is a shallow, open channel planted with dense, sod-forming vegetation and designed to accept runoff from adjacent surfaces. As the runoff slows and travels through the vegetation and over the soil surface, pollutants are removed by a variety of physical and chemical mechanisms, including sedimentation, filtration, adsorption, precipitation, and microbial degradation and conversion.

A Grassy Swale differs from a conventional drainage channel or roadside ditch due to the incorporation of specific features that enhance stormwater pollutant removal effectiveness. A Grassy Swale is designed to control flow velocities and depth through the vegetation in the swale and to provide sufficient contact time to promote settling and filtration of the runoff flowing through it. Greater surface area and contact time promote greater runoff treatment efficiencies. The volume of runoff can also be reduced through infiltration into underlying soils. See **Figure 6-13** for a typical Grassy Swale configuration.

Other Names: Vegetated Swale, Bioswale

Do not confuse a Grassy Swale with a *Grassy Filter Strip* (L-9), Vegetated Swale (L-7) or Grassy Channel (V-5), which is used as primarily as volume reduction practice. The latter provides only limited pollutant removal because of higher application rates, and it requires downstream

Advantages

- Relatively inexpensive when used to replace part of a conventional storm drainage system and integrated into site landscaping .
- Provides both stormwater treatment and conveyance.
- Reduces peak flow rates during small storm events.
- Easy maintenance.

Limitations

- May conflict with water conservation ordinances for landscape irrigation requirements.
- May not be appropriate for industrial sites or locations where spills may occur unless liner is provided to prevent infiltration.

Planning and Siting Considerations

- Select location where site topography allows for the design of a channel with sufficiently mild slope (unless small drop structures are used) and enough surface area to maintain non-erosive velocities in the channel.

- Integrate swales into open space buffers, undisturbed natural areas, and other landscape areas when possible.
- For parking lot design, stalls can be shortened if tire curbs are provided around the perimeter of the swale and cars are allowed to overhang the swale.
- The required swale length to meet treatment criteria for a 1-acre project site is typically in the range of 75 to 100 feet. The length will vary depending on several variables, including the geometry of the swale and the runoff coefficient for the site.
- Liners may be required in areas where swales may be impacted by hazardous materials or where spills may occur (e.g., retail gasoline outlets, auto maintenance businesses, processing/manufacturing areas).
- Surface flow into the swale is preferred over underground conveyance.
- Irrigation is typically required to maintain viability of the swale vegetation. Coordinate design of general landscape irrigation system with that of the Grassy Filter Strip, as applicable.
- Vector Considerations: The potential for mosquitoes due to standing water will be greatly reduced or eliminated if the Swale is properly designed, constructed, and operated.

Design Criteria

Design criteria for the Grassy Swale are listed in **Table 6-28**.

Table 6-28. Grassy Swale Design Criteria

Design Parameter	Criteria	Notes
Tributary drainage area	≤ 10 acres	For larger areas, break up into sub-watersheds of 10 acres or less, with a swale for each sub-watershed.
Design flow	SQDF	See *Fact Sheet T-0*
Roughness coefficient (n) for treatment design	0.2	Reflects the roughness associated with shallow flow through dense vegetation.
Roughness coefficient (n) for conveyance design	0.1	Reflects the roughness of swale when depth of flow is above the height of the grass. Used to determine capacity of swale to convey peak hydraulic flows
Minimum contact time for treatment of the SQDF	7 minutes	Provide sufficient length to yield minimum contact time for the WQF
Minimum bottom width	0.5 ft	
Maximum bottom width	10 ft	Swales wider than 10 feet can be divided by internal berms to conform to maximum width criteria.
Maximum side slopes	3:1	Side slopes to allow for ease of mowing. Steeper slopes may be allowed with adequate slope stabilization.
Longitudinal slope	1-4%	
Check dams	As required	For longitudinal slope > 4% and as a means of promoting more infiltration. Space dams as required to maintain maximum longitudinal bottom slope ≤ 4%.
Underdrains	As required	For longitudinal slope < 1%
Maximum depth of flow at SQDF	3-5 in.	1 inch below top of vegetation
Maximum flow velocity (treatment)	1 ft/sec	Based on Manning's n = 0.20. Concentrated inlet flow must be spread
Inlet Design/Curb cuts	≥ 12 in. wide	To prevent clogging and promote flow spreading. Pavement should be slightly higher than swale. Include energy dissipaters.

Design Procedure

Step 1 – Determine the Grassy Swale's Function

The Grassy Swale can be designed to function as both a treatment control for the SQDF and as a conveyance system to pass the peak hydraulic design flows, if the swale is located "on-line".

Step 2 – Calculate Stormwater Quality Design Flow (SQDF)

Using the *Fact Sheet T-0*, determine the contributing area and SQDF.

Step 3 – Provide for peak hydraulic design flows

*Using the Standard Calculations for Diversion Structure Design (**Appendix H**)*, calculate flows greater than SQDF to be diverted around or flow through the swale. Design the diversion structure, if needed.

Step 4 – Design the Grassy Swale Using Manning's Equation

Swales can be trapezoidal (as illustrated in **Figure 6-13**) or parabolic in shape. While trapezoidal channels are the most efficient channel for conveying flows, parabolic configurations provide good water quality treatment and may be easier to mow since they don't have sharp breaks in slope.

a. Use a roughness coefficient (n) of 0.20 with Manning's Equation to design the treatment area of a swale to account for the flow through the vegetation. To determine the capacity of the swale to convey peak hydraulic flows, use a roughness coefficient (n) of 0.10 with Manning's Equation.

Manning's Equation

$$Q = \frac{1.49}{n}\frac{A^{5/3}}{P^{2/3}} \times s^{1/2}$$

where

Q = SQDF

A = Cross-sectional area of flow

P = Wetted perimeter of flow

s = Bottom slope in flow direction

n = Manning's n (roughness coefficient)

For treatment design of a trapezoidal swale, solve Manning's equation by trial and error to determine a bottom width that yields a flow depth of 3 to 5 inches at the design SQDF and the swale geometry (i.e., side slope and s value) for the site under design. The minimum design bottom width is 0.5 ft.

b. Determine length necessary to provide the desired contact time (7 minutes minimum) for treatment of the SQDF.

$L = (t_c) \times (\text{flow velocity}) \times 60$

where

L = Length of swale, ft

t_c = Contact time, 7 minutes minimum

Step 5 – Design Inlet Controls

For flow introduced along the length of the swale through curb cuts, provide minimum curb cut widths of 12 inches and avoid short-circuiting the swale by providing the minimum contact time of 7 minutes.

For swales that receive direct concentrated runoff at the upstream end, provide an energy dissipater, as appropriate, and a flow spreader such as a pea gravel diaphragm flow spreader at the upstream end of the swale. (See **Figure 6-14** in L-9: Grassy Filter Strip for schematic of pea gravel flow spreader.)

Step 6 – Select Vegetation

A full, dense cover of sod-forming vegetation is necessary for the Grassy Swale to provide adequate treatment.

Select vegetation that:

- Will be dense and strong enough to stay upright, even in flowing water;
- Has minimum need for fertilizers;
- Is not prone to pests and is consistent with IPM practices;
- Will withstand being inundated for periods of time; and
- Is consistent with local water conservation ordinance requirements.

See **Appendix G** for recommended grasses for Grassy Swales. Do not use bark or similar buoyant material in the swale or around drain inlets or outlets.

Step 7 – Design irrigation system

Provide an irrigation system to maintain viability of Grassy Swale vegetation.

Volume Reduction

Grassy Swales may be used to achieve the VRR in addition to treatment control requirements. The calculation procedure for volume reduction for Grassy Swales is presented in **Table 6-29**.

Table 6-29. Grassy Swale Volume Reduction Calculation

Design Parameter	Criteria	Notes
1. SQDV for contributing area	SQDV = _____ ft^3	See Fact Sheet T-0
2. Volume reduction factor for Grassy Swale (V_{soils})	V_{soils} = _____	V_{soils} for A and B soils = 0.50 V_{soils} for C and D soils = 0.25
3. Volume Reduction for Grassy Swale ($Vol_{reduction}$)		
$Vol_{reduction}$ = (SQDV x V_{soils})	$Vol_{reduction}$ = _____ ft^3	

Construction Considerations

- Divert runoff (other than necessary irrigation) during the period of vegetation establishment. Where runoff diversion is not possible, cover graded and seeded areas with suitable erosion control materials.
- Install sediment controls (e.g., staked straw wattles) around the swale to prevent high sediment loads from entering the swale during ongoing upstream construction activities.
- Repair, seed, or re-plant damaged areas immediately.
- Apply erosion control measures as needed to stabilize side slopes and inlet areas.

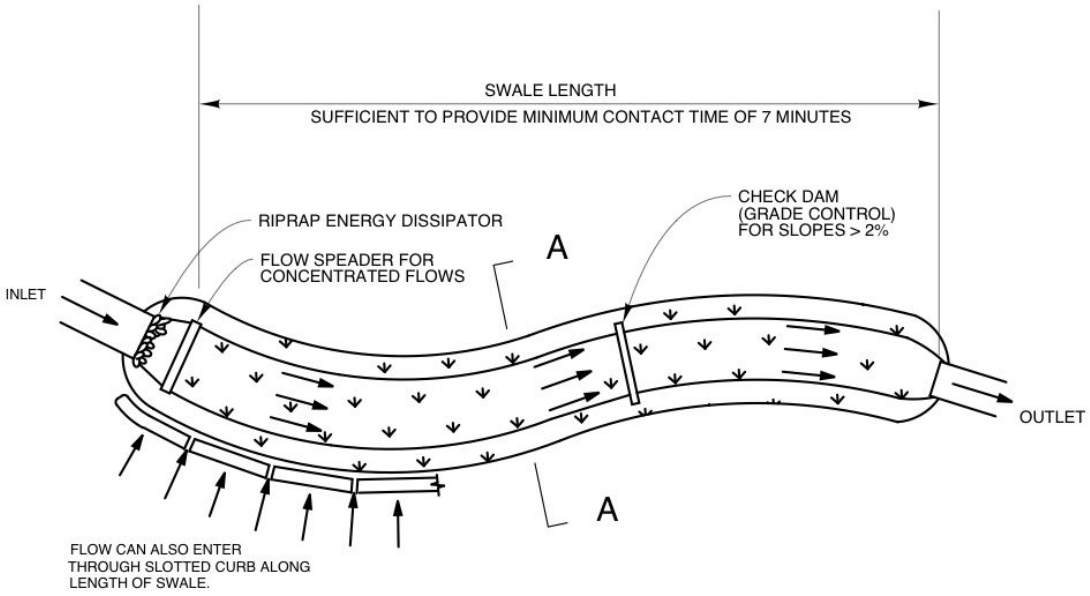
Long-Term Maintenance

The City and the County require execution of a maintenance agreement with the property owner prior to final acceptance of a private development project, which includes treatment controls such as Grassy Swales. Such agreements will typically include requirements such as those

outlined in **Table 6-30.** The property owner or his/her designee is responsible for compliance with the agreement. The maintenance agreement and plan will provide the City or County designee with complete access to the device and its immediate vicinity at any time. Maintenance of the device is the sole responsibility of the owner. A sample maintenance agreement is presented in **Appendix D**. See **Appendix E** for additional Maintenance Plan requirements and suggested template.

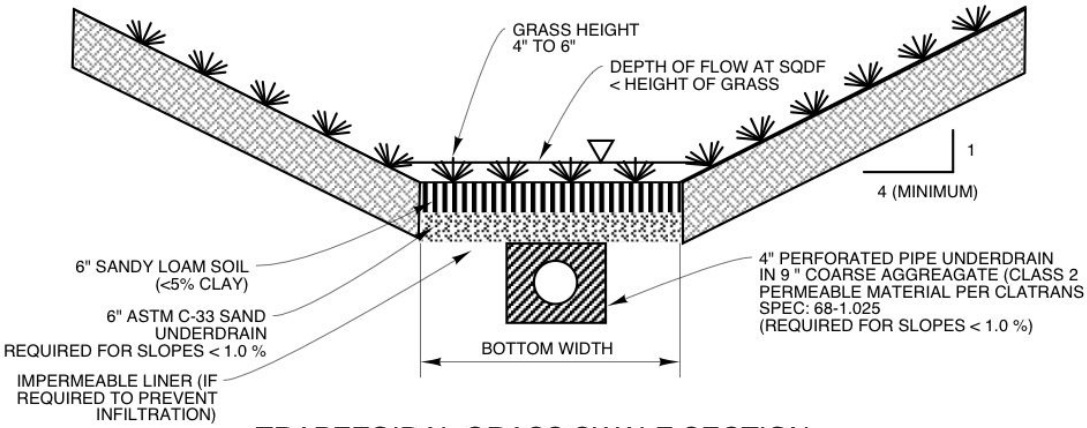
Table 6-30. Inspection and Maintenance Requirements for Grassy Swales

Activity	Schedule
Mow grass to maintain a height of 4 to 6 inches or above depth of flow at SQDF	As required
Remove grass clippings	As required
Use IPM techniques	As required
Remove trash and debris from the swale	As required
Inspect swale at for signs of erosion, vegetation damage/coverage, channelization problems, debris build-up, and excessive sedimentation in bottom of channel. Correct problems or remove debris and sediment as soon as possible.	At least twice annually. Schedule one inspection at the end of the wet season so that summer maintenance can be scheduled to prepare swale for wet season. Additional inspections after periods of heavy runoff are desirable.
Remove sediment in inlet areas, the channel, culverts, and outlets whenever flow into the swale is retarded or blocked	As required
Repair ruts or holes in the channel by removing vegetation, adding and tamping suitable soil, and reseeding. Replace damaged vegetation.	As required
Inspect swale for obstructions (e.g., debris accumulation, invasive vegetation) and pools of standing water that can provide mosquito-breeding habitat. Correct observed problems as soon as possible.	At least twice during the wet season after significant storms. Additional inspections after periods of heavy runoff are desirable.



TRAPEZOIDAL GRASS SWALE PLAN

NOT TO SCALE



TRAPEZOIDAL GRASS SWALE SECTION

NOT TO SCALE

ADAPTED FROM URBAN STORM DRAIN CRITERIA MANUAL VOL. 3 - BEST MANAGEMENT PRACTICES, URBAN DRAINAGE AND FLOOD CONTROL DISTRICT,11/99

Figure 6-13. Grassy Swale

The 2020 SWQCCP provides guidance for the selection and design of some of the common on-site stormwater treatment controls for new development. The standard treatment controls (L-1 through L-9 and C-1 through C-3) included in this Section are non-proprietary (public domain) designs that have been reviewed determined to be generally acceptable. Because the performance of these measures has already been demonstrated and reviewed by the City and the County, the plan check review and approval process will be routine for development projects that have selected one or more of these control measures from the SWQCCP.

The City and the County recognize, however, that these non-proprietary treatment controls may not be appropriate for all projects due to physical site constraints. Thus, if the VRR has been met through the use of VRMs (**Section 5**), the City or the County will allow the use of proprietary control measures that have been approved for general use by the City and County in those projects where the use of non-proprietary treatment controls (L-1 through L-9 and C-1 through C-3) have been demonstrated by the applicant to the satisfaction of the City or County to be infeasible or impractical. Proprietary devices that are approved by the City for general use are listed in **Appendix I** along with the sizing criteria and criteria used for approval. This list will be updated periodically when additional proprietary devices are added to the approved list.

In general, any proprietary device must be designed to treat the SQDV or the SQDF. However, use of alternative sizing criteria is allowed for certain devices as indicated in **Appendix I**. Procedures to calculate the SQDV and SQDF are provided in Fact Sheet T-0. Site runoff in excess of the design capacity may be diverted around or through the treatment device. Any proposed device must include all maintenance, operation, and construction requirements, as indicated in **Appendix E** and as recommended by the manufacturer.

The City and the County also recognize that in special cases, typically small in-fill projects, the use of City and the County approved general treatment controls, either non-proprietary or proprietary, may not be feasible due to physical site constraints. In these special cases, the City or County will consider the use of substitute proprietary devices in lieu of approved general use control measures. Such substitute devices typically provide a lower level of treatment than the approved general use treatment controls. In such cases where substitute devices are proposed, the applicant must demonstrate to the satisfaction of the City and the County by means of a thorough engineering analysis that use of approved general use control measures are not feasible. Proprietary devices that are approved by the City and the County as substitute devices are listed in **Appendix I** along with the sizing criteria and criteria used for approval. This list will be updated periodically when additional proprietary devices are added to the approved list.

The City and the County encourage the development of innovative stormwater control measures and may consider a limited number of promising alternative control measures that are not on the approved list in **Appendix I**, including proprietary devices, on a 'pilot basis.' In order for a pilot project to be considered for proprietary devices, the manufacturer and/or property owner must commit to participate and fund a monitoring program to verify the device's performance. Site designers should anticipate additional review time and contact the City or County stormwater staff early in the process to request consideration of pilot installation projects. If unsuccessful, property owner may be required to install additional stormwater control measures.

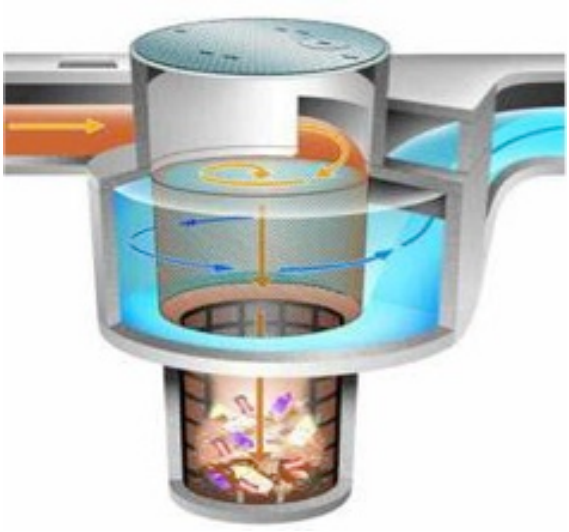


Diagram of a Hydrodynamic Trash Separator, an example trash capture device

Description

The Statewide Trash Amendments require (for Track 1) or encourage (for Track 2) the implementation and maintenance of FCS or other Treatment Controls. The two types of proprietary-based controls are defined below (for Multi-Benefit, public domain projects see L-1, L-4, L-5, and C-2):

- FCS - a treatment control, or series of treatment controls, including but not limited to, a multi-benefit project (e.g., a bioretention facility that meets volume reduction and trash control requirements, see L-1) or an LID control measure that traps all particles that are 5 mm or greater, and has a design treatment capacity that is either: a) of not less than the peak flow rate, Q, resulting from a one-year, one-hour storm in the subdrainage area, or b) appropriately sized to, and designed to carry at least the same flows as, the corresponding storm drain.
- Treatment Controls - structural BMPs to either (a) remove pollutants and/or solids from stormwater runoff, wastewater, or effluent, or (b) capture, infiltrate or reuse stormwater runoff, wastewater, or effluent. Treatment Controls include FCS and LID development controls.

Only those devices that have been approved by the State Water Board may be implemented to meet the Statewide Trash Amendment requirements. A list of the approved devices may be found at the following link: https://www.waterboards.ca.gov/water_issues/programs/stormwater/trash_implementation.html.

The State Water Board reserves the right to de-certify and remove any device from their approved list. The applicant must ensure that any proposed device is on the list, as linked above or subject to future revisions.

Maintenance Requirements

The City requires execution of a maintenance agreement with the property owner prior to final acceptance of a private development project, which includes treatment controls such as Trash Capture Devices. Such agreements will typically include requirements such as those outlined in **Table 6-41;** however the requirements are expected to be specific to each device and based on the manufacturer's recommendations.

The property owner or his/her designee is responsible for compliance with the agreement. The maintenance agreement and plan will provide the City designee with complete access to the device and its immediate vicinity at any time. Maintenance of the device is the sole responsibility

of the owner. Sample agreements are presented in **Appendix D**. See **Appendix E** for additional Maintenance Plan requirements and suggested template.

Table 6-41. Example Inspection and Maintenance Requirements for Trash Capture Devices

Activity	Schedule
Cleaning of hydrodynamic separators	A minimum of once per seasonal cycle. Additional inspections after periods of heavy runoff are desirable.
Cleaning of inlet filters.	A minimum of three times per seasonal cycle. Additional inspections after periods of heavy runoff are desirable.
Inspection and cleaning (applicable to all devices)	Follow manufacturers' recommendations to ensure devices operate at desired effectiveness. Make necessary repairs in a timely manner.

Appendix C

Air Quality, GHG and Energy Model Outputs

Appendix C-2 - Regulatory Setting

Federal Regulations

Energy Independence and Security Act of 2007

On December 19, 2007, President George W. Bush signed the Energy Independence and Security Act of 2007. Among other key measures, the Act would do the following, which would aid in the reduction of national GHG emissions:

1. Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
2. Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and directs National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
3. Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Clean Power Plan and New Source Performance Standards for Electric Generating Units

On October 23, 2015, EPA published a final rule (effective December 22, 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO_2 emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units, and (2) stationary combustion turbines. Concurrently, the EPA published a final rule (effective October 23, 2015) establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO_2 emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. The U.S. Supreme Court stayed implementation of the Clean Power Plan pending resolution of several lawsuits.

State Regulations

CARB's Regulations for the Mandatory Reporting of Greenhouse Gas Emissions

CARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (17 CCR 95100–95157) incorporated by reference certain requirements that EPA promulgated in its Final Rule on Mandatory Reporting of Greenhouse Gases (40 CFR, Part 98). Specifically, Section 95100(c) of the Mandatory Reporting Regulation incorporated those requirements that EPA 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 over 10,000 MT CO_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 MT CO_2e per year threshold are required to have their GHG emission report verified by a CARB-accredited third-party verified.

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% by 2015 and 20% 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.

SB 605 and SB 1383

SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants (SLCPs) in the state (California Health and Safety Code Section 39730); and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018 (Cal. Pub. Resources Code, § 42652-43654). SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for CH4 and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy (SLCP Reduction Strategy) in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, methane, and fluorinated gases (CARB 2017).

SB 1078

SB 1078 (Sher) (September 2002) established the Renewables Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (see SB 107, EO S-14-08, and S-21-09).

SB 1368

SB 1368 (September 2006) required the California Energy Commission (CEC) to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the California Public Utilities Commission (CPUC).

AB 1109

Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting, to reduce electricity consumption 50% for indoor residential lighting and 25% for indoor commercial lighting.

EO S-14-08

EO S-14-08 (November 2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. Furthermore, the EO directed state agencies to take appropriate actions to facilitate reaching this target. The Natural Resources Agency, through collaboration with the CEC and California Department of Fish and Wildlife was directed to lead this effort.

EO S-21-09 and SB X1-2

EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with the CPUC and CEC to ensure that the regulation builds upon the RPS program and was applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard. However, this regulation was not finalized because of subsequent legislation (SB X1-2, Simitian, statutes of 2011) signed by Governor Brown in April 2011.

SB X1 2 expanded the RPS by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB X1-2 applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet the renewable energy goals previously listed.

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-emission vehicles. It ordered CARB, CEC, 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 benchmark 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% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

EO N-79-20

Governor Newsom's EO N-79-20 (September 2020) sets a course to end the sale of new internal combustion passenger vehicles by 2035. The primary mechanism to facilitate achievement of this executive specific target is the ACC II program under development that is discussed above. The EO also

sets zero-emission vehicle penetration targets for medium- and heavy-duty vehicles, drayage trucks, as well as off-road vehicles and equipment.

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 upon substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provided for appeal of that decision to the planning commission, as specified. The bill provided that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of electric vehicle charging stations is a matter of statewide concern. The bill 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, as specified. The bill also required a city, county, or city and county with a population of less than 200,000 residents to adopt this ordinance by September 30, 2017.

Building Energy

Title 20

Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards.. Title 20 presents protocols for testing each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

California AB 1470 (Solar Water Heating)

This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. The bill requires the commission to evaluate the data available from a specified pilot program, and, if it makes a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

Mobile Sources

EO S-1-07

EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 and 20% by 2030 (17 CCR 95480 et seq.). The 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.

Water

Senate Bill X7-7

SB X7-7, or the Water Conservation Act of 2009, required that all water suppliers increase their water use efficiency with an overall goal of reducing per capita urban water use by 20% by December 31, 2020. Each urban water supplier was required to develop water use targets to meet this goal.

Executive Order B-29-15

In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become 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 has 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 its applicability to include new development projects with smaller landscape areas.

Executive Order N-10-21

In response to a state of emergency due to severe drought conditions, EO N-10-21 (July 2021) called on all Californians to voluntarily reduce their water use by 15% from their 2020 levels. Actions suggested in EO N-10-21 include reducing landscape irrigation, running dishwashers and washing machines only when full, finding and fixing leaks, installing water-efficient showerheads, taking shorter showers, using a shut-off nozzle on hoses, and taking cars to commercial car washes that use recycled water.

Other State Actions

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 (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The Natural Resources Agency adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended 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 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 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 its own thresholds of significance or those developed by other agencies or

experts. The CNRA also 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 (CNRA 2009).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) 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. 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 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 (CNRA 2009), and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014 (CNRA 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 (CNRA 2016). In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that state government should take to build climate change resiliency (CNRA 2018).

Amendments to the Small Off-Road Engine Regulations: Transition to Zero Emissions

On December 9, 2021, CARB approved proposed amendments to the SORE Regulations, which would require most newly manufactured small off-road engines (SORE), such as those found in leaf blowers, lawn mowers and other equipment, be zero emission starting in 2024. Portable generators, including those in recreational vehicles, would be required to meet more stringent standards in 2024 and meet zero-emission standards starting in 2028.

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St. Joseph's Medical Center - Construction (Phase 1) Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Construction (Phase 1)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.97057061841652, -121.28836137076809
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hospital	27,474	1000sqft	631	274,743	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.44	3.75	32.4	35.0	0.05	1.30	1.74	3.04	1.20	0.39	1.59	—	7,027	7,027	0.26	0.32	8.31	7,138
Mit.	4.44	3.75	32.4	35.0	0.05	1.30	1.74	3.04	1.20	0.39	1.59	—	7,027	7,027	0.26	0.32	8.31	7,138
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.37	3.68	32.7	33.8	0.05	1.40	19.8	21.2	1.29	10.1	11.4	—	6,931	6,931	0.27	0.32	0.22	7,035
Mit.	4.37	3.68	32.7	33.8	0.05	1.40	7.83	9.24	1.29	3.98	5.27	—	6,931	6,931	0.27	0.32	0.22	7,035
% Reduced	—	—	—	—	—	—	60%	56%	—	61%	54%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.02	1.69	14.5	15.6	0.03	0.57	1.02	1.48	0.53	0.49	0.74	—	3,370	3,370	0.12	0.18	2.04	3,429
Mit.	2.02	1.69	14.5	15.6	0.03	0.57	0.91	1.48	0.53	0.21	0.74	—	3,370	3,370	0.12	0.18	2.04	3,429
% Reduced	—	—	—	—	—	—	10%	—	—	57%	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.37	0.31	2.65	2.84	< 0.005	0.10	0.19	0.27	0.10	0.09	0.13	—	558	558	0.02	0.03	0.34	568
Mit.	0.37	0.31	2.65	2.84	< 0.005	0.10	0.17	0.27	0.10	0.04	0.13	—	558	558	0.02	0.03	0.34	568
% Reduced	—	—	—	—	—	—	10%	—	—	57%	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.44	3.75	32.4	35.0	0.05	1.30	1.74	3.04	1.20	0.39	1.59	—	7,027	7,027	0.26	0.32	8.31	7,138
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.37	3.68	32.6	33.8	0.05	1.30	1.74	3.04	1.20	0.39	1.59	—	6,931	6,931	0.27	0.32	0.22	7,035
2025	4.14	3.48	32.7	32.7	0.05	1.40	19.8	21.2	1.29	10.1	11.4	—	5,717	5,717	0.23	0.09	0.04	5,738
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.02	1.69	14.5	15.6	0.03	0.57	0.91	1.48	0.53	0.21	0.74	—	3,370	3,370	0.12	0.18	2.04	3,429
2025	0.51	0.43	3.96	4.02	0.01	0.17	1.02	1.18	0.15	0.49	0.64	—	714	714	0.03	0.01	0.08	718
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.37	0.31	2.65	2.84	< 0.005	0.10	0.17	0.27	0.10	0.04	0.13	—	558	558	0.02	0.03	0.34	568
2025	0.09	0.08	0.72	0.73	< 0.005	0.03	0.19	0.22	0.03	0.09	0.12	—	118	118	< 0.005	< 0.005	0.01	119

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.44	3.75	32.4	35.0	0.05	1.30	1.74	3.04	1.20	0.39	1.59	—	7,027	7,027	0.26	0.32	8.31	7,138
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.37	3.68	32.6	33.8	0.05	1.30	1.74	3.04	1.20	0.39	1.59	—	6,931	6,931	0.27	0.32	0.22	7,035
2025	4.14	3.48	32.7	32.7	0.05	1.40	7.83	9.24	1.29	3.98	5.27	—	5,717	5,717	0.23	0.09	0.04	5,738
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.02	1.69	14.5	15.6	0.03	0.57	0.91	1.48	0.53	0.21	0.74	—	3,370	3,370	0.12	0.18	2.04	3,429
2025	0.51	0.43	3.96	4.02	0.01	0.17	0.44	0.61	0.15	0.20	0.35	—	714	714	0.03	0.01	0.08	718
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.37	0.31	2.65	2.84	< 0.005	0.10	0.17	0.27	0.10	0.04	0.13	—	558	558	0.02	0.03	0.34	568
2025	0.09	0.08	0.72	0.73	< 0.005	0.03	0.08	0.11	0.03	0.04	0.06	—	118	118	< 0.005	< 0.005	0.01	119

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.62	24.9	21.7	0.03	1.06	—	1.06	0.98	—	0.98	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.42	0.42	—	0.06	0.06	—	—	—	—	—	—	—

Architect Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.62	24.9	21.7	0.03	1.06	—	1.06	0.98	—	0.98	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.42	0.42	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.31	1.10	10.4	9.10	0.01	0.44	—	0.44	0.41	—	0.41	—	1,434	1,434	0.06	0.01	—	1,439
Demolition	—	—	—	—	—	—	0.18	0.18	—	0.03	0.03	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.90	1.66	< 0.005	0.08	—	0.08	0.07	—	0.07	—	237	237	0.01	< 0.005	—	238
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.85	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	0.01	0.57	144
Vendor	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	0.00
Hauling	0.01	0.01	0.41	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	336	336	0.01	0.05	0.81	353
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.67	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	0.01	0.01	130
Vendor	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	0.00
Hauling	0.01	0.01	0.43	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	336	336	0.01	0.05	0.02	352
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	55.0	55.0	< 0.005	< 0.005	0.10	55.8
Vendor	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	0.00
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.15	148
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.10	9.10	< 0.005	< 0.005	0.02	9.24
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.3	23.3	< 0.005	< 0.005	0.02	24.4

3.2. Demolition (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.62	24.9	21.7	0.03	1.06	—	1.06	0.98	—	0.98	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.42	0.42	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.62	24.9	21.7	0.03	1.06	—	1.06	0.98	—	0.98	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.42	0.42	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.31	1.10	10.4	9.10	0.01	0.44	—	0.44	0.41	—	0.41	—	1,434	1,434	0.06	0.01	—	1,439
Demolition	—	—	—	—	—	—	0.18	0.18	—	0.03	0.03	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.90	1.66	< 0.005	0.08	—	0.08	0.07	—	0.07	—	237	237	0.01	< 0.005	—	238
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.85	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	142	142	0.01	0.01	0.57	144
Vendor	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	0.00
Hauling	0.01	0.01	0.41	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	336	336	0.01	0.05	0.81	353
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.67	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	0.01	0.01	130
Vendor	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	0.00
Hauling	0.01	0.01	0.43	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	336	336	0.01	0.05	0.02	352
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	55.0	55.0	< 0.005	< 0.005	0.10	55.8
Vendor	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	0.00
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.15	148
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.10	9.10	< 0.005	< 0.005	0.02	9.24
Vendor	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	0.00

Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.3	23.3	< 0.005	< 0.005	0.02	24.4

3.3. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.42	0.42	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	1.75	< 0.005	0.08	—	0.08	0.07	—	0.07	—	302	302	0.01	< 0.005	—	303
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.04	0.36	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.9	49.9	< 0.005	< 0.005	—	50.1
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.62	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	125	125	< 0.005	0.01	0.01	127
Vendor	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	0.00
Hauling	0.01	0.01	0.42	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	330	330	0.01	0.05	0.02	345
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.02	11.5
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	29.0	29.0	< 0.005	< 0.005	0.03	30.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.87	1.87	< 0.005	< 0.005	< 0.005	1.90
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.81	4.81	< 0.005	< 0.005	0.01	5.04

3.4. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.42	0.42	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	1.75	< 0.005	0.08	—	0.08	0.07	—	0.07	—	302	302	0.01	< 0.005	—	303
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.9	49.9	< 0.005	< 0.005	—	50.1
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Architectural	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.62	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	125	125	< 0.005	0.01	0.01	127
Vendor	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	0.00
Hauling	0.01	0.01	0.42	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	330	330	0.01	0.05	0.02	345
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.02	11.5
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	29.0	29.0	< 0.005	< 0.005	0.03	30.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.87	1.87	< 0.005	< 0.005	< 0.005	1.90
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.81	4.81	< 0.005	< 0.005	0.01	5.04

3.5. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movemen	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movemen	—	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movemen	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.07	0.72	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	146	146	< 0.005	0.01	0.02	148
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.11	4.11	< 0.005	< 0.005	0.01	4.17
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.68	0.68	< 0.005	< 0.005	< 0.005	0.69
Vendor	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	0.00
Hauling	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	0.00

3.6. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movemen	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movemen	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movemen	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.07	0.72	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	146	146	< 0.005	0.01	0.02	148
Vendor	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	0.00
Hauling	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.11	4.11	< 0.005	< 0.005	0.01	4.17
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.68	0.68	< 0.005	< 0.005	< 0.005	0.69
Vendor	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	0.00
Hauling	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	0.00

3.7. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	1.05	1.68	< 0.005	0.05	—	0.05	0.04	—	0.04	—	254	254	0.01	< 0.005	—	255
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	1.05	1.68	< 0.005	0.05	—	0.05	0.04	—	0.04	—	254	254	0.01	< 0.005	—	255

Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.21	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.7	49.7	< 0.005	< 0.005	—	49.9
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.24	8.24	< 0.005	< 0.005	—	8.26
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	23.6	23.6	< 0.005	< 0.005	0.09	24.0
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.3	21.3	< 0.005	< 0.005	< 0.005	21.6
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.28	4.28	< 0.005	< 0.005	0.01	4.35
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.72
Vendor	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	0.00
Hauling	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	0.00

3.8. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	1.05	1.68	< 0.005	0.05	—	0.05	0.04	—	0.04	—	254	254	0.01	< 0.005	—	255
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.12	0.10	1.05	1.68	< 0.005	0.05	—	0.05	0.04	—	0.04	—	254	254	0.01	< 0.005	—	255
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.21	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.7	49.7	< 0.005	< 0.005	—	49.9
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.24	8.24	< 0.005	< 0.005	—	8.26
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	23.6	23.6	< 0.005	< 0.005	0.09	24.0
Vendor	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	0.00
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.3	21.3	< 0.005	< 0.005	< 0.005	21.6
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.28	4.28	< 0.005	< 0.005	0.01	4.35
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.72
Vendor	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	0.00
Hauling	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	0.00

3.9. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.96	1.67	< 0.005	0.04	—	0.04	0.03	—	0.03	—	254	254	0.01	< 0.005	—	255

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	41.3	41.3	< 0.005	< 0.005	—	41.4
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.83	6.83	< 0.005	< 0.005	—	6.86
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	< 0.005	21.2
Vendor	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	0.00
Hauling	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.48	3.48	< 0.005	< 0.005	0.01	3.53
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.58	0.58	< 0.005	< 0.005	< 0.005	0.58
Vendor	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	0.00
Hauling	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	0.00

3.10. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.96	1.67	< 0.005	0.04	—	0.04	0.03	—	0.03	—	254	254	0.01	< 0.005	—	255
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	41.3	41.3	< 0.005	< 0.005	—	41.4

Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.83	6.83	< 0.005	< 0.005	—	6.86
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	< 0.005	21.2
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.48	3.48	< 0.005	< 0.005	0.01	3.53
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.58	0.58	< 0.005	< 0.005	< 0.005	0.58
Vendor	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	0.00

Hauling	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	0.00

3.11. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.07	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movement	—	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.94	1.03	< 0.005	0.04	—	0.04	0.04	—	0.04	—	170	170	0.01	< 0.005	—	171
Dust From Material Movement	—	—	—	—	—	—	0.41	0.41	—	0.20	0.20	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	28.2	28.2	< 0.005	< 0.005	—	28.3

Dust From Material Movemen	—	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.62	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	125	125	< 0.005	0.01	0.01	127
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.39	7.39	< 0.005	< 0.005	0.01	7.50
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.22	1.22	< 0.005	< 0.005	< 0.005	1.24
Vendor	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	0.00
Hauling	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	0.00

3.12. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.07	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movemen	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.94	1.03	< 0.005	0.04	—	0.04	0.04	—	0.04	—	170	170	0.01	< 0.005	—	171
Dust From Material Movemen	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	28.2	28.2	< 0.005	< 0.005	—	28.3
Dust From Material Movemen	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.62	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	125	125	< 0.005	0.01	0.01	127
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.39	7.39	< 0.005	< 0.005	0.01	7.50
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.22	1.22	< 0.005	< 0.005	< 0.005	1.24
Vendor	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	0.00
Hauling	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	0.00

3.13. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.48	4.03	4.91	0.01	0.17	—	0.17	0.16	—	0.16	—	718	718	0.03	0.01	—	720
Onsite truck	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.48	4.03	4.91	0.01	0.17	—	0.17	0.16	—	0.16	—	718	718	0.03	0.01	—	720
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.29	2.44	2.97	< 0.005	0.10	—	0.10	0.10	—	0.10	—	435	435	0.02	< 0.005	—	436
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.44	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	72.0	72.0	< 0.005	< 0.005	—	72.2
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.41	0.28	5.01	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	831	831	0.04	0.03	3.33	845
Vendor	0.08	0.05	1.65	0.57	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	1,297	1,297	0.02	0.20	3.51	1,360
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.36	0.36	3.96	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	751	751	0.05	0.03	0.09	761
Vendor	0.07	0.05	1.77	0.58	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	1,298	1,298	0.02	0.20	0.09	1,357
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.25	0.22	0.20	2.45	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	466	466	0.03	0.02	0.87	473
Vendor	0.05	0.03	1.04	0.35	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	785	785	0.01	0.12	0.92	822
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.45	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	77.1	77.1	< 0.005	< 0.005	0.14	78.3
Vendor	0.01	0.01	0.19	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	130	130	< 0.005	0.02	0.15	136
Hauling	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	0.00

3.14. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.48	4.03	4.91	0.01	0.17	—	0.17	0.16	—	0.16	—	718	718	0.03	0.01	—	720
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.48	4.03	4.91	0.01	0.17	—	0.17	0.16	—	0.16	—	718	718	0.03	0.01	—	720
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.29	2.44	2.97	< 0.005	0.10	—	0.10	0.10	—	0.10	—	435	435	0.02	< 0.005	—	436

Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.44	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	72.0	72.0	< 0.005	< 0.005	—	72.2
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.41	0.28	5.01	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	831	831	0.04	0.03	3.33	845
Vendor	0.08	0.05	1.65	0.57	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	1,297	1,297	0.02	0.20	3.51	1,360
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.36	0.36	3.96	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	751	751	0.05	0.03	0.09	761
Vendor	0.07	0.05	1.77	0.58	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	1,298	1,298	0.02	0.20	0.09	1,357
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.20	2.45	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	466	466	0.03	0.02	0.87	473
Vendor	0.05	0.03	1.04	0.35	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	785	785	0.01	0.12	0.92	822
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.45	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	77.1	77.1	< 0.005	< 0.005	0.14	78.3
Vendor	0.01	0.01	0.19	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	130	130	< 0.005	0.02	0.15	136
Hauling	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	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	6/1/2024	2/14/2025	5.00	185	—
Site Preparation	Site Preparation	2/16/2025	3/2/2025	5.00	10.0	—
Temporary Utility Lines	Grading	9/23/2024	3/24/2025	5.00	131	—
Grading	Grading	3/3/2025	3/31/2025	5.00	21.0	—

Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Building Construction	1/2/2024	11/5/2024	5.00	221	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Temporary Utility Lines	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Temporary Utility Lines	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20

Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	—	—	—	—
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Worker	87.9	11.9	LDA,LDT1,LDT2
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Vendor	45.0	9.10	HHDT,MHDT

Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Hauling	0.00	20.0	HHDT
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Onsite truck	—	—	HHDT
Temporary Utility Lines	—	—	—	—
Temporary Utility Lines	Worker	2.50	11.9	LDA,LDT1,LDT2
Temporary Utility Lines	Vendor	—	9.10	HHDT,MHDT
Temporary Utility Lines	Hauling	0.00	20.0	HHDT
Temporary Utility Lines	Onsite truck	—	—	HHDT
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	4.71	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	—	—	—	—
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Worker	87.9	11.9	LDA,LDT1,LDT2
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Vendor	45.0	9.10	HHDT,MHDT
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Hauling	0.00	20.0	HHDT
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Onsite truck	—	—	HHDT
Temporary Utility Lines	—	—	—	—
Temporary Utility Lines	Worker	2.50	11.9	LDA,LDT1,LDT2
Temporary Utility Lines	Vendor	—	9.10	HHDT,MHDT
Temporary Utility Lines	Hauling	0.00	20.0	HHDT
Temporary Utility Lines	Onsite truck	—	—	HHDT
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	4.71	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	15.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Demolition	0.00	0.00	412,115	137,372	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	75,698	—
Site Preparation	—	—	15.0	0.00	—
Temporary Utility Lines	—	—	0.00	0.00	—
Grading	—	—	21.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hospital	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Phase 1 involves demolishing existing buildings. 6.31 acres graded after demolition of structures/asphalt.
Construction: Construction Phases	Phase 1 assumed to begin January 2024.
Construction: Off-Road Equipment	Adjusted equipment per applicant input.

St. Joseph's Medical Center - Construction (Phase 4) Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Construction (Phase 4)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.97090013259066, -121.28866353226837
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hospital	5.00	1000sqft	0.11	5,408	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.54	0.45	4.14	6.97	0.01	0.14	0.02	0.16	0.13	0.01	0.13	—	1,342	1,342	0.05	0.01	0.08	1,348
Mit.	0.54	0.45	4.14	6.97	0.01	0.14	0.02	0.16	0.13	0.01	0.13	—	1,342	1,342	0.05	0.01	0.08	1,348
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.55	0.47	4.34	6.97	0.01	0.15	0.40	0.51	0.14	0.07	0.18	—	1,342	1,342	0.05	0.04	0.02	1,348
Mit.	0.55	0.47	4.34	6.97	0.01	0.15	0.40	0.51	0.14	0.07	0.18	—	1,342	1,342	0.05	0.04	0.02	1,348
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.39	0.32	2.96	4.97	0.01	0.10	0.02	0.11	0.09	< 0.005	0.09	—	958	958	0.04	0.01	0.02	962
Mit.	0.39	0.32	2.96	4.97	0.01	0.10	0.02	0.11	0.09	< 0.005	0.09	—	958	958	0.04	0.01	0.02	962
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.07	0.06	0.54	0.91	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	—	159	159	0.01	< 0.005	< 0.005	159
Mit.	0.07	0.06	0.54	0.91	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	—	159	159	0.01	< 0.005	< 0.005	159
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2029	0.54	0.45	4.14	6.97	0.01	0.14	0.02	0.16	0.13	0.01	0.13	—	1,342	1,342	0.05	0.01	0.08	1,348
2030	0.53	0.44	4.04	6.96	0.01	0.13	0.02	0.15	0.12	0.01	0.12	—	1,341	1,341	0.05	0.01	0.07	1,347
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.55	0.47	4.34	6.97	0.01	0.15	0.40	0.51	0.14	0.07	0.18	—	1,342	1,342	0.05	0.04	0.02	1,348
2029	0.54	0.45	4.15	6.96	0.01	0.14	0.02	0.16	0.13	0.01	0.13	—	1,340	1,340	0.05	0.01	< 0.005	1,346
2030	0.53	0.44	4.04	6.95	0.01	0.13	0.02	0.15	0.12	0.01	0.12	—	1,340	1,340	0.05	0.01	< 0.005	1,345
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.04	0.03	0.29	0.42	< 0.005	0.01	0.02	0.03	0.01	< 0.005	0.01	—	80.7	80.7	< 0.005	< 0.005	0.02	81.6
2029	0.39	0.32	2.96	4.97	0.01	0.10	0.01	0.11	0.09	< 0.005	0.09	—	958	958	0.04	0.01	0.02	962
2030	0.22	0.18	1.68	2.88	0.01	0.05	0.01	0.06	0.05	< 0.005	0.05	—	556	556	0.02	0.01	0.01	558
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.01	0.01	0.05	0.08	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	< 0.005	13.5
2029	0.07	0.06	0.54	0.91	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	—	159	159	0.01	< 0.005	< 0.005	159
2030	0.04	0.03	0.31	0.53	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	92.0	92.0	< 0.005	< 0.005	< 0.005	92.4

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2029	0.54	0.45	4.14	6.97	0.01	0.14	0.02	0.16	0.13	0.01	0.13	—	1,342	1,342	0.05	0.01	0.08	1,348
2030	0.53	0.44	4.04	6.96	0.01	0.13	0.02	0.15	0.12	0.01	0.12	—	1,341	1,341	0.05	0.01	0.07	1,347
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.55	0.47	4.34	6.97	0.01	0.15	0.40	0.51	0.14	0.07	0.18	—	1,342	1,342	0.05	0.04	0.02	1,348
2029	0.54	0.45	4.15	6.96	0.01	0.14	0.02	0.16	0.13	0.01	0.13	—	1,340	1,340	0.05	0.01	< 0.005	1,346
2030	0.53	0.44	4.04	6.95	0.01	0.13	0.02	0.15	0.12	0.01	0.12	—	1,340	1,340	0.05	0.01	< 0.005	1,345
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.04	0.03	0.29	0.42	< 0.005	0.01	0.02	0.03	0.01	< 0.005	0.01	—	80.7	80.7	< 0.005	< 0.005	0.02	81.6
2029	0.39	0.32	2.96	4.97	0.01	0.10	0.01	0.11	0.09	< 0.005	0.09	—	958	958	0.04	0.01	0.02	962
2030	0.22	0.18	1.68	2.88	0.01	0.05	0.01	0.06	0.05	< 0.005	0.05	—	556	556	0.02	0.01	0.01	558
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.01	0.01	0.05	0.08	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	< 0.005	13.5
2029	0.07	0.06	0.54	0.91	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	—	159	159	0.01	< 0.005	< 0.005	159
2030	0.04	0.03	0.31	0.53	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	92.0	92.0	< 0.005	< 0.005	< 0.005	92.4

3. Construction Emissions Details

3.1. Demolition (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	0.41	3.84	5.55	0.01	0.11	—	0.11	0.10	—	0.10	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.26	0.26	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.0	49.0	< 0.005	< 0.005	—	49.2
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.11	8.11	< 0.005	< 0.005	—	8.14
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	79.0	79.0	< 0.005	< 0.005	0.01	80.1
Vendor	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	0.00
Hauling	0.01	< 0.005	0.25	0.06	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	196	196	< 0.005	0.03	0.01	205
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.66	4.66	< 0.005	< 0.005	0.01	4.73
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.87	1.87	< 0.005	< 0.005	< 0.005	1.96

3.2. Demolition (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	0.41	3.84	5.55	0.01	0.11	—	0.11	0.10	—	0.10	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.26	0.26	—	0.04	0.04	—	—	—	—	—	—	—

Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.0	49.0	< 0.005	< 0.005	—	49.2
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.11	8.11	< 0.005	< 0.005	—	8.14
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	79.0	79.0	< 0.005	< 0.005	0.01	80.1
Vendor	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	0.00
Hauling	0.01	< 0.005	0.25	0.06	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	196	196	< 0.005	0.03	0.01	205
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.66	4.66	< 0.005	< 0.005	0.01	4.73
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.01	11.8

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.87	1.87	< 0.005	< 0.005	< 0.005	1.96

3.3. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.46	4.30	6.91	0.01	0.15	—	0.15	0.14	—	0.14	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.7	13.7	< 0.005	< 0.005	< 0.005	13.9
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.6	23.6	< 0.005	< 0.005	< 0.005	24.6
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.17
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.29
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Hauling	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	0.00

3.4. Building Construction (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.46	4.30	6.91	0.01	0.15	—	0.15	0.14	—	0.14	—	1,305	1,305	0.05	0.01	—	1,309

Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.7	13.7	< 0.005	< 0.005	< 0.005	13.9
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.6	23.6	< 0.005	< 0.005	< 0.005	24.6
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.16	0.16	< 0.005	< 0.005	< 0.005	0.17
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.29
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Hauling	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	0.00

3.5. Building Construction (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.45	4.11	6.89	0.01	0.14	—	0.14	0.13	—	0.13	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.45	4.11	6.89	0.01	0.14	—	0.14	0.13	—	0.13	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	0.32	2.94	4.92	0.01	0.10	—	0.10	0.09	—	0.09	—	932	932	0.04	0.01	—	935
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.54	0.90	< 0.005	0.02	—	0.02	0.02	—	0.02	—	154	154	0.01	< 0.005	—	155
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.8	14.8	< 0.005	< 0.005	0.04	14.9
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.9	22.9	< 0.005	< 0.005	0.04	24.0
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	< 0.005	13.6
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.9	22.9	< 0.005	< 0.005	< 0.005	24.0
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.83	9.83	< 0.005	< 0.005	0.01	9.97
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.4	16.4	< 0.005	< 0.005	0.01	17.1
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.63	1.63	< 0.005	< 0.005	< 0.005	1.65
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.71	2.71	< 0.005	< 0.005	< 0.005	2.84
Hauling	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	0.00

3.6. Building Construction (2029) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.53	0.45	4.11	6.89	0.01	0.14	—	0.14	0.13	—	0.13	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.45	4.11	6.89	0.01	0.14	—	0.14	0.13	—	0.13	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	0.32	2.94	4.92	0.01	0.10	—	0.10	0.09	—	0.09	—	932	932	0.04	0.01	—	935
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.54	0.90	< 0.005	0.02	—	0.02	0.02	—	0.02	—	154	154	0.01	< 0.005	—	155
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.8	14.8	< 0.005	< 0.005	0.04	14.9
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.9	22.9	< 0.005	< 0.005	0.04	24.0
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.4	13.4	< 0.005	< 0.005	< 0.005	13.6

Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.9	22.9	< 0.005	< 0.005	< 0.005	24.0
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.83	9.83	< 0.005	< 0.005	0.01	9.97
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.4	16.4	< 0.005	< 0.005	0.01	17.1
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.63	1.63	< 0.005	< 0.005	< 0.005	1.65
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.71	2.71	< 0.005	< 0.005	< 0.005	2.84
Hauling	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	0.00

3.7. Building Construction (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.44	4.01	6.89	0.01	0.13	—	0.13	0.12	—	0.12	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.44	4.01	6.89	0.01	0.13	—	0.13	0.12	—	0.12	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.66	2.86	< 0.005	0.05	—	0.05	0.05	—	0.05	—	541	541	0.02	< 0.005	—	543
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.30	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	89.6	89.6	< 0.005	< 0.005	—	89.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	0.03	14.7
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.2	22.2	< 0.005	< 0.005	0.04	23.3
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.2	13.2	< 0.005	< 0.005	< 0.005	13.4
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.3	22.3	< 0.005	< 0.005	< 0.005	23.3
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.62	5.62	< 0.005	< 0.005	0.01	5.70
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.23	9.23	< 0.005	< 0.005	0.01	9.66
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.93	0.93	< 0.005	< 0.005	< 0.005	0.94

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.53	1.53	< 0.005	< 0.005	< 0.005	1.60
Hauling	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	0.00

3.8. Building Construction (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.44	4.01	6.89	0.01	0.13	—	0.13	0.12	—	0.12	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.44	4.01	6.89	0.01	0.13	—	0.13	0.12	—	0.12	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.66	2.86	< 0.005	0.05	—	0.05	0.05	—	0.05	—	541	541	0.02	< 0.005	—	543
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.30	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	89.6	89.6	< 0.005	< 0.005	—	89.9
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.6	14.6	< 0.005	< 0.005	0.03	14.7
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.2	22.2	< 0.005	< 0.005	0.04	23.3
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.2	13.2	< 0.005	< 0.005	< 0.005	13.4
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	22.3	22.3	< 0.005	< 0.005	< 0.005	23.3
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.62	5.62	< 0.005	< 0.005	0.01	5.70
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.23	9.23	< 0.005	< 0.005	0.01	9.66
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.93	0.93	< 0.005	< 0.005	< 0.005	0.94
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.53	1.53	< 0.005	< 0.005	< 0.005	1.60
Hauling	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	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetatio	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	11/27/2028	12/25/2028	5.00	21.0	—
Facade Improvements and Interior Renovation	Building Construction	12/26/2028	7/31/2030	5.00	417	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73

Facade Improvements and Interior Renovation	Cranes	Diesel	Average	1.00	4.00	367	0.29
Facade Improvements and Interior Renovation	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Facade Improvements and Interior Renovation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Facade Improvements and Interior Renovation	Cranes	Diesel	Average	1.00	4.00	367	0.29
Facade Improvements and Interior Renovation	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Facade Improvements and Interior Renovation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	3.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT

Facade Improvements and Interior Renovation	—	—	—	—
Facade Improvements and Interior Renovation	Worker	1.73	11.9	LDA,LDT1,LDT2
Facade Improvements and Interior Renovation	Vendor	0.89	9.10	HHDT,MHDT
Facade Improvements and Interior Renovation	Hauling	0.00	20.0	HHDT
Facade Improvements and Interior Renovation	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	10.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	3.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Facade Improvements and Interior Renovation	—	—	—	—
Facade Improvements and Interior Renovation	Worker	1.73	11.9	LDA,LDT1,LDT2
Facade Improvements and Interior Renovation	Vendor	0.89	9.10	HHDT,MHDT
Facade Improvements and Interior Renovation	Hauling	0.00	20.0	HHDT
Facade Improvements and Interior Renovation	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	5,408	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hospital	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2028	0.00	204	0.03	< 0.005
2029	0.00	204	0.03	< 0.005
2030	0.00	204	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Phase 4 includes only demolition to 4th floor of the north wing and façade improvements.
Construction: Construction Phases	Phase 4 assumed to begin November 2028.

St. Joseph's Medical Center - Construction (Phase 3) Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Construction (Phase 3)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.97041376041882, -121.28841921708326
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hospital	331	1000sqft	7.60	331,000	0.00	0.00	—	—
Unrefrigerated Warehouse-No Rail	37.0	1000sqft	0.85	37,000	0.00	0.00	—	—

Other Asphalt Surfaces	4.00	1000sqft	0.09	0.00	0.00	0.00	—	—
Parking Lot	86.0	Space	0.77	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.13	1.85	14.4	23.9	0.04	0.45	1.54	2.00	0.42	0.38	0.80	—	5,882	5,882	0.18	0.31	7.89	5,985
Mit.	2.13	1.85	14.4	23.9	0.04	0.45	1.54	2.00	0.42	0.38	0.80	—	5,882	5,882	0.18	0.31	7.89	5,985
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.31	82.3	18.8	23.1	0.04	0.78	7.48	8.25	0.72	3.53	4.24	—	5,835	5,835	0.19	0.32	0.23	5,936
Mit.	2.31	82.3	18.8	23.1	0.04	0.78	3.15	3.93	0.72	1.44	2.15	—	5,835	5,835	0.19	0.32	0.23	5,936
% Reduced	—	—	—	—	—	—	58%	52%	—	59%	49%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	1.34	5.84	9.27	14.6	0.03	0.29	1.05	1.33	0.27	0.26	0.52	—	3,679	3,679	0.12	0.23	2.44	3,751
Mit.	1.34	5.84	9.27	14.6	0.03	0.29	1.05	1.33	0.27	0.26	0.52	—	3,679	3,679	0.12	0.23	2.44	3,751
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.25	1.07	1.69	2.67	< 0.005	0.05	0.19	0.24	0.05	0.05	0.10	—	609	609	0.02	0.04	0.40	621
Mit.	0.25	1.07	1.69	2.67	< 0.005	0.05	0.19	0.24	0.05	0.05	0.10	—	609	609	0.02	0.04	0.40	621
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.88	1.60	12.2	19.5	0.04	0.40	1.48	1.88	0.37	0.37	0.74	—	5,174	5,174	0.15	0.31	7.89	5,279
2027	1.81	1.53	11.6	19.0	0.04	0.36	1.48	1.84	0.33	0.37	0.70	—	5,121	5,121	0.15	0.31	7.01	5,225
2028	2.13	1.85	14.4	23.9	0.04	0.45	1.54	2.00	0.42	0.38	0.80	—	5,882	5,882	0.18	0.31	6.37	5,985
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.31	1.93	18.8	21.3	0.04	0.78	7.48	8.25	0.72	3.53	4.24	—	5,122	5,122	0.16	0.31	0.23	5,220
2026	1.85	1.56	12.4	18.3	0.04	0.40	1.48	1.88	0.37	0.37	0.74	—	5,070	5,070	0.16	0.31	0.20	5,168
2027	2.21	1.90	15.3	23.1	0.04	0.51	1.54	2.05	0.47	0.38	0.85	—	5,835	5,835	0.19	0.32	0.19	5,936
2028	2.10	82.3	14.6	22.8	0.04	0.45	1.54	2.00	0.42	0.38	0.80	—	5,776	5,776	0.19	0.31	0.17	5,873
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.30	0.25	2.17	2.83	0.01	0.08	0.54	0.62	0.08	0.22	0.30	—	694	694	0.02	0.04	0.40	706

2026	1.32	1.12	8.80	13.1	0.03	0.29	1.04	1.33	0.27	0.26	0.52	—	3,638	3,638	0.11	0.22	2.44	3,711
2027	1.29	1.11	8.70	13.4	0.03	0.27	1.05	1.32	0.25	0.26	0.51	—	3,679	3,679	0.11	0.23	2.17	3,751
2028	1.34	5.84	9.27	14.6	0.03	0.29	0.96	1.25	0.27	0.24	0.50	—	3,675	3,675	0.12	0.19	1.73	3,737
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.05	0.05	0.40	0.52	< 0.005	0.02	0.10	0.11	0.01	0.04	0.05	—	115	115	< 0.005	0.01	0.07	117
2026	0.24	0.20	1.61	2.40	< 0.005	0.05	0.19	0.24	0.05	0.05	0.10	—	602	602	0.02	0.04	0.40	614
2027	0.24	0.20	1.59	2.44	< 0.005	0.05	0.19	0.24	0.05	0.05	0.09	—	609	609	0.02	0.04	0.36	621
2028	0.25	1.07	1.69	2.67	< 0.005	0.05	0.18	0.23	0.05	0.04	0.09	—	608	608	0.02	0.03	0.29	619

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.88	1.60	12.2	19.5	0.04	0.40	1.48	1.88	0.37	0.37	0.74	—	5,174	5,174	0.15	0.31	7.89	5,279
2027	1.81	1.53	11.6	19.0	0.04	0.36	1.48	1.84	0.33	0.37	0.70	—	5,121	5,121	0.15	0.31	7.01	5,225
2028	2.13	1.85	14.4	23.9	0.04	0.45	1.54	2.00	0.42	0.38	0.80	—	5,882	5,882	0.18	0.31	6.37	5,985
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.31	1.93	18.8	21.3	0.04	0.78	3.15	3.93	0.72	1.44	2.15	—	5,122	5,122	0.16	0.31	0.23	5,220
2026	1.85	1.56	12.4	18.3	0.04	0.40	1.48	1.88	0.37	0.37	0.74	—	5,070	5,070	0.16	0.31	0.20	5,168
2027	2.21	1.90	15.3	23.1	0.04	0.51	1.54	2.05	0.47	0.38	0.85	—	5,835	5,835	0.19	0.32	0.19	5,936
2028	2.10	82.3	14.6	22.8	0.04	0.45	1.54	2.00	0.42	0.38	0.80	—	5,776	5,776	0.19	0.31	0.17	5,873
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.30	0.25	2.17	2.83	0.01	0.08	0.30	0.38	0.08	0.11	0.19	—	694	694	0.02	0.04	0.40	706
2026	1.32	1.12	8.80	13.1	0.03	0.29	1.04	1.33	0.27	0.26	0.52	—	3,638	3,638	0.11	0.22	2.44	3,711

2027	1.29	1.11	8.70	13.4	0.03	0.27	1.05	1.32	0.25	0.26	0.51	—	3,679	3,679	0.11	0.23	2.17	3,751
2028	1.34	5.84	9.27	14.6	0.03	0.29	0.96	1.25	0.27	0.24	0.50	—	3,675	3,675	0.12	0.19	1.73	3,737
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.05	0.05	0.40	0.52	< 0.005	0.02	0.05	0.07	0.01	0.02	0.03	—	115	115	< 0.005	0.01	0.07	117
2026	0.24	0.20	1.61	2.40	< 0.005	0.05	0.19	0.24	0.05	0.05	0.10	—	602	602	0.02	0.04	0.40	614
2027	0.24	0.20	1.59	2.44	< 0.005	0.05	0.19	0.24	0.05	0.05	0.09	—	609	609	0.02	0.04	0.36	621
2028	0.25	1.07	1.69	2.67	< 0.005	0.05	0.18	0.23	0.05	0.04	0.09	—	608	608	0.02	0.03	0.29	619

3. Construction Emissions Details

3.1. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.20	1.85	17.6	20.3	0.03	0.76	—	0.76	0.70	—	0.70	—	3,342	3,342	0.14	0.03	—	3,353
Dust From Material Movemen	—	—	—	—	—	—	7.09	7.09	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.12	0.10	0.96	1.11	< 0.005	0.04	—	0.04	0.04	—	0.04	—	183	183	0.01	< 0.005	—	184
Dust From Material Movemen	—	—	—	—	—	—	0.39	0.39	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.18	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.3	30.3	< 0.005	< 0.005	—	30.4
Dust From Material Movemen	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.07	0.72	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	146	146	< 0.005	0.01	0.02	148
Vendor	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	0.00
Hauling	0.04	0.01	1.16	0.26	0.01	0.02	0.24	0.26	0.02	0.07	0.08	—	907	907	0.02	0.14	0.06	950
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.22	8.22	< 0.005	< 0.005	0.01	8.34
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.7	49.7	< 0.005	0.01	0.05	52.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.36	1.36	< 0.005	< 0.005	< 0.005	1.38
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.23	8.23	< 0.005	< 0.005	0.01	8.62

3.2. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.20	1.85	17.6	20.3	0.03	0.76	—	0.76	0.70	—	0.70	—	3,342	3,342	0.14	0.03	—	3,353
Dust From Material Movement	—	—	—	—	—	—	2.77	2.77	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.96	1.11	< 0.005	0.04	—	0.04	0.04	—	0.04	—	183	183	0.01	< 0.005	—	184
Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.18	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.3	30.3	< 0.005	< 0.005	—	30.4
Dust From Material Movemen	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.07	0.72	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	146	146	< 0.005	0.01	0.02	148
Vendor	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	0.00
Hauling	0.04	0.01	1.16	0.26	0.01	0.02	0.24	0.26	0.02	0.07	0.08	—	907	907	0.02	0.14	0.06	950
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.22	8.22	< 0.005	< 0.005	0.01	8.34
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	49.7	49.7	< 0.005	0.01	0.05	52.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.36	1.36	< 0.005	< 0.005	< 0.005	1.38
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.23	8.23	< 0.005	< 0.005	0.01	8.62

3.3. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.92	1.15	< 0.005	0.04	—	0.04	0.03	—	0.03	—	211	211	0.01	< 0.005	—	212
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.1
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.51	0.47	0.46	5.03	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	1,015	1,015	0.03	0.04	0.11	1,029
Vendor	0.09	0.05	2.26	0.74	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,709	1,709	0.03	0.25	0.12	1,785
Hauling	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.45	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	91.6	91.6	< 0.005	< 0.005	0.16	93.0
Vendor	0.01	< 0.005	0.19	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	150	150	< 0.005	0.02	0.18	157
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.2	15.2	< 0.005	< 0.005	0.03	15.4
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.9	24.9	< 0.005	< 0.005	0.03	26.0
Hauling	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	0.00

3.4. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.92	1.15	< 0.005	0.04	—	0.04	0.03	—	0.03	—	211	211	0.01	< 0.005	—	212
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.17	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.1
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.51	0.47	0.46	5.03	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	1,015	1,015	0.03	0.04	0.11	1,029
Vendor	0.09	0.05	2.26	0.74	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,709	1,709	0.03	0.25	0.12	1,785
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.45	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	91.6	91.6	< 0.005	< 0.005	0.16	93.0
Vendor	0.01	< 0.005	0.19	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	150	150	< 0.005	0.02	0.18	157
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.2	15.2	< 0.005	< 0.005	0.03	15.4
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.9	24.9	< 0.005	< 0.005	0.03	26.0
Hauling	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	0.00

3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.77	7.04	9.26	0.02	0.27	—	0.27	0.25	—	0.25	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.52	0.48	0.31	5.85	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	1,100	1,100	0.02	0.04	3.77	1,116
Vendor	0.09	0.05	2.03	0.68	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,677	1,677	0.03	0.25	4.12	1,757
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.44	0.39	4.63	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	994	994	0.03	0.04	0.10	1,008
Vendor	0.09	0.05	2.16	0.71	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,678	1,678	0.03	0.25	0.11	1,754
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.35	0.32	0.25	3.39	0.00	0.00	0.72	0.72	0.00	0.17	0.17	—	728	728	0.02	0.03	1.16	739
Vendor	0.06	0.04	1.51	0.50	0.01	0.02	0.32	0.34	0.02	0.09	0.11	—	1,198	1,198	0.02	0.18	1.27	1,254
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.62	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	< 0.005	0.01	0.19	122
Vendor	0.01	0.01	0.28	0.09	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	198	198	< 0.005	0.03	0.21	208
Hauling	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	0.00

3.6. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.77	7.04	9.26	0.02	0.27	—	0.27	0.25	—	0.25	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.52	0.48	0.31	5.85	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	1,100	1,100	0.02	0.04	3.77	1,116
Vendor	0.09	0.05	2.03	0.68	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,677	1,677	0.03	0.25	4.12	1,757
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.44	0.39	4.63	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	994	994	0.03	0.04	0.10	1,008
Vendor	0.09	0.05	2.16	0.71	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,678	1,678	0.03	0.25	0.11	1,754
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.35	0.32	0.25	3.39	0.00	0.00	0.72	0.72	0.00	0.17	0.17	—	728	728	0.02	0.03	1.16	739
Vendor	0.06	0.04	1.51	0.50	0.01	0.02	0.32	0.34	0.02	0.09	0.11	—	1,198	1,198	0.02	0.18	1.27	1,254

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.62	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	< 0.005	0.01	0.19	122
Vendor	0.01	0.01	0.28	0.09	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	198	198	< 0.005	0.03	0.21	208
Hauling	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	0.00

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.71	9.24	0.02	0.24	—	0.24	0.22	—	0.22	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.16	0.13	1.22	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	283	283	0.01	< 0.005	—	284
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.45	0.27	5.44	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	1,083	1,083	0.02	0.04	3.40	1,098
Vendor	0.09	0.05	1.94	0.65	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,642	1,642	0.03	0.25	3.62	1,721
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.43	0.42	0.35	4.28	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	979	979	0.03	0.04	0.09	992
Vendor	0.09	0.05	2.07	0.68	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,643	1,643	0.03	0.25	0.09	1,719
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.30	0.22	3.15	0.00	0.00	0.72	0.72	0.00	0.17	0.17	—	717	717	0.02	0.03	1.05	727
Vendor	0.06	0.04	1.45	0.47	0.01	0.02	0.32	0.34	0.02	0.09	0.11	—	1,173	1,173	0.02	0.18	1.11	1,229
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	119	119	< 0.005	0.01	0.17	120
Vendor	0.01	0.01	0.26	0.09	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	194	194	< 0.005	0.03	0.18	203
Hauling	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	0.00

3.8. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.71	9.24	0.02	0.24	—	0.24	0.22	—	0.22	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	283	283	0.01	< 0.005	—	284
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.45	0.27	5.44	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	1,083	1,083	0.02	0.04	3.40	1,098
Vendor	0.09	0.05	1.94	0.65	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,642	1,642	0.03	0.25	3.62	1,721
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.43	0.42	0.35	4.28	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	979	979	0.03	0.04	0.09	992
Vendor	0.09	0.05	2.07	0.68	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,643	1,643	0.03	0.25	0.09	1,719
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.31	0.30	0.22	3.15	0.00	0.00	0.72	0.72	0.00	0.17	0.17	—	717	717	0.02	0.03	1.05	727
Vendor	0.06	0.04	1.45	0.47	0.01	0.02	0.32	0.34	0.02	0.09	0.11	—	1,173	1,173	0.02	0.18	1.11	1,229
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.04	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	119	119	< 0.005	0.01	0.17	120
Vendor	0.01	0.01	0.26	0.09	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	194	194	< 0.005	0.03	0.18	203
Hauling	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	0.00

3.9. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	0.62	5.55	8.05	0.01	0.19	—	0.19	0.17	—	0.17	—	1,492	1,492	0.06	0.01	—	1,497
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.01	1.47	< 0.005	0.03	—	0.03	0.03	—	0.03	—	247	247	0.01	< 0.005	—	248
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.43	0.26	5.06	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	1,062	1,062	0.02	0.04	3.04	1,077
Vendor	0.07	0.05	1.87	0.63	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,602	1,602	0.03	0.24	3.15	1,677
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.41	0.36	0.31	4.00	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	960	960	0.02	0.04	0.08	973
Vendor	0.07	0.05	1.99	0.65	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,604	1,604	0.03	0.24	0.08	1,676
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.23	0.19	2.54	0.00	0.00	0.63	0.63	0.00	0.15	0.15	—	612	612	0.01	0.02	0.82	621
Vendor	0.04	0.03	1.21	0.40	0.01	0.02	0.28	0.30	0.02	0.08	0.09	—	997	997	0.02	0.15	0.84	1,043

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.46	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	101	101	< 0.005	< 0.005	0.14	103
Vendor	0.01	0.01	0.22	0.07	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	165	165	< 0.005	0.02	0.14	173
Hauling	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	0.00

3.10. Building Construction (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	0.62	5.55	8.05	0.01	0.19	—	0.19	0.17	—	0.17	—	1,492	1,492	0.06	0.01	—	1,497
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	0.11	1.01	1.47	< 0.005	0.03	—	0.03	0.03	—	0.03	—	247	247	0.01	< 0.005	—	248
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.43	0.26	5.06	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	1,062	1,062	0.02	0.04	3.04	1,077
Vendor	0.07	0.05	1.87	0.63	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,602	1,602	0.03	0.24	3.15	1,677
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.41	0.36	0.31	4.00	0.00	0.00	1.02	1.02	0.00	0.24	0.24	—	960	960	0.02	0.04	0.08	973
Vendor	0.07	0.05	1.99	0.65	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	1,604	1,604	0.03	0.24	0.08	1,676
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.23	0.19	2.54	0.00	0.00	0.63	0.63	0.00	0.15	0.15	—	612	612	0.01	0.02	0.82	621
Vendor	0.04	0.03	1.21	0.40	0.01	0.02	0.28	0.30	0.02	0.08	0.09	—	997	997	0.02	0.15	0.84	1,043
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.03	0.46	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	101	101	< 0.005	< 0.005	0.14	103
Vendor	0.01	0.01	0.22	0.07	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	165	165	< 0.005	0.02	0.14	173
Hauling	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	0.00

3.11. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.47	4.98	0.01	0.15	—	0.15	0.14	—	0.14	—	756	756	0.03	0.01	—	758
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.33	0.47	< 0.005	0.01	—	0.01	0.01	—	0.01	—	71.0	71.0	< 0.005	< 0.005	—	71.2
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.8	11.8	< 0.005	< 0.005	—	11.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.26	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	60.4	60.4	< 0.005	< 0.005	0.01	61.3

Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.82	5.82	< 0.005	< 0.005	0.01	5.90
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.96	0.96	< 0.005	< 0.005	< 0.005	0.98
Vendor	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	0.00
Hauling	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	0.00

3.12. Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.47	4.98	0.01	0.15	—	0.15	0.14	—	0.14	—	756	756	0.03	0.01	—	758
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.04	0.03	0.33	0.47	< 0.005	0.01	—	0.01	0.01	—	0.01	—	71.0	71.0	< 0.005	< 0.005	—	71.2
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.8	11.8	< 0.005	< 0.005	—	11.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.26	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	60.4	60.4	< 0.005	< 0.005	0.01	61.3
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.82	5.82	< 0.005	< 0.005	0.01	5.90
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.96	0.96	< 0.005	< 0.005	< 0.005	0.98
Vendor	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	0.00
Hauling	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	0.00

3.13. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.31	4.95	0.01	0.13	—	0.13	0.12	—	0.12	—	756	756	0.03	0.01	—	758
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.31	4.95	0.01	0.13	—	0.13	0.12	—	0.12	—	756	756	0.03	0.01	—	758
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28	0.23	2.25	3.36	< 0.005	0.09	—	0.09	0.08	—	0.08	—	513	513	0.02	< 0.005	—	515
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.61	< 0.005	0.02	—	0.02	0.01	—	0.01	—	84.9	84.9	< 0.005	< 0.005	—	85.2
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.31	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	65.6	65.6	< 0.005	< 0.005	0.19	66.5
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.25	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	59.3	59.3	< 0.005	< 0.005	< 0.005	60.1
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.17	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	41.3	41.3	< 0.005	< 0.005	0.05	41.8
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.83	6.83	< 0.005	< 0.005	0.01	6.93
Vendor	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	0.00
Hauling	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	0.00

3.14. Paving (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.31	4.95	0.01	0.13	—	0.13	0.12	—	0.12	—	756	756	0.03	0.01	—	758
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.31	4.95	0.01	0.13	—	0.13	0.12	—	0.12	—	756	756	0.03	0.01	—	758
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28	0.23	2.25	3.36	< 0.005	0.09	—	0.09	0.08	—	0.08	—	513	513	0.02	< 0.005	—	515
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.61	< 0.005	0.02	—	0.02	0.01	—	0.01	—	84.9	84.9	< 0.005	< 0.005	—	85.2
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.02	0.31	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	65.6	65.6	< 0.005	< 0.005	0.19	66.5
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.25	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	59.3	59.3	< 0.005	< 0.005	< 0.005	60.1
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.17	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	41.3	41.3	< 0.005	< 0.005	0.05	41.8
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.83	6.83	< 0.005	< 0.005	0.01	6.93
Vendor	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	0.00
Hauling	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	0.00

3.15. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	81.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.68	7.68	< 0.005	< 0.005	—	7.71
Architectural Coatings	—	4.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.27	1.27	< 0.005	< 0.005	—	1.28
Architectural Coatings	—	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.80	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	< 0.005	0.01	0.02	195
Vendor	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	0.00
Hauling	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.02	11.5
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.87	1.87	< 0.005	< 0.005	< 0.005	1.90
Vendor	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	0.00
Hauling	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	0.00

3.16. Architectural Coating (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	81.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.68	7.68	< 0.005	< 0.005	—	7.71

Architect Coatings	—	4.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.27	1.27	< 0.005	< 0.005	—	1.28
Architectural Coatings	—	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.80	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	192	192	< 0.005	0.01	0.02	195
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.02	11.5
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.87	1.87	< 0.005	< 0.005	< 0.005	1.90
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Grading	Grading	10/19/2025	11/16/2025	5.00	20.0	—
Building Construction	Building Construction	11/17/2025	11/13/2028	5.00	781	—
Paving	Paving	11/14/2027	12/12/2028	5.00	282	—
Architectural Coating	Architectural Coating	11/14/2028	12/12/2028	5.00	21.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Grading	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Grading	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	17.5	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	12.9	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	121	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	60.3	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	7.50	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT

Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	24.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	17.5	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	12.9	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	121	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	60.3	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	7.50	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	24.3	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT

Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	552,000	184,000	2,263

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	—	2,066	20.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.87

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hospital	0.00	0%
Unrefrigerated Warehouse-No Rail	0.00	0%
Other Asphalt Surfaces	0.09	100%

Parking Lot	0.77	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2028	0.00	204	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Phase 3 includes construction of 331 KSF acute care tower, 30 KSF CUP, 3.5 KSF fuel tank yard, 3.5 KSF generator building addition, 16 parking spaces in north lot and 70 parking spaces at emergency department lot.
Construction: Construction Phases	Phase 3 assumed to begin October 2025.
Construction: Off-Road Equipment	Updated equipment per input from applicant.

St. Joseph's Medical Center - Construction (Phase 5) Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Construction (Phase 5)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.970434669532125, -121.28836929808364
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hospital	150	1000sqft	3.44	150,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.71	2.28	17.0	22.7	0.05	0.59	19.8	20.4	0.54	10.1	10.7	—	5,829	5,829	0.23	0.10	0.34	5,849
Mit.	2.71	2.28	17.0	22.7	0.05	0.59	7.83	8.43	0.54	3.98	4.52	—	5,829	5,829	0.23	0.10	0.34	5,849
% Reduced	—	—	—	—	—	—	60%	59%	—	61%	58%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.07	0.89	7.33	13.5	0.03	0.15	0.59	0.74	0.14	0.15	0.28	—	3,194	3,194	0.11	0.10	0.01	3,225
Mit.	1.07	0.89	7.33	13.5	0.03	0.15	0.59	0.74	0.14	0.15	0.28	—	3,194	3,194	0.11	0.10	0.01	3,225
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.76	0.63	5.17	9.62	0.02	0.10	1.22	1.32	0.09	0.55	0.65	—	2,280	2,280	0.08	0.07	0.08	2,302
Mit.	0.76	0.63	5.17	9.62	0.02	0.10	0.61	0.71	0.09	0.25	0.34	—	2,280	2,280	0.08	0.07	0.08	2,302
% Reduced	—	—	—	—	—	—	50%	46%	—	55%	47%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.14	0.11	0.94	1.76	< 0.005	0.02	0.22	0.24	0.02	0.10	0.12	—	377	377	0.01	0.01	0.01	381
Mit.	0.14	0.11	0.94	1.76	< 0.005	0.02	0.11	0.13	0.02	0.05	0.06	—	377	377	0.01	0.01	0.01	381
% Reduced	—	—	—	—	—	—	50%	46%	—	55%	47%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	2.71	2.28	17.0	22.7	0.05	0.59	19.8	20.4	0.54	10.1	10.7	—	5,829	5,829	0.23	0.10	0.34	5,849
2041	1.06	0.88	7.21	13.7	0.03	0.14	0.59	0.73	0.13	0.15	0.28	—	3,217	3,217	0.11	0.10	0.27	3,249
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	1.07	0.89	7.33	13.5	0.03	0.15	0.59	0.74	0.14	0.15	0.28	—	3,194	3,194	0.11	0.10	0.01	3,225
2041	1.06	0.88	7.27	13.4	0.03	0.14	0.59	0.73	0.13	0.15	0.28	—	3,184	3,184	0.11	0.10	0.01	3,215
2042	1.05	0.88	7.20	13.4	0.03	0.14	0.59	0.73	0.13	0.15	0.27	—	3,175	3,175	0.11	0.09	0.01	3,205
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	0.61	0.51	4.04	6.65	0.01	0.10	1.22	1.32	0.09	0.55	0.65	—	1,591	1,591	0.06	0.04	0.05	1,603
2041	0.76	0.63	5.17	9.62	0.02	0.10	0.42	0.52	0.09	0.10	0.20	—	2,280	2,280	0.08	0.07	0.08	2,302
2042	0.05	0.04	0.32	0.60	< 0.005	0.01	0.03	0.03	0.01	0.01	0.01	—	143	143	< 0.005	< 0.005	< 0.005	145
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	0.11	0.09	0.74	1.21	< 0.005	0.02	0.22	0.24	0.02	0.10	0.12	—	263	263	0.01	0.01	0.01	265
2041	0.14	0.11	0.94	1.76	< 0.005	0.02	0.08	0.09	0.02	0.02	0.04	—	377	377	0.01	0.01	0.01	381
2042	0.01	0.01	0.06	0.11	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	23.7	23.7	< 0.005	< 0.005	< 0.005	23.9

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	2.71	2.28	17.0	22.7	0.05	0.59	7.83	8.43	0.54	3.98	4.52	—	5,829	5,829	0.23	0.10	0.34	5,849
2041	1.06	0.88	7.21	13.7	0.03	0.14	0.59	0.73	0.13	0.15	0.28	—	3,217	3,217	0.11	0.10	0.27	3,249
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	1.07	0.89	7.33	13.5	0.03	0.15	0.59	0.74	0.14	0.15	0.28	—	3,194	3,194	0.11	0.10	0.01	3,225
2041	1.06	0.88	7.27	13.4	0.03	0.14	0.59	0.73	0.13	0.15	0.28	—	3,184	3,184	0.11	0.10	0.01	3,215
2042	1.05	0.88	7.20	13.4	0.03	0.14	0.59	0.73	0.13	0.15	0.27	—	3,175	3,175	0.11	0.09	0.01	3,205
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	0.61	0.51	4.04	6.65	0.01	0.10	0.61	0.71	0.09	0.25	0.34	—	1,591	1,591	0.06	0.04	0.05	1,603
2041	0.76	0.63	5.17	9.62	0.02	0.10	0.42	0.52	0.09	0.10	0.20	—	2,280	2,280	0.08	0.07	0.08	2,302
2042	0.05	0.04	0.32	0.60	< 0.005	0.01	0.03	0.03	0.01	0.01	0.01	—	143	143	< 0.005	< 0.005	< 0.005	145
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	0.11	0.09	0.74	1.21	< 0.005	0.02	0.11	0.13	0.02	0.05	0.06	—	263	263	0.01	0.01	0.01	265
2041	0.14	0.11	0.94	1.76	< 0.005	0.02	0.08	0.09	0.02	0.02	0.04	—	377	377	0.01	0.01	0.01	381
2042	0.01	0.01	0.06	0.11	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	23.7	23.7	< 0.005	< 0.005	< 0.005	23.9

3. Construction Emissions Details

3.1. Demolition (2040) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.85	1.55	12.0	12.9	0.03	0.38	—	0.38	0.35	—	0.35	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.18	0.18	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.66	0.71	< 0.005	0.02	—	0.02	0.02	—	0.02	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.02	0.01	0.37	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	113	113	< 0.005	< 0.005	0.06	113
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.12	0.03	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	105	105	< 0.005	0.02	0.06	110
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.75	5.75	< 0.005	< 0.005	< 0.005	5.76
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.75	5.75	< 0.005	< 0.005	< 0.005	6.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.95
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	1.00

3.2. Demolition (2040) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.85	1.55	12.0	12.9	0.03	0.38	—	0.38	0.35	—	0.35	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.18	0.18	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.66	0.71	< 0.005	0.02	—	0.02	0.02	—	0.02	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.01	0.37	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	113	113	< 0.005	< 0.005	0.06	113
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.12	0.03	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	105	105	< 0.005	0.02	0.06	110
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.75	5.75	< 0.005	< 0.005	< 0.005	5.76
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.75	5.75	< 0.005	< 0.005	< 0.005	6.03

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	0.95
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.95	0.95	< 0.005	< 0.005	< 0.005	1.00

3.3. Site Preparation (2040) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.67	2.25	17.0	22.2	0.05	0.59	—	0.59	0.54	—	0.54	—	5,679	5,679	0.23	0.05	—	5,698
Dust From Material Movemen	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.51	0.67	< 0.005	0.02	—	0.02	0.02	—	0.02	—	171	171	0.01	< 0.005	—	172
Dust From Material Movemen	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.3	28.3	< 0.005	< 0.005	—	28.4
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.49	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	151	151	< 0.005	< 0.005	0.08	151
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.21	4.21	< 0.005	< 0.005	< 0.005	4.23
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.70	0.70	< 0.005	< 0.005	< 0.005	0.70
Vendor	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	0.00
Hauling	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	0.00

3.4. Site Preparation (2040) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.67	2.25	17.0	22.2	0.05	0.59	—	0.59	0.54	—	0.54	—	5,679	5,679	0.23	0.05	—	5,698
Dust From Material Movemen	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.51	0.67	< 0.005	0.02	—	0.02	0.02	—	0.02	—	171	171	0.01	< 0.005	—	172
Dust From Material Movemen	—	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.3	28.3	< 0.005	< 0.005	—	28.4
Dust From Material Movemen	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.02	0.49	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	151	151	< 0.005	< 0.005	0.08	151
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.21	4.21	< 0.005	< 0.005	< 0.005	4.23
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.70	0.70	< 0.005	< 0.005	< 0.005	0.70
Vendor	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	0.00
Hauling	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	0.00

3.5. Grading (2040) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	8.57	14.4	0.03	0.28	—	0.28	0.26	—	0.26	—	2,959	2,959	0.12	0.02	—	2,969

Dust From Material Movemen	—	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.49	0.83	< 0.005	0.02	—	0.02	0.01	—	0.01	—	170	170	0.01	< 0.005	—	171
Dust From Material Movemen	—	—	—	—	—	—	0.41	0.41	—	0.20	0.20	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.2	28.2	< 0.005	< 0.005	—	28.3
Dust From Material Movemen	—	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.01	0.37	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	113	113	< 0.005	< 0.005	0.06	113
Vendor	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	0.00
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.03	6.03	< 0.005	< 0.005	< 0.005	6.05
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.00
Vendor	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	0.00
Hauling	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	0.00

3.6. Grading (2040) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	8.57	14.4	0.03	0.28	—	0.28	0.26	—	0.26	—	2,959	2,959	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.49	0.83	< 0.005	0.02	—	0.02	0.01	—	0.01	—	170	170	0.01	< 0.005	—	171
Dust From Material Movement	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.2	28.2	< 0.005	< 0.005	—	28.3
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.01	0.37	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	113	113	< 0.005	< 0.005	0.06	113
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.03	6.03	< 0.005	< 0.005	< 0.005	6.05
Vendor	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	0.00

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.00	1.00	< 0.005	< 0.005	< 0.005	1.00
Vendor	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	0.00
Hauling	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	0.00

3.7. Building Construction (2040) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	6.71	12.4	0.02	0.14	—	0.14	0.13	—	0.13	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	6.71	12.4	0.02	0.14	—	0.14	0.13	—	0.13	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.18	4.02	0.01	0.05	—	0.05	0.04	—	0.04	—	779	779	0.03	0.01	—	781
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.05	0.40	0.73	< 0.005	0.01	—	0.01	0.01	—	0.01	—	129	129	0.01	< 0.005	—	129
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.04	1.17	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	362	362	< 0.005	< 0.005	0.20	363
Vendor	0.02	0.02	0.53	0.21	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	469	469	0.01	0.07	0.14	491
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.06	0.90	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	327	327	0.01	< 0.005	0.01	328
Vendor	0.02	0.01	0.57	0.21	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	470	470	0.01	0.07	< 0.005	492
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.01	0.30	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.03	109
Vendor	0.01	< 0.005	0.18	0.07	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	152	152	< 0.005	0.02	0.02	160
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	18.0	18.0	< 0.005	< 0.005	< 0.005	18.1
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.2	25.2	< 0.005	< 0.005	< 0.005	26.4
Hauling	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	0.00

3.8. Building Construction (2040) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	6.71	12.4	0.02	0.14	—	0.14	0.13	—	0.13	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	6.71	12.4	0.02	0.14	—	0.14	0.13	—	0.13	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.18	4.02	0.01	0.05	—	0.05	0.04	—	0.04	—	779	779	0.03	0.01	—	781
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.40	0.73	< 0.005	0.01	—	0.01	0.01	—	0.01	—	129	129	0.01	< 0.005	—	129
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.04	1.17	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	362	362	< 0.005	< 0.005	0.20	363
Vendor	0.02	0.02	0.53	0.21	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	469	469	0.01	0.07	0.14	491
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.06	0.90	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	327	327	0.01	< 0.005	0.01	328
Vendor	0.02	0.01	0.57	0.21	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	470	470	0.01	0.07	< 0.005	492
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.01	0.30	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	109	109	< 0.005	< 0.005	0.03	109
Vendor	0.01	< 0.005	0.18	0.07	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	152	152	< 0.005	0.02	0.02	160
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.06	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	18.0	18.0	< 0.005	< 0.005	< 0.005	18.1
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.2	25.2	< 0.005	< 0.005	< 0.005	26.4
Hauling	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	0.00

3.9. Building Construction (2041) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	6.65	12.3	0.02	0.14	—	0.14	0.13	—	0.13	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.95	0.80	6.65	12.3	0.02	0.14	—	0.14	0.13	—	0.13	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.57	4.75	8.81	0.02	0.10	—	0.10	0.09	—	0.09	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.87	1.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	283	283	0.01	< 0.005	—	284
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.04	1.15	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	360	360	< 0.005	< 0.005	0.16	361
Vendor	0.02	0.02	0.52	0.21	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	461	461	0.01	0.07	0.11	483
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.88	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	326	326	< 0.005	< 0.005	< 0.005	327
Vendor	0.02	0.01	0.56	0.21	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	461	461	0.01	0.07	< 0.005	483
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.03	0.65	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	238	238	< 0.005	< 0.005	0.05	239
Vendor	0.02	0.01	0.39	0.15	< 0.005	< 0.005	0.13	0.14	< 0.005	0.04	0.04	—	329	329	0.01	0.05	0.03	345

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	39.5	39.5	< 0.005	< 0.005	0.01	39.6
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	54.5	54.5	< 0.005	0.01	0.01	57.1
Hauling	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	0.00

3.10. Building Construction (2041) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	6.65	12.3	0.02	0.14	—	0.14	0.13	—	0.13	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	6.65	12.3	0.02	0.14	—	0.14	0.13	—	0.13	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.57	4.75	8.81	0.02	0.10	—	0.10	0.09	—	0.09	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.12	0.10	0.87	1.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	283	283	0.01	< 0.005	—	284
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.04	1.15	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	360	360	< 0.005	< 0.005	0.16	361
Vendor	0.02	0.02	0.52	0.21	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	461	461	0.01	0.07	0.11	483
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.88	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	326	326	< 0.005	< 0.005	< 0.005	327
Vendor	0.02	0.01	0.56	0.21	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	461	461	0.01	0.07	< 0.005	483
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.03	0.65	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	238	238	< 0.005	< 0.005	0.05	239
Vendor	0.02	0.01	0.39	0.15	< 0.005	< 0.005	0.13	0.14	< 0.005	0.04	0.04	—	329	329	0.01	0.05	0.03	345
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	39.5	39.5	< 0.005	< 0.005	0.01	39.6
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	54.5	54.5	< 0.005	0.01	0.01	57.1
Hauling	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	0.00

3.11. Building Construction (2042) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.79	6.60	12.3	0.02	0.13	—	0.13	0.12	—	0.12	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.30	0.55	< 0.005	0.01	—	0.01	0.01	—	0.01	—	108	108	< 0.005	< 0.005	—	108
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.9	17.9	< 0.005	< 0.005	—	17.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.86	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	324	324	< 0.005	< 0.005	< 0.005	325
Vendor	0.02	0.01	0.55	0.21	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	454	454	0.01	0.07	< 0.005	474
Hauling	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.0	15.0	< 0.005	< 0.005	< 0.005	15.0
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.4	20.4	< 0.005	< 0.005	< 0.005	21.3
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.48	2.48	< 0.005	< 0.005	< 0.005	2.48
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.38	3.38	< 0.005	< 0.005	< 0.005	3.53
Hauling	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	0.00

3.12. Building Construction (2042) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.79	6.60	12.3	0.02	0.13	—	0.13	0.12	—	0.12	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.30	0.55	< 0.005	0.01	—	0.01	0.01	—	0.01	—	108	108	< 0.005	< 0.005	—	108
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.01	0.05	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.9	17.9	< 0.005	< 0.005	—	17.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.05	0.86	0.00	0.00	0.40	0.40	0.00	0.09	0.09	—	324	324	< 0.005	< 0.005	< 0.005	325
Vendor	0.02	0.01	0.55	0.21	< 0.005	< 0.005	0.19	0.19	< 0.005	0.05	0.06	—	454	454	0.01	0.07	< 0.005	474
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.0	15.0	< 0.005	< 0.005	< 0.005	15.0
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.4	20.4	< 0.005	< 0.005	< 0.005	21.3
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.48	2.48	< 0.005	< 0.005	< 0.005	2.48
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.38	3.38	< 0.005	< 0.005	< 0.005	3.53
Hauling	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	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetatio	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	5/7/2040	6/4/2040	5.00	20.0	—
Site Preparation	Site Preparation	6/5/2040	6/19/2040	5.00	11.0	—
Grading	Grading	6/20/2040	7/18/2040	5.00	21.0	—
Building Construction	Building Construction	7/19/2040	1/23/2042	5.00	396	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73

Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Site Preparation	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38

Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Site Preparation	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	2.05	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT

Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	48.0	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	24.6	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	2.05	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	48.0	11.9	LDA,LDT1,LDT2

Building Construction	Vendor	24.6	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	161	—
Site Preparation	—	—	16.5	0.00	—
Grading	—	—	21.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hospital	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2040	0.00	204	0.03	< 0.005
2041	0.00	204	0.03	< 0.005
2042	0.00	204	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Phase 5 includes development of 150 KSF expansion to medical center.
Construction: Construction Phases	Phase 5 assumed to begin May 2040.
Construction: Off-Road Equipment	Updated equipment per input from applicant.

St. Joseph's Medical Center - Construction (Phase 2) Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Construction (Phase 2)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.970482301349136, -121.2883503386538
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	18.0	1000sqft	0.41	18,000	0.00	0.00	—	—
Enclosed Parking with Elevator	1,980	Space	17.8	800,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.04	5.15	41.6	53.3	0.10	1.70	19.8	21.5	1.57	10.1	11.7	—	13,144	13,144	0.47	1.00	23.5	13,407
Mit.	6.04	5.15	41.6	53.3	0.10	1.70	7.83	9.54	1.57	3.98	5.55	—	13,144	13,144	0.47	1.00	23.5	13,407
% Reduced	—	—	—	—	—	—	60%	56%	—	61%	53%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.18	21.6	17.9	30.3	0.05	0.55	3.91	4.46	0.51	0.96	1.47	—	9,195	9,195	0.35	0.73	0.61	9,421
Mit.	3.18	21.6	17.9	30.3	0.05	0.55	3.91	4.46	0.51	0.96	1.47	—	9,195	9,195	0.35	0.73	0.61	9,421
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.97	2.88	11.4	18.5	0.03	0.37	2.30	2.60	0.34	0.83	1.10	—	5,439	5,439	0.15	0.39	5.35	5,565
Mit.	1.97	2.88	11.4	18.5	0.03	0.37	2.18	2.55	0.34	0.53	0.87	—	5,439	5,439	0.15	0.39	5.35	5,565
% Reduced	—	—	—	—	—	—	5%	2%	—	36%	21%	—	—	—	—	—	—	—

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.36	0.53	2.08	3.37	0.01	0.07	0.42	0.47	0.06	0.15	0.20	—	900	900	0.02	0.06	0.89	921
Mit.	0.36	0.53	2.08	3.37	0.01	0.07	0.40	0.46	0.06	0.10	0.16	—	900	900	0.02	0.06	0.89	921
% Reduced	—	—	—	—	—	—	5%	2%	—	36%	21%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.61	3.88	41.6	36.2	0.10	1.70	19.8	21.5	1.57	10.1	11.7	—	12,736	12,736	0.41	1.00	23.5	13,060
2025	6.04	5.15	38.6	53.3	0.08	1.41	4.35	5.76	1.30	1.04	2.34	—	13,144	13,144	0.47	0.77	23.3	13,407
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.18	2.74	17.9	30.3	0.05	0.55	3.91	4.46	0.51	0.96	1.47	—	9,195	9,195	0.35	0.73	0.61	9,421
2025	2.99	21.6	16.8	28.9	0.05	0.49	3.91	4.40	0.45	0.96	1.41	—	9,068	9,068	0.25	0.70	0.58	9,284
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.23	1.03	8.43	10.5	0.02	0.30	2.30	2.60	0.28	0.83	1.10	—	3,272	3,272	0.11	0.25	2.80	3,351
2025	1.97	2.88	11.4	18.5	0.03	0.37	2.18	2.55	0.34	0.53	0.87	—	5,439	5,439	0.15	0.39	5.35	5,565
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.22	0.19	1.54	1.92	< 0.005	0.05	0.42	0.47	0.05	0.15	0.20	—	542	542	0.02	0.04	0.46	555
2025	0.36	0.53	2.08	3.37	0.01	0.07	0.40	0.46	0.06	0.10	0.16	—	900	900	0.02	0.06	0.89	921

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.61	3.88	41.6	36.2	0.10	1.70	7.83	9.54	1.57	3.98	5.55	—	12,736	12,736	0.41	1.00	23.5	13,060
2025	6.04	5.15	38.6	53.3	0.08	1.41	4.35	5.76	1.30	1.04	2.34	—	13,144	13,144	0.47	0.77	23.3	13,407
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.18	2.74	17.9	30.3	0.05	0.55	3.91	4.46	0.51	0.96	1.47	—	9,195	9,195	0.35	0.73	0.61	9,421
2025	2.99	21.6	16.8	28.9	0.05	0.49	3.91	4.40	0.45	0.96	1.41	—	9,068	9,068	0.25	0.70	0.58	9,284
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.23	1.03	8.43	10.5	0.02	0.30	1.51	1.81	0.28	0.47	0.75	—	3,272	3,272	0.11	0.25	2.80	3,351
2025	1.97	2.88	11.4	18.5	0.03	0.37	2.18	2.55	0.34	0.53	0.87	—	5,439	5,439	0.15	0.39	5.35	5,565
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.22	0.19	1.54	1.92	< 0.005	0.05	0.28	0.33	0.05	0.09	0.14	—	542	542	0.02	0.04	0.46	555
2025	0.36	0.53	2.08	3.37	0.01	0.07	0.40	0.46	0.06	0.10	0.16	—	900	900	0.02	0.06	0.89	921

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.26	0.26	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.23	2.13	1.91	< 0.005	0.09	—	0.09	0.08	—	0.08	—	328	328	0.01	< 0.005	—	330
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.35	< 0.005	0.02	—	0.02	0.01	—	0.01	—	54.4	54.4	< 0.005	< 0.005	—	54.6
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.04	0.78	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	139	139	0.01	0.01	0.52	141
Vendor	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	0.00
Hauling	0.01	< 0.005	0.25	0.06	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	208	208	< 0.005	0.03	0.50	218

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.02	12.5
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.0	20.0	< 0.005	< 0.005	0.02	20.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.04	2.04	< 0.005	< 0.005	< 0.005	2.07
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.30	3.30	< 0.005	< 0.005	< 0.005	3.46

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.26	0.26	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.27	0.23	2.13	1.91	< 0.005	0.09	—	0.09	0.08	—	0.08	—	328	328	0.01	< 0.005	—	330
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.35	< 0.005	0.02	—	0.02	0.01	—	0.01	—	54.4	54.4	< 0.005	< 0.005	—	54.6
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.04	0.78	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	139	139	0.01	0.01	0.52	141
Vendor	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	0.00
Hauling	0.01	< 0.005	0.25	0.06	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	208	208	< 0.005	0.03	0.50	218
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.02	12.5
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.0	20.0	< 0.005	< 0.005	0.02	20.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.04	2.04	< 0.005	< 0.005	< 0.005	2.07
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.30	3.30	< 0.005	< 0.005	< 0.005	3.46

3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.51	3.79	38.1	35.1	0.05	1.70	—	1.70	1.57	—	1.57	—	5,634	5,634	0.23	0.05	—	5,653
Dust From Material Movemen	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	1.04	0.96	< 0.005	0.05	—	0.05	0.04	—	0.04	—	154	154	0.01	< 0.005	—	155
Dust From Material Movemen	—	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.6	25.6	< 0.005	< 0.005	—	25.6

Dust From Material Movemen	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.14	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	189	189	0.01	0.01	0.76	192
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.80	4.80	< 0.005	< 0.005	0.01	4.87
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.81
Vendor	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	0.00
Hauling	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	0.00

3.4. Site Preparation (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.51	3.79	38.1	35.1	0.05	1.70	—	1.70	1.57	—	1.57	—	5,634	5,634	0.23	0.05	—	5,653
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	1.04	0.96	< 0.005	0.05	—	0.05	0.04	—	0.04	—	154	154	0.01	< 0.005	—	155
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.6	25.6	< 0.005	< 0.005	—	25.6
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.14	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	189	189	0.01	0.01	0.76	192
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.80	4.80	< 0.005	< 0.005	0.01	4.87
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.81
Vendor	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	0.00
Hauling	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	0.00

3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movemen	—	—	—	—	—	—	9.26	9.26	—	3.66	3.66	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.29	2.82	2.48	0.01	0.12	—	0.12	0.11	—	0.11	—	542	542	0.02	< 0.005	—	544
Dust From Material Movemen	—	—	—	—	—	—	0.76	0.76	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.51	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movemen	—	—	—	—	—	—	0.14	0.14	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.14	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	189	189	0.01	0.01	0.76	192
Vendor	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	0.00
Hauling	0.24	0.14	7.21	1.71	0.04	0.11	1.54	1.66	0.11	0.42	0.53	—	5,949	5,949	0.13	0.94	14.3	6,247

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.4	14.4	< 0.005	< 0.005	0.03	14.6
Vendor	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	0.00
Hauling	0.02	0.01	0.62	0.14	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	489	489	0.01	0.08	0.51	513
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.38	2.38	< 0.005	< 0.005	< 0.005	2.42
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.11	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	81.0	81.0	< 0.005	0.01	0.08	84.9

3.6. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movemen	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.29	2.82	2.48	0.01	0.12	—	0.12	0.11	—	0.11	—	542	542	0.02	< 0.005	—	544
Dust From Material Movemen	—	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.51	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movemen	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.14	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	189	189	0.01	0.01	0.76	192
Vendor	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	0.00
Hauling	0.24	0.14	7.21	1.71	0.04	0.11	1.54	1.66	0.11	0.42	0.53	—	5,949	5,949	0.13	0.94	14.3	6,247
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.4	14.4	< 0.005	< 0.005	0.03	14.6
Vendor	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	0.00

Hauling	0.02	0.01	0.62	0.14	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	489	489	0.01	0.08	0.51	513
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.38	2.38	< 0.005	< 0.005	< 0.005	2.42
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.11	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	81.0	81.0	< 0.005	0.01	0.08	84.9

3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.50	2.93	0.01	0.11	—	0.11	0.10	—	0.10	—	535	535	0.02	< 0.005	—	537
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.05	0.46	0.53	< 0.005	0.02	—	0.02	0.02	—	0.02	—	88.6	88.6	< 0.005	< 0.005	—	88.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.73	1.61	1.08	19.6	0.00	0.00	2.89	2.89	0.00	0.68	0.68	—	3,248	3,248	0.16	0.12	13.0	3,301
Vendor	0.23	0.15	4.92	1.70	0.03	0.05	1.02	1.08	0.05	0.28	0.34	—	3,860	3,860	0.07	0.59	10.5	4,048
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.53	1.39	1.41	15.5	0.00	0.00	2.89	2.89	0.00	0.68	0.68	—	2,934	2,934	0.18	0.12	0.34	2,974
Vendor	0.22	0.14	5.26	1.73	0.03	0.05	1.02	1.08	0.05	0.28	0.34	—	3,863	3,863	0.07	0.59	0.27	4,041
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.31	0.29	3.53	0.00	0.00	0.63	0.63	0.00	0.15	0.15	—	671	671	0.04	0.03	1.25	681
Vendor	0.05	0.03	1.15	0.38	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	861	861	0.02	0.13	1.00	902
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.64	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	111	111	0.01	< 0.005	0.21	113
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	< 0.005	0.02	0.17	149
Hauling	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	0.00

3.8. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.50	2.93	0.01	0.11	—	0.11	0.10	—	0.10	—	535	535	0.02	< 0.005	—	537
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.46	0.53	< 0.005	0.02	—	0.02	0.02	—	0.02	—	88.6	88.6	< 0.005	< 0.005	—	88.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.73	1.61	1.08	19.6	0.00	0.00	2.89	2.89	0.00	0.68	0.68	—	3,248	3,248	0.16	0.12	13.0	3,301
Vendor	0.23	0.15	4.92	1.70	0.03	0.05	1.02	1.08	0.05	0.28	0.34	—	3,860	3,860	0.07	0.59	10.5	4,048
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.53	1.39	1.41	15.5	0.00	0.00	2.89	2.89	0.00	0.68	0.68	—	2,934	2,934	0.18	0.12	0.34	2,974
Vendor	0.22	0.14	5.26	1.73	0.03	0.05	1.02	1.08	0.05	0.28	0.34	—	3,863	3,863	0.07	0.59	0.27	4,041
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.31	0.29	3.53	0.00	0.00	0.63	0.63	0.00	0.15	0.15	—	671	671	0.04	0.03	1.25	681
Vendor	0.05	0.03	1.15	0.38	0.01	0.01	0.23	0.24	0.01	0.06	0.07	—	861	861	0.02	0.13	1.00	902
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.05	0.64	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	111	111	0.01	< 0.005	0.21	113
Vendor	0.01	0.01	0.21	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	< 0.005	0.02	0.17	149
Hauling	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	0.00

3.9. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	0.62	5.70	7.12	0.01	0.24	—	0.24	0.22	—	0.22	—	1,309	1,309	0.05	0.01	—	1,314
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.04	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	217	217	0.01	< 0.005	—	217
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.56	1.44	0.97	17.9	0.00	0.00	2.89	2.89	0.00	0.68	0.68	—	3,178	3,178	0.15	0.12	11.8	3,230
Vendor	0.20	0.12	4.72	1.61	0.03	0.05	1.02	1.08	0.05	0.28	0.34	—	3,796	3,796	0.07	0.56	10.4	3,975
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.45	1.32	1.29	14.2	0.00	0.00	2.89	2.89	0.00	0.68	0.68	—	2,872	2,872	0.08	0.12	0.31	2,910
Vendor	0.19	0.11	5.03	1.64	0.03	0.05	1.02	1.08	0.05	0.28	0.34	—	3,799	3,799	0.07	0.56	0.27	3,968
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.72	0.59	7.95	0.00	0.00	1.55	1.55	0.00	0.36	0.36	—	1,607	1,607	0.04	0.07	2.78	1,631
Vendor	0.11	0.06	2.68	0.89	0.01	0.03	0.55	0.58	0.03	0.15	0.18	—	2,073	2,073	0.04	0.31	2.46	2,168

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.11	1.45	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	266	266	0.01	0.01	0.46	270
Vendor	0.02	0.01	0.49	0.16	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	343	343	0.01	0.05	0.41	359
Hauling	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	0.00

3.10. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	0.62	5.70	7.12	0.01	0.24	—	0.24	0.22	—	0.22	—	1,309	1,309	0.05	0.01	—	1,314
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	0.11	1.04	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	217	217	0.01	< 0.005	—	217
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.56	1.44	0.97	17.9	0.00	0.00	2.89	2.89	0.00	0.68	0.68	—	3,178	3,178	0.15	0.12	11.8	3,230
Vendor	0.20	0.12	4.72	1.61	0.03	0.05	1.02	1.08	0.05	0.28	0.34	—	3,796	3,796	0.07	0.56	10.4	3,975
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.45	1.32	1.29	14.2	0.00	0.00	2.89	2.89	0.00	0.68	0.68	—	2,872	2,872	0.08	0.12	0.31	2,910
Vendor	0.19	0.11	5.03	1.64	0.03	0.05	1.02	1.08	0.05	0.28	0.34	—	3,799	3,799	0.07	0.56	0.27	3,968
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.72	0.59	7.95	0.00	0.00	1.55	1.55	0.00	0.36	0.36	—	1,607	1,607	0.04	0.07	2.78	1,631
Vendor	0.11	0.06	2.68	0.89	0.01	0.03	0.55	0.58	0.03	0.15	0.18	—	2,073	2,073	0.04	0.31	2.46	2,168
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.11	1.45	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	266	266	0.01	0.01	0.46	270
Vendor	0.02	0.01	0.49	0.16	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	343	343	0.01	0.05	0.41	359
Hauling	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	0.00

3.11. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.40	3.73	4.99	0.01	0.17	—	0.17	0.16	—	0.16	—	756	756	0.03	0.01	—	758
Paving	—	2.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.5	43.5	< 0.005	< 0.005	—	43.6
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.20	7.20	< 0.005	< 0.005	—	7.22
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.31	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	62.7	62.7	< 0.005	< 0.005	0.01	63.5

Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.70	3.70	< 0.005	< 0.005	0.01	3.75
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	0.62
Vendor	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	0.00
Hauling	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	0.00

3.12. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.40	3.73	4.99	0.01	0.17	—	0.17	0.16	—	0.16	—	756	756	0.03	0.01	—	758
Paving	—	2.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.02	0.21	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.5	43.5	< 0.005	< 0.005	—	43.6
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.20	7.20	< 0.005	< 0.005	—	7.22
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.31	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	62.7	62.7	< 0.005	< 0.005	0.01	63.5
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.70	3.70	< 0.005	< 0.005	0.01	3.75
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	0.62
Vendor	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	0.00
Hauling	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	0.00

3.13. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	18.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.68	7.68	< 0.005	< 0.005	—	7.71
Architectural Coatings	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.27	1.27	< 0.005	< 0.005	—	1.28
Architectural Coatings	—	0.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.26	2.84	0.00	0.00	0.58	0.58	0.00	0.14	0.14	—	574	574	0.02	0.02	0.06	582
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.17	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.9	33.9	< 0.005	< 0.005	0.06	34.4
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.61	5.61	< 0.005	< 0.005	0.01	5.69
Vendor	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	0.00
Hauling	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	0.00

3.14. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	18.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.68	7.68	< 0.005	< 0.005	—	7.71
Architectural Coatings	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.27	1.27	< 0.005	< 0.005	—	1.28
Architectural Coatings	—	0.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.26	2.84	0.00	0.00	0.58	0.58	0.00	0.14	0.14	—	574	574	0.02	0.02	0.06	582

Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.17	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.9	33.9	< 0.005	< 0.005	0.06	34.4
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.61	5.61	< 0.005	< 0.005	0.01	5.69
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	6/2/2025	7/20/2025	5.00	35.0	—
Site Preparation	Site Preparation	7/13/2024	7/27/2024	5.00	10.0	—
Grading	Grading	7/28/2024	9/8/2024	5.00	30.0	—
Parking Structure, Dietary & Trash Dock, New Engineering Building	Building Construction	9/9/2024	10/6/2025	5.00	281	—
Paving	Paving	10/7/2025	11/4/2025	5.00	21.0	—
Architectural Coating	Architectural Coating	10/7/2025	11/4/2025	5.00	21.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40

Parking Structure, Dietary & Trash Dock, New Engineering Building	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Parking Structure, Dietary & Trash Dock, New Engineering Building	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Parking Structure, Dietary & Trash Dock, New Engineering Building	Cranes	Diesel	Average	1.00	7.00	367	0.29
Parking Structure, Dietary & Trash Dock, New Engineering Building	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Parking Structure, Dietary & Trash Dock, New Engineering Building	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Bore/Drill Rigs	Diesel	Average	1.00	8.00	74.0	0.50

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40

Site Preparation	Tractors/Loaders/Backh	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backh oes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Parking Structure, Dietary & Trash Dock, New Engineering Building	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Parking Structure, Dietary & Trash Dock, New Engineering Building	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Parking Structure, Dietary & Trash Dock, New Engineering Building	Cranes	Diesel	Average	1.00	7.00	367	0.29
Parking Structure, Dietary & Trash Dock, New Engineering Building	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Parking Structure, Dietary & Trash Dock, New Engineering Building	Tractors/Loaders/Backh oes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38

Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Bore/Drill Rigs	Diesel	Average	1.00	8.00	74.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	83.3	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Parking Structure, Dietary & Trash Dock, New Engineering Building	—	—	—	—
Parking Structure, Dietary & Trash Dock, New Engineering Building	Worker	344	11.9	LDA,LDT1,LDT2
Parking Structure, Dietary & Trash Dock, New Engineering Building	Vendor	134	9.10	HHDT,MHDT
Parking Structure, Dietary & Trash Dock, New Engineering Building	Hauling	0.00	20.0	HHDT
Parking Structure, Dietary & Trash Dock, New Engineering Building	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	7.50	11.9	LDA,LDT1,LDT2

Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	68.7	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	2.97	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	83.3	20.0	HHDT
Grading	Onsite truck	—	—	HHDT

Parking Structure, Dietary & Trash Dock, New Engineering Building	—	—	—	—
Parking Structure, Dietary & Trash Dock, New Engineering Building	Worker	344	11.9	LDA,LDT1,LDT2
Parking Structure, Dietary & Trash Dock, New Engineering Building	Vendor	134	9.10	HHDT,MHDT
Parking Structure, Dietary & Trash Dock, New Engineering Building	Hauling	0.00	20.0	HHDT
Parking Structure, Dietary & Trash Dock, New Engineering Building	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	7.50	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	68.7	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Demolition	—	—	—	—
Demolition	Worker	15.0	11.9	LDA,LDT1,LDT2
Demolition	Vendor	—	9.10	HHDT,MHDT
Demolition	Hauling	2.97	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	61,931	12,881	46,574

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	8,962	—
Site Preparation	0.00	0.00	15.0	0.00	—
Grading	0.00	20,000	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	17.8

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	0.00	0%
Enclosed Parking with Elevator	17.8	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005

2025	0.00	204	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Phase 2 involves construction of parking structure which would be up to 800,000 SF and 1,980 spaces and construction of new engineering building.
Construction: Construction Phases	Phase 2 assumed to July 2024.
Construction: Off-Road Equipment	Updated per input from applicant.

St. Joseph's Medical Center - Existing Scenario (2022) Custom Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Existing Scenario (2022)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.970477167130625, -121.28831281333078
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hospital	75.1	1000sqft	1.72	75,068	0.00	0.00	—	—
General Light Industry	15.0	1000sqft	0.34	15,000	0.00	0.00	—	—

Single Family Housing	1.00	Dwelling Unit	0.32	1,800	11,713	0.00	3.00	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.14	7.76	3.29	50.7	0.17	1.63	1.45	3.07	1.62	0.26	1.88	478	31,097	31,574	48.3	0.64	25.9	32,999
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.08	6.73	3.77	44.6	0.17	1.62	1.45	3.07	1.62	0.26	1.88	478	30,725	31,203	48.4	0.67	4.60	32,615
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.89	5.67	3.47	25.2	0.12	1.54	1.45	1.54	1.54	0.26	1.54	473	24,283	24,283	47.8	0.36	13.5	24,381
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.71	1.04	0.63	4.60	0.02	0.28	0.26	0.28	0.28	0.05	0.28	78.4	4,020	4,020	7.92	0.06	2.23	4,037

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.15	3.89	3.18	26.6	0.05	0.05	1.45	1.49	0.04	0.26	0.30	—	4,931	4,931	0.27	0.25	21.9	5,035
Area	0.75	2.76	0.05	4.20	< 0.005	0.04	—	0.04	0.04	—	0.04	5.43	26.8	32.2	0.03	< 0.005	—	33.3
Energy	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1,832	1,832	0.29	0.03	—	1,850
Water	—	—	—	—	—	—	—	—	—	—	—	24.8	23.8	48.5	2.54	0.06	—	130
Waste	—	—	—	—	—	—	—	—	—	—	—	447	0.00	447	44.7	0.00	—	1,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.04	4.04
Stationary	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381
Total	7.14	7.76	3.29	50.7	0.17	1.63	1.45	3.07	1.62	0.26	1.88	478	31,097	31,574	48.3	0.64	25.9	32,999
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.79	3.51	3.70	24.4	0.04	0.05	1.45	1.49	0.04	0.26	0.30	—	4,576	4,576	0.32	0.28	0.57	4,667
Area	0.05	2.11	0.01	0.23	< 0.005	0.03	—	0.03	0.03	—	0.03	5.43	10.5	16.0	0.03	< 0.005	—	16.6
Energy	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1,832	1,832	0.29	0.03	—	1,850
Water	—	—	—	—	—	—	—	—	—	—	—	24.8	23.8	48.5	2.54	0.06	—	130
Waste	—	—	—	—	—	—	—	—	—	—	—	447	0.00	447	44.7	0.00	—	1,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.04	4.04
Stationary	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381
Total	6.08	6.73	3.77	44.6	0.17	1.62	1.45	3.07	1.62	0.26	1.88	478	30,725	31,203	48.4	0.67	4.60	32,615
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.52	3.26	3.38	23.1	0.05	0.05	1.45	1.49	0.04	0.26	0.30	—	4,642	4,642	0.28	0.26	9.44	4,736
Area	0.36	2.41	0.02	2.01	< 0.005	0.01	—	0.01	0.01	—	0.01	1.22	10.4	11.6	0.01	< 0.005	—	12.0
Energy	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1,832	1,832	0.29	0.03	—	1,850
Water	—	—	—	—	—	—	—	—	—	—	—	24.8	23.8	48.5	2.54	0.06	—	130

Waste	—	—	—	—	—	—	—	—	—	—	—	447	0.00	447	44.7	0.00	—	1,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.04	4.04
Stationary	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381
Total	6.11	6.78	3.47	45.0	0.17	1.60	1.45	3.05	1.60	0.26	1.86	473	30,791	31,265	48.3	0.65	13.5	32,679
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.64	0.59	0.62	4.22	0.01	0.01	0.26	0.27	0.01	0.05	0.06	—	769	769	0.05	0.04	1.56	784
Area	0.07	0.44	< 0.005	0.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.20	1.72	1.92	< 0.005	< 0.005	—	1.98
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	303	303	0.05	0.01	—	306
Water	—	—	—	—	—	—	—	—	—	—	—	4.10	3.93	8.03	0.42	0.01	—	21.6
Waste	—	—	—	—	—	—	—	—	—	—	—	74.1	0.00	74.1	7.40	0.00	—	259
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.67	0.67
Stationary	0.41	0.20	0.00	3.62	0.02	0.28	—	0.28	0.28	—	0.28	—	4,020	4,020	0.08	0.05	—	4,037
Total	1.12	1.24	0.63	8.22	0.03	0.29	0.26	0.56	0.29	0.05	0.34	78.4	5,098	5,176	8.00	0.11	2.23	5,410

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	1,667	1,667	0.27	0.03	—	1,684
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	86.6	86.6	0.01	< 0.005	—	87.5
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4.76	4.76	< 0.005	< 0.005	—	4.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,759	1,759	0.28	0.03	—	1,776
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	1,667	1,667	0.27	0.03	—	1,684
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	86.6	86.6	0.01	< 0.005	—	87.5
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4.76	4.76	< 0.005	< 0.005	—	4.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,759	1,759	0.28	0.03	—	1,776
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	276	276	0.04	0.01	—	279
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	14.3	14.3	< 0.005	< 0.005	—	14.5
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79	< 0.005	< 0.005	—	0.80
Total	—	—	—	—	—	—	—	—	—	—	—	—	291	291	0.05	0.01	—	294

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	59.7	59.7	0.01	< 0.005	—	59.8
General Light Industry	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.47	4.47	< 0.005	< 0.005	—	4.48
Single Family Housing	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.32	9.32	< 0.005	< 0.005	—	9.35
Total	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	73.5	73.5	0.01	< 0.005	—	73.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	59.7	59.7	0.01	< 0.005	—	59.8
General Light Industry	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.47	4.47	< 0.005	< 0.005	—	4.48
Single Family Housing	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.32	9.32	< 0.005	< 0.005	—	9.35
Total	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	73.5	73.5	0.01	< 0.005	—	73.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.88	9.88	< 0.005	< 0.005	—	9.91
General Light Industry	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.74	0.74	< 0.005	< 0.005	—	0.74
Single Family Housing	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.54	1.54	< 0.005	< 0.005	—	1.55
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.2	12.2	< 0.005	< 0.005	—	12.2

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.05	0.03	0.01	0.23	< 0.005	0.03	—	0.03	0.03	—	0.03	5.43	10.5	16.0	0.03	< 0.005	—	16.6
Consumer Products	—	1.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.70	0.65	0.03	3.97	< 0.005	0.01	—	0.01	0.01	—	0.01	—	16.3	16.3	< 0.005	< 0.005	—	16.7
Total	0.75	2.76	0.05	4.20	< 0.005	0.04	—	0.04	0.04	—	0.04	5.43	26.8	32.2	0.03	< 0.005	—	33.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.05	0.03	0.01	0.23	< 0.005	0.03	—	0.03	0.03	—	0.03	5.43	10.5	16.0	0.03	< 0.005	—	16.6
Consumer Products	—	1.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.05	2.11	0.01	0.23	< 0.005	0.03	—	0.03	0.03	—	0.03	5.43	10.5	16.0	0.03	< 0.005	—	16.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.20	0.39	0.59	< 0.005	< 0.005	—	0.62

Consum Products	—	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.06	0.06	< 0.005	0.36	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.37
Total	0.07	0.44	< 0.005	0.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.20	1.72	1.92	< 0.005	< 0.005	—	1.98

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	18.1	17.2	35.2	1.85	0.04	—	94.8
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	6.65	6.32	13.0	0.68	0.02	—	34.9
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.08	0.27	0.35	0.01	< 0.005	—	0.61
Total	—	—	—	—	—	—	—	—	—	—	—	24.8	23.8	48.5	2.54	0.06	—	130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	18.1	17.2	35.2	1.85	0.04	—	94.8

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	6.65	6.32	13.0	0.68	0.02	—	34.9
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.08	0.27	0.35	0.01	< 0.005	—	0.61
Total	—	—	—	—	—	—	—	—	—	—	—	24.8	23.8	48.5	2.54	0.06	—	130
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	2.99	2.84	5.83	0.31	0.01	—	15.7
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.10	1.05	2.15	0.11	< 0.005	—	5.78
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.01	0.04	0.06	< 0.005	< 0.005	—	0.10
Total	—	—	—	—	—	—	—	—	—	—	—	4.10	3.93	8.03	0.42	0.01	—	21.6

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	437	0.00	437	43.7	0.00	—	1,529
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	10.0	0.00	10.0	1.00	0.00	—	35.1
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.44	0.00	0.44	0.04	0.00	—	1.55

Total	—	—	—	—	—	—	—	—	—	—	—	447	0.00	447	44.7	0.00	—	1,565
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	437	0.00	437	43.7	0.00	—	1,529
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	10.0	0.00	10.0	1.00	0.00	—	35.1
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.44	0.00	0.44	0.04	0.00	—	1.55
Total	—	—	—	—	—	—	—	—	—	—	—	447	0.00	447	44.7	0.00	—	1,565
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	72.3	0.00	72.3	7.23	0.00	—	253
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.66	0.00	1.66	0.17	0.00	—	5.81
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.07	0.00	0.07	0.01	0.00	—	0.26
Total	—	—	—	—	—	—	—	—	—	—	—	74.1	0.00	74.1	7.40	0.00	—	259

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.90	3.90
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.04	4.04
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.90	3.90
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.04	4.04
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.67	0.67

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Process Boiler	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381
Total	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Process Boiler	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381
Total	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Process Boiler	0.41	0.20	0.00	3.62	0.02	0.28	—	0.28	0.28	—	0.28	—	4,020	4,020	0.08	0.05	—	4,037
Total	0.41	0.20	0.00	3.62	0.02	0.28	—	0.28	0.28	—	0.28	—	4,020	4,020	0.08	0.05	—	4,037

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	818	589	517	270,908	5,131	5,131	5,131	1,872,764

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	1
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	1
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0

Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
3645	1,215	135,102	45,034	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Hospital	2,983,651	204	0.0330	0.0040	186,169
General Light Industry	154,949	204	0.0330	0.0040	13,950
Single Family Housing	8,526	204	0.0330	0.0040	29,090

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Hospital	9,419,824	0.00
General Light Industry	3,468,750	0.00

Single Family Housing	40,674	200,939

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Hospital	811	0.00
General Light Industry	18.6	0.00
Single Family Housing	0.27	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Hospital	Chillers	R-134a	1,430	< 0.005	2.00	2.00	23.0
Hospital	Household refrigerators and/or freezers	R-134a	1,430	< 0.005	0.60	0.00	1.00
Hospital	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Hospital	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
Boiler - CNG (5–75 MMBTU)	CNG	1.00	6.70	80.4	29,346
Boiler - CNG (5–75 MMBTU)	CNG	1.00	10.5	126	45,990

5.17. User Defined

Equipment Type	Fuel Type
—	—

8. User Changes to Default Data

Screen	Justification
Land Use	Existing uses includes 75,068 SF of buildings and a single-family residence.
Operations: Energy Use	Update per energy use information provided by applicant.

Air Quality Helicopter Emissions

							Emission Factors (lb/hr)*				Emissions (lbs/day)				Emissions (tons/year)			
Helicopter	**Mode**	**Averege #LTO/Hr**	**Days/week**	**Hours/Day**	**Duration (weeks)**	**Horsepower**	**ROC**	**NOx**	**CO**	**PM10**	**ROC**	**NOx**	**CO**	**PM10**	**ROC**	**NOx**	**CO**	**PM10**
Eurocopter H130	LTO	0.6	3.46	1	52	848	0.64	0.26	0.82	0.01	0.64	0.26	0.82	0.01	0.06	0.02	0.07	0.0008
Eurocopter H130	Operation	N/A	3.46	4	52	848	1.47	2.42	1.80	0.07	5.86	9.69	7.21	0.28	0.53	0.87	0.65	0.0064
Eurocopter H130	Total	N/A									**6.51**	**9.96**	**8.03**	**0.29**	**0.59**	**0.90**	**0.72**	**0.01**

*Federal Office of Civil Aviation (FOCA). n.d. Guidance on Determination of Helicopter Emissions.
https://www.bazl.admin.ch/dam/bazl/de/dokumente/Fachleute/Regulationen_und_Grundlagen/guidance_on_the_determinationofhelicopteremissions.pdf.download.pdf/guidance_on_the_determinationofhelicopteremissions.pdf

GHG Helicopter Emissions

Helicopter	Mode	Averege #LTO/Hr	Days/week	Hours/Day	Duration (weeks)	Horsepower	Fuel/hour (kg)	Fuel Per day	Gallons Per day	CO2 MT	CH4 MT	N20	CO2e
Eurocopter H130	LTO	0.6	3.46	1	52	848	23.7	23.7	162.28	287.72	0.01	0.00	**287.97**
Eurocopter H130	Operation	N/A	3.46	4	52	848	149	596					
Eurocopter H130	Total	N/A						619.7					
							Fuel/Year	**111,546.00**					

*Federal Office of Civil Aviation (FOCA). n.d. Guidance on Determination of Helicopter Emissions.
https://www.bazl.admin.ch/dam/bazl/de/dokumente/Fachleute/Regulationen_und_Grundlagen/guidance_on_the_determinationofhelicopteremissions.pdf.download.pdf/guidance_on_the_determinationofhelicopteremissions.pdf

Notes
Jet Fuel Density 840 Kg/m3
4 hours of helicpoter use

Helicoper Trips/Month	15
Helicoper Trips/Year	180
Helicoper Trips/Week	3.4615385

St. Joseph's Medical Center - Operations (2042) v3 Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Operations (2042) v3
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.971055440288694, -121.28862335271167
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hospital	194	Bed	3.19	481,000	13,896	0.00	—	—
General Light Industry	37.0	1000sqft	0.85	37,000	0.00	0.00	—	—

Enclosed Parking with Elevator	1,980	Space	17.8	800,000	0.00	0.00	—	—
Parking Lot	86.0	Space	0.77	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Transportation	T-14*	Provide Electric Vehicle Charging Infrastructure
Transportation	T-34*	Provide Bike Parking
Water	W-5	Design Water-Efficient Landscapes
Area Sources	LL-3*	Electric Yard Equipment Compatibility

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	36.8	42.7	54.8	207	0.62	6.74	6.23	13.0	6.77	1.11	7.88	380	116,558	116,938	43.2	2.05	16.2	118,646
Mit.	36.8	42.7	54.8	207	0.62	6.74	6.23	13.0	6.77	1.11	7.88	380	116,558	116,938	43.2	2.05	16.2	118,646
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	< 0.5%	< 0.5%	—	—	—	< 0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	26.2	32.9	55.2	144	0.60	6.67	6.23	12.9	6.66	1.11	7.78	380	115,175	115,554	43.3	2.09	10.5	117,271
Mit.	26.2	32.9	55.2	144	0.60	6.67	6.23	12.9	6.66	1.11	7.78	380	115,175	115,554	43.3	2.09	10.5	117,270

% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	< 0.5%	< 0.5%	—	—	—	< 0.5%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.9	25.4	20.1	84.9	0.22	2.84	5.33	6.29	2.84	0.95	2.84	380	44,767	44,767	41.6	1.06	12.5	44,949
Mit.	14.9	25.4	20.1	84.9	0.22	2.84	5.33	6.29	2.84	0.95	2.84	380	44,767	44,767	41.6	1.06	12.5	44,949
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.72	4.63	3.67	15.5	0.04	0.52	0.97	1.15	0.52	0.17	0.52	62.9	7,412	7,412	6.89	0.17	2.08	7,442
Mit.	2.72	4.63	3.67	15.5	0.04	0.52	0.97	1.15	0.52	0.17	0.52	62.9	7,412	7,412	6.89	0.17	2.08	7,442
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.5%	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.26	8.78	5.96	60.1	0.15	0.08	6.23	6.31	0.07	1.11	1.19	—	15,643	15,643	0.55	0.73	5.85	15,880
Area	10.2	21.3	0.48	57.3	< 0.005	0.08	—	0.08	0.10	—	0.10	—	236	236	0.01	0.02	—	243
Energy	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	23,281	23,281	2.98	0.27	—	23,435
Water	—	—	—	—	—	—	—	—	—	—	—	49.8	47.5	97.3	5.11	0.12	—	262
Waste	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Stationary	16.3	12.1	39.4	81.9	0.41	5.91	—	5.91	5.91	—	5.91	—	77,352	77,352	1.58	0.91	—	77,662

Total	36.8	42.7	54.8	207	0.62	6.74	6.23	13.0	6.77	1.11	7.88	380	116,558	116,938	43.2	2.05	16.2	118,646
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.85	8.35	6.85	54.7	0.14	0.08	6.23	6.31	0.07	1.11	1.19	—	14,495	14,495	0.64	0.79	0.15	14,747
Area	—	11.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	23,281	23,281	2.98	0.27	—	23,435
Water	—	—	—	—	—	—	—	—	—	—	—	49.8	47.5	97.3	5.11	0.12	—	262
Waste	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Stationary	16.3	12.1	39.4	81.9	0.41	5.91	—	5.91	5.91	—	5.91	—	77,352	77,352	1.58	0.91	—	77,662
Total	26.2	32.9	55.2	144	0.60	6.67	6.23	12.9	6.66	1.11	7.78	380	115,175	115,554	43.3	2.09	10.5	117,271
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.53	7.11	5.50	46.0	0.12	0.07	5.33	5.39	0.06	0.95	1.01	—	12,613	12,613	0.51	0.65	2.16	12,822
Area	5.03	16.5	0.24	28.3	< 0.005	0.04	—	0.04	0.05	—	0.05	—	116	116	< 0.005	0.01	—	120
Energy	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	23,281	23,281	2.98	0.27	—	23,435
Water	—	—	—	—	—	—	—	—	—	—	—	49.8	47.5	97.3	5.11	0.12	—	262
Waste	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Stationary	5.43	3.26	5.39	39.6	0.23	3.01	—	3.01	3.01	—	3.01	—	45,384	45,384	0.88	0.54	—	45,568
Total	19.0	27.4	20.1	121	0.41	3.80	5.33	9.12	3.81	0.95	4.76	380	81,442	81,822	42.5	1.59	12.5	83,371
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.37	1.30	1.00	8.39	0.02	0.01	0.97	0.98	0.01	0.17	0.19	—	2,088	2,088	0.09	0.11	0.36	2,123
Area	0.92	3.02	0.04	5.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	19.2	19.2	< 0.005	< 0.005	—	19.8
Energy	0.18	0.09	1.64	1.38	0.01	0.12	—	0.12	0.12	—	0.12	—	3,854	3,854	0.49	0.04	—	3,880
Water	—	—	—	—	—	—	—	—	—	—	—	8.24	7.87	16.1	0.85	0.02	—	43.3

Waste	—	—	—	—	—	—	—	—	—	—	—	54.6	0.00	54.6	5.46	0.00	—	191
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.72	1.72
Stationary	0.99	0.59	0.98	7.23	0.04	0.55	—	0.55	0.55	—	0.55	—	7,514	7,514	0.15	0.09	—	7,544
Total	3.46	5.00	3.67	22.2	0.07	0.69	0.97	1.67	0.69	0.17	0.87	62.9	13,484	13,546	7.03	0.26	2.08	13,803

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	9.26	8.78	5.96	60.1	0.15	0.08	6.23	6.31	0.07	1.11	1.19	—	15,643	15,643	0.55	0.73	5.85	15,880
Area	10.2	21.3	0.48	57.3	< 0.005	0.08	—	0.08	0.10	—	0.10	—	236	236	0.01	0.02	—	243
Energy	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	23,281	23,281	2.98	0.27	—	23,435
Water	—	—	—	—	—	—	—	—	—	—	—	49.8	47.4	97.2	5.11	0.12	—	261
Waste	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Stationary	16.3	12.1	39.4	81.9	0.41	5.91	—	5.91	5.91	—	5.91	—	77,352	77,352	1.58	0.91	—	77,662
Total	36.8	42.7	54.8	207	0.62	6.74	6.23	13.0	6.77	1.11	7.88	380	116,558	116,938	43.2	2.05	16.2	118,646
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.85	8.35	6.85	54.7	0.14	0.08	6.23	6.31	0.07	1.11	1.19	—	14,495	14,495	0.64	0.79	0.15	14,747
Area	—	11.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	23,281	23,281	2.98	0.27	—	23,435
Water	—	—	—	—	—	—	—	—	—	—	—	49.8	47.4	97.2	5.11	0.12	—	261
Waste	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Stationary	16.3	12.1	39.4	81.9	0.41	5.91	—	5.91	5.91	—	5.91	—	77,352	77,352	1.58	0.91	—	77,662
Total	26.2	32.9	55.2	144	0.60	6.67	6.23	12.9	6.66	1.11	7.78	380	115,175	115,554	43.3	2.09	10.5	117,270
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.53	7.11	5.50	46.0	0.12	0.07	5.33	5.39	0.06	0.95	1.01	—	12,613	12,613	0.51	0.65	2.16	12,822
Area	5.03	16.5	0.24	28.3	< 0.005	0.04	—	0.04	0.05	—	0.05	—	116	116	< 0.005	0.01	—	120
Energy	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	23,281	23,281	2.98	0.27	—	23,435
Water	—	—	—	—	—	—	—	—	—	—	—	49.8	47.4	97.2	5.11	0.12	—	261
Waste	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Stationary	5.43	3.26	5.39	39.6	0.23	3.01	—	3.01	3.01	—	3.01	—	45,384	45,384	0.88	0.54	—	45,568
Total	19.0	27.4	20.1	121	0.41	3.80	5.33	9.12	3.81	0.95	4.76	380	81,442	81,821	42.5	1.59	12.5	83,371
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.37	1.30	1.00	8.39	0.02	0.01	0.97	0.98	0.01	0.17	0.19	—	2,088	2,088	0.09	0.11	0.36	2,123
Area	0.92	3.02	0.04	5.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	19.2	19.2	< 0.005	< 0.005	—	19.8
Energy	0.18	0.09	1.64	1.38	0.01	0.12	—	0.12	0.12	—	0.12	—	3,854	3,854	0.49	0.04	—	3,880
Water	—	—	—	—	—	—	—	—	—	—	—	8.24	7.85	16.1	0.85	0.02	—	43.3
Waste	—	—	—	—	—	—	—	—	—	—	—	54.6	0.00	54.6	5.46	0.00	—	191
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.72	1.72
Stationary	0.99	0.59	0.98	7.23	0.04	0.55	—	0.55	0.55	—	0.55	—	7,514	7,514	0.15	0.09	—	7,544
Total	3.46	5.00	3.67	22.2	0.07	0.69	0.97	1.67	0.69	0.17	0.87	62.9	13,484	13,546	7.03	0.26	2.08	13,803

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	8.88	8.42	5.72	57.6	0.15	0.07	5.98	6.05	0.07	1.07	1.14	—	15,002	15,002	0.53	0.70	5.61	15,229
General Light Industry	0.38	0.36	0.24	2.46	0.01	< 0.005	0.26	0.26	< 0.005	0.05	0.05	—	641	641	0.02	0.03	0.24	651
Enclosed Parking with Elevator	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	0.00
Parking Lot	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	0.00
Total	9.26	8.78	5.96	60.1	0.15	0.08	6.23	6.31	0.07	1.11	1.19	—	15,643	15,643	0.55	0.73	5.85	15,880
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	8.49	8.01	6.57	52.5	0.14	0.07	5.98	6.05	0.07	1.07	1.14	—	13,901	13,901	0.62	0.76	0.15	14,143
General Light Industry	0.36	0.34	0.28	2.24	0.01	< 0.005	0.26	0.26	< 0.005	0.05	0.05	—	594	594	0.03	0.03	0.01	604
Enclosed Parking with Elevator	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	0.00
Parking Lot	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	0.00
Total	8.85	8.35	6.85	54.7	0.14	0.08	6.23	6.31	0.07	1.11	1.19	—	14,495	14,495	0.64	0.79	0.15	14,747

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	1.36	1.29	1.00	8.34	0.02	0.01	0.97	0.98	0.01	0.17	0.18	—	2,074	2,074	0.08	0.11	0.35	2,108
General Light Industry	0.01	0.01	0.01	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	14.3	14.3	< 0.005	< 0.005	< 0.005	14.5
Enclosed Parking with Elevator	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	0.00
Parking Lot	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	0.00
Total	1.37	1.30	1.00	8.39	0.02	0.01	0.97	0.98	0.01	0.17	0.19	—	2,088	2,088	0.09	0.11	0.36	2,123

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	8.88	8.42	5.72	57.6	0.15	0.07	5.98	6.05	0.07	1.07	1.14	—	15,002	15,002	0.53	0.70	5.61	15,229
General Light Industry	0.38	0.36	0.24	2.46	0.01	< 0.005	0.26	0.26	< 0.005	0.05	0.05	—	641	641	0.02	0.03	0.24	651
Enclosed Parking with Elevator	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	0.00
Parking Lot	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	0.00
Total	9.26	8.78	5.96	60.1	0.15	0.08	6.23	6.31	0.07	1.11	1.19	—	15,643	15,643	0.55	0.73	5.85	15,880
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hospital	8.49	8.01	6.57	52.5	0.14	0.07	5.98	6.05	0.07	1.07	1.14	—	13,901	13,901	0.62	0.76	0.15	14,143
General Light Industry	0.36	0.34	0.28	2.24	0.01	< 0.005	0.26	0.26	< 0.005	0.05	0.05	—	594	594	0.03	0.03	0.01	604
Enclosed Parking with Elevator	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	0.00
Parking Lot	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	0.00
Total	8.85	8.35	6.85	54.7	0.14	0.08	6.23	6.31	0.07	1.11	1.19	—	14,495	14,495	0.64	0.79	0.15	14,747
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	1.36	1.29	1.00	8.34	0.02	0.01	0.97	0.98	0.01	0.17	0.18	—	2,074	2,074	0.08	0.11	0.35	2,108
General Light Industry	0.01	0.01	0.01	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	14.3	14.3	< 0.005	< 0.005	< 0.005	14.5
Enclosed Parking with Elevator	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	0.00
Parking Lot	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	0.00
Total	1.37	1.30	1.00	8.39	0.02	0.01	0.97	0.98	0.01	0.17	0.19	—	2,088	2,088	0.09	0.11	0.36	2,123

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hospital	—	—	—	—	—	—	—	—	—	—	—	—	10,684	10,684	1.73	0.21	—	10,790
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	214	214	0.03	< 0.005	—	216
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	1,650	1,650	0.27	0.03	—	1,667
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	16.5	16.5	< 0.005	< 0.005	—	16.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	12,565	12,565	2.03	0.25	—	12,689
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	10,684	10,684	1.73	0.21	—	10,790
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	214	214	0.03	< 0.005	—	216
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	1,650	1,650	0.27	0.03	—	1,667
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	16.5	16.5	< 0.005	< 0.005	—	16.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	12,565	12,565	2.03	0.25	—	12,689
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	1,769	1,769	0.29	0.03	—	1,786
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	35.4	35.4	0.01	< 0.005	—	35.7
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	273	273	0.04	0.01	—	276

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.73	2.73	< 0.005	< 0.005	—	2.76
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,080	2,080	0.34	0.04	—	2,101

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	10,684	10,684	1.73	0.21	—	10,790
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	214	214	0.03	< 0.005	—	216
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	1,650	1,650	0.27	0.03	—	1,667
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	16.5	16.5	< 0.005	< 0.005	—	16.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	12,565	12,565	2.03	0.25	—	12,689
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	10,684	10,684	1.73	0.21	—	10,790
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	214	214	0.03	< 0.005	—	216
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	1,650	1,650	0.27	0.03	—	1,667

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	16.5	16.5	< 0.005	< 0.005	—	16.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	12,565	12,565	2.03	0.25	—	12,689
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	1,769	1,769	0.29	0.03	—	1,786
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	35.4	35.4	0.01	< 0.005	—	35.7
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	273	273	0.04	0.01	—	276
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.73	2.73	< 0.005	< 0.005	—	2.76
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,080	2,080	0.34	0.04	—	2,101

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.94	0.47	8.57	7.20	0.05	0.65	—	0.65	0.65	—	0.65	—	10,225	10,225	0.90	0.02	—	10,253
General Light Industry	0.05	0.02	0.41	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	492	492	0.04	< 0.005	—	493
Enclosed Parking with Elevator	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
Parking Lot	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

Total	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	10,716	10,716	0.95	0.02	—	10,746
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.94	0.47	8.57	7.20	0.05	0.65	—	0.65	0.65	—	0.65	—	10,225	10,225	0.90	0.02	—	10,253
General Light Industry	0.05	0.02	0.41	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	492	492	0.04	< 0.005	—	493
Enclosed Parking with Elevator	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
Parking Lot	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
Total	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	10,716	10,716	0.95	0.02	—	10,746
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.17	0.09	1.56	1.31	0.01	0.12	—	0.12	0.12	—	0.12	—	1,693	1,693	0.15	< 0.005	—	1,697
General Light Industry	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	81.4	81.4	0.01	< 0.005	—	81.6
Enclosed Parking with Elevator	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
Parking Lot	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
Total	0.18	0.09	1.64	1.38	0.01	0.12	—	0.12	0.12	—	0.12	—	1,774	1,774	0.16	< 0.005	—	1,779

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.94	0.47	8.57	7.20	0.05	0.65	—	0.65	0.65	—	0.65	—	10,225	10,225	0.90	0.02	—	10,253
General Light Industry	0.05	0.02	0.41	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	492	492	0.04	< 0.005	—	493
Enclosed Parking with Elevator	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
Parking Lot	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
Total	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	10,716	10,716	0.95	0.02	—	10,746
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.94	0.47	8.57	7.20	0.05	0.65	—	0.65	0.65	—	0.65	—	10,225	10,225	0.90	0.02	—	10,253
General Light Industry	0.05	0.02	0.41	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	492	492	0.04	< 0.005	—	493
Enclosed Parking with Elevator	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
Parking Lot	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
Total	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	10,716	10,716	0.95	0.02	—	10,746
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.17	0.09	1.56	1.31	0.01	0.12	—	0.12	0.12	—	0.12	—	1,693	1,693	0.15	< 0.005	—	1,697
General Light Industry	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	81.4	81.4	0.01	< 0.005	—	81.6

Enclosed Parking with Elevator	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
Parking Lot	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
Total	0.18	0.09	1.64	1.38	0.01	0.12	—	0.12	0.12	—	0.12	—	1,774	1,774	0.16	< 0.005	—	1,779

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	11.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	10.2	9.42	0.48	57.3	< 0.005	0.08	—	0.08	0.10	—	0.10	—	236	236	0.01	0.02	—	243
Total	10.2	21.3	0.48	57.3	< 0.005	0.08	—	0.08	0.10	—	0.10	—	236	236	0.01	0.02	—	243
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	11.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	11.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.92	0.85	0.04	5.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	19.2	19.2	< 0.005	< 0.005	—	19.8
Total	0.92	3.02	0.04	5.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	19.2	19.2	< 0.005	< 0.005	—	19.8

4.3.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	11.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	10.2	9.42	0.48	57.3	< 0.005	0.08	—	0.08	0.10	—	0.10	—	236	236	0.01	0.02	—	243
Total	10.2	21.3	0.48	57.3	< 0.005	0.08	—	0.08	0.10	—	0.10	—	236	236	0.01	0.02	—	243

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	11.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	11.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.92	0.85	0.04	5.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	19.2	19.2	< 0.005	< 0.005	—	19.8
Total	0.92	3.02	0.04	5.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	19.2	19.2	< 0.005	< 0.005	—	19.8

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	33.4	31.9	65.3	3.43	0.08	—	175

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	16.4	15.6	32.0	1.68	0.04	—	86.1
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	49.8	47.5	97.3	5.11	0.12	—	262
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	33.4	31.9	65.3	3.43	0.08	—	175
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	16.4	15.6	32.0	1.68	0.04	—	86.1
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	49.8	47.5	97.3	5.11	0.12	—	262
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	5.53	5.29	10.8	0.57	0.01	—	29.1
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.71	2.58	5.30	0.28	0.01	—	14.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	8.24	7.87	16.1	0.85	0.02	—	43.3

4.4.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	33.4	31.8	65.2	3.43	0.08	—	175
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	16.4	15.6	32.0	1.68	0.04	—	86.1
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	49.8	47.4	97.2	5.11	0.12	—	261
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	33.4	31.8	65.2	3.43	0.08	—	175
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	16.4	15.6	32.0	1.68	0.04	—	86.1
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	49.8	47.4	97.2	5.11	0.12	—	261

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	5.53	5.27	10.8	0.57	0.01	—	29.0
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.71	2.58	5.30	0.28	0.01	—	14.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8.24	7.85	16.1	0.85	0.02	—	43.3

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	305	0.00	305	30.5	0.00	—	1,068
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	24.7	0.00	24.7	2.47	0.00	—	86.5
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	305	0.00	305	30.5	0.00	—	1,068
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	24.7	0.00	24.7	2.47	0.00	—	86.5
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	50.5	0.00	50.5	5.05	0.00	—	177
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	4.09	0.00	4.09	0.41	0.00	—	14.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	54.6	0.00	54.6	5.46	0.00	—	191

4.5.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hospital	—	—	—	—	—	—	—	—	—	—	—	305	0.00	305	30.5	0.00	—	1,068
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	24.7	0.00	24.7	2.47	0.00	—	86.5
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	305	0.00	305	30.5	0.00	—	1,068
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	24.7	0.00	24.7	2.47	0.00	—	86.5
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	50.5	0.00	50.5	5.05	0.00	—	177
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	4.09	0.00	4.09	0.41	0.00	—	14.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	54.6	0.00	54.6	5.46	0.00	—	191

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.75	0.75
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.63	9.63
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.75	0.75
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.63	9.63
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.59	1.59
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.72	1.72

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.75	0.75
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.63	9.63
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.75	0.75
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.63	9.63
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.59	1.59
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.72	1.72

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	9.67	8.80	39.4	22.4	0.04	1.29	—	1.29	1.29	—	1.29	—	4,503	4,503	0.18	0.04	—	4,518
Process Boiler	6.68	3.34	0.00	59.5	0.36	4.61	—	4.61	4.61	—	4.61	—	72,848	72,848	1.40	0.87	—	73,144
Total	16.3	12.1	39.4	81.9	0.41	5.91	—	5.91	5.91	—	5.91	—	77,352	77,352	1.58	0.91	—	77,662
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	9.67	8.80	39.4	22.4	0.04	1.29	—	1.29	1.29	—	1.29	—	4,503	4,503	0.18	0.04	—	4,518
Process Boiler	6.68	3.34	0.00	59.5	0.36	4.61	—	4.61	4.61	—	4.61	—	72,848	72,848	1.40	0.87	—	73,144
Total	16.3	12.1	39.4	81.9	0.41	5.91	—	5.91	5.91	—	5.91	—	77,352	77,352	1.58	0.91	—	77,662
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.24	0.22	0.98	0.56	< 0.005	0.03	—	0.03	0.03	—	0.03	—	102	102	< 0.005	< 0.005	—	102
Process Boiler	0.75	0.37	0.00	6.67	0.04	0.52	—	0.52	0.52	—	0.52	—	7,412	7,412	0.14	0.09	—	7,442
Total	0.99	0.59	0.98	7.23	0.04	0.55	—	0.55	0.55	—	0.55	—	7,514	7,514	0.15	0.09	—	7,544

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	9.67	8.80	39.4	22.4	0.04	1.29	—	1.29	1.29	—	1.29	—	4,503	4,503	0.18	0.04	—	4,518
Process Boiler	6.68	3.34	0.00	59.5	0.36	4.61	—	4.61	4.61	—	4.61	—	72,848	72,848	1.40	0.87	—	73,144
Total	16.3	12.1	39.4	81.9	0.41	5.91	—	5.91	5.91	—	5.91	—	77,352	77,352	1.58	0.91	—	77,662
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	9.67	8.80	39.4	22.4	0.04	1.29	—	1.29	1.29	—	1.29	—	4,503	4,503	0.18	0.04	—	4,518
Process Boiler	6.68	3.34	0.00	59.5	0.36	4.61	—	4.61	4.61	—	4.61	—	72,848	72,848	1.40	0.87	—	73,144
Total	16.3	12.1	39.4	81.9	0.41	5.91	—	5.91	5.91	—	5.91	—	77,352	77,352	1.58	0.91	—	77,662
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.24	0.22	0.98	0.56	< 0.005	0.03	—	0.03	0.03	—	0.03	—	102	102	< 0.005	< 0.005	—	102
Process Boiler	0.75	0.37	0.00	6.67	0.04	0.52	—	0.52	0.52	—	0.52	—	7,412	7,412	0.14	0.09	—	7,442
Total	0.99	0.59	0.98	7.23	0.04	0.55	—	0.55	0.55	—	0.55	—	7,514	7,514	0.15	0.09	—	7,544

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Hospital	4,330	2,669	2,499	1,398,396	21,343	13,158	12,316	6,892,818
General Light Industry	0.00	0.00	185	9,646	0.00	0.00	912	47,548

Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Hospital	4,330	2,669	2,499	1,398,396	21,343	13,158	12,316	6,892,818
General Light Industry	0.00	0.00	185	9,646	0.00	0.00	912	47,548
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	811,931	262,881	48,597

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00

Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Hospital	19,117,817	204	0.0330	0.0040	31,903,452
General Light Industry	382,208	204	0.0330	0.0040	1,533,968
Enclosed Parking with Elevator	2,953,145	204	0.0330	0.0040	0.00
Parking Lot	29,535	204	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Hospital	19,117,817	204	0.0330	0.0040	31,903,452
General Light Industry	382,208	204	0.0330	0.0040	1,533,968
Enclosed Parking with Elevator	2,953,145	204	0.0330	0.0040	0.00
Parking Lot	29,535	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Hospital	17,423,847	195,040
General Light Industry	8,556,250	0.00
Enclosed Parking with Elevator	0.00	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Hospital	17,423,847	84,050
General Light Industry	8,556,250	0.00
Enclosed Parking with Elevator	0.00	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Hospital	566	0.00
General Light Industry	45.9	0.00
Enclosed Parking with Elevator	0.00	0.00
Parking Lot	0.00	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Hospital	566	0.00

General Light Industry	45.9	0.00
Enclosed Parking with Elevator	0.00	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Hospital	Chillers	R-134a	1,430	< 0.005	2.00	2.00	23.0
Hospital	Household refrigerators and/or freezers	R-134a	1,430	< 0.005	0.60	0.00	1.00
Hospital	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Hospital	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Hospital	Chillers	R-134a	1,430	< 0.005	2.00	2.00	23.0
Hospital	Household refrigerators and/or freezers	R-134a	1,430	< 0.005	0.60	0.00	1.00
Hospital	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Hospital	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	2.00	1.00	50.0	2,682	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
Boiler - CNG (5–75 MMBTU)	CNG	2.00	10.5	126	25,754
Boiler - CNG (5–75 MMBTU)	CNG	2.00	6.70	80.4	20,542

5.17. User Defined

Equipment Type	Fuel Type
—	—

8. User Changes to Default Data

Screen	Justification

Land Use	Proposed project includes 194 new beds, 1,980 space parking garage, 30 KSF CUP, 3.5 KSF fuel tank yard, 3.5 KSF generator building addition, 16 parking spaces in north lot and 70 parking spaces at emergency department lot, and potential 150 KSF expansion.
Operations: Vehicle Data	No trips associated with industrial uses as vehicle trips are included in the hospital land use.

St. Joseph's Medical Center - Operations (2042) Detailed Report

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6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Operations (2042)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.970485042044885, -121.28830512886344
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hospital	194	Bed	3.19	481,000	20,909	0.00	—	—
General Light Industry	37.0	1000sqft	0.85	37,000	0.00	0.00	—	—

Enclosed Parking with Elevator	1,980	Space	17.8	800,000	0.00	0.00	—	—
Parking Lot	86.0	Space	0.77	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Area Sources	LL-1	Replace Gas Powered Landscape Equipment with Zero-Emission Landscape Equipment

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	32.9	40.3	52.0	144	0.36	5.14	0.30	5.45	5.17	0.05	5.22	380	78,064	78,443	42.5	1.30	10.7	79,904
Mit.	22.7	30.9	51.5	87.1	0.35	5.07	0.30	5.37	5.06	0.05	5.12	380	77,869	78,249	42.5	1.28	10.7	79,703
% Reduced	31%	23%	1%	40%	1%	1%	—	1%	2%	—	2%	—	< 0.5%	< 0.5%	< 0.5%	2%	—	< 0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	22.4	30.5	51.9	93.0	0.35	5.07	0.30	5.37	5.06	0.05	5.12	380	77,788	78,168	42.6	1.31	10.4	79,633
Mit.	22.4	30.5	51.9	93.0	0.35	5.07	0.30	5.37	5.06	0.05	5.12	380	77,788	78,168	42.6	1.31	10.4	79,633
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.7	24.5	17.6	56.7	0.24	3.08	0.27	3.08	3.08	0.05	3.08	380	48,566	48,566	41.4	0.66	10.5	48,762
Mit.	8.71	19.8	17.3	39.7	0.24	3.08	0.27	3.08	3.08	0.05	3.08	380	48,566	48,566	41.4	0.65	10.5	48,762
% Reduced	37%	19%	1%	30%	—	—	—	—	—	—	—	—	—	—	< 0.5%	2%	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.51	4.47	3.20	10.3	0.04	0.56	0.05	0.56	0.56	0.01	0.56	62.9	8,041	8,041	6.86	0.11	1.74	8,073
Mit.	1.59	3.62	3.16	7.24	0.04	0.56	0.05	0.56	0.56	0.01	0.56	62.9	8,041	8,041	6.86	0.11	1.74	8,073
% Reduced	37%	19%	1%	30%	—	—	—	—	—	—	—	—	—	—	< 0.5%	2%	—	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.62	7.46	3.13	17.4	0.01	0.01	0.30	0.32	0.01	0.05	0.07	—	1,431	1,431	0.32	0.27	0.28	1,520
Area	10.2	21.3	0.48	57.3	< 0.005	0.08	—	0.08	0.10	—	0.10	—	236	236	0.01	0.02	—	243
Energy	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	23,281	23,281	2.98	0.27	—	23,435
Water	—	—	—	—	—	—	—	—	—	—	—	49.8	47.6	97.4	5.11	0.12	—	262
Waste	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Stationary	14.1	11.0	39.4	62.1	0.29	4.37	—	4.37	4.37	—	4.37	—	53,069	53,069	1.11	0.62	—	53,281
Total	32.9	40.3	52.0	144	0.36	5.14	0.30	5.45	5.17	0.05	5.22	380	78,064	78,443	42.5	1.30	10.7	79,904

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.29	7.08	3.56	23.4	0.01	0.01	0.30	0.32	0.01	0.05	0.07	—	1,391	1,391	0.42	0.30	0.01	1,491
Area	—	11.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	23,281	23,281	2.98	0.27	—	23,435
Water	—	—	—	—	—	—	—	—	—	—	—	49.8	47.6	97.4	5.11	0.12	—	262
Waste	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Stationary	14.1	11.0	39.4	62.1	0.29	4.37	—	4.37	4.37	—	4.37	—	53,069	53,069	1.11	0.62	—	53,281
Total	22.4	30.5	51.9	93.0	0.35	5.07	0.30	5.37	5.06	0.05	5.12	380	77,788	78,168	42.6	1.31	10.4	79,633
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.40	6.23	2.94	17.8	0.01	0.01	0.27	0.28	0.01	0.05	0.06	—	1,235	1,235	0.33	0.25	0.11	1,318
Area	5.03	16.5	0.24	28.3	< 0.005	0.04	—	0.04	0.05	—	0.05	—	116	116	< 0.005	0.01	—	120
Energy	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	23,281	23,281	2.98	0.27	—	23,435
Water	—	—	—	—	—	—	—	—	—	—	—	49.8	47.6	97.4	5.11	0.12	—	262
Waste	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Stationary	5.78	3.43	5.39	42.7	0.25	3.25	—	3.25	3.25	—	3.25	—	49,182	49,182	0.96	0.59	—	49,381
Total	18.2	26.7	17.6	96.3	0.32	3.98	0.27	4.25	4.00	0.05	4.04	380	73,862	74,241	42.4	1.24	10.5	75,680
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.17	1.14	0.54	3.24	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	204	204	0.06	0.04	0.02	218
Area	0.92	3.02	0.04	5.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	19.2	19.2	< 0.005	< 0.005	—	19.8
Energy	0.18	0.09	1.64	1.38	0.01	0.12	—	0.12	0.12	—	0.12	—	3,854	3,854	0.49	0.04	—	3,880
Water	—	—	—	—	—	—	—	—	—	—	—	8.24	7.88	16.1	0.85	0.02	—	43.3
Waste	—	—	—	—	—	—	—	—	—	—	—	54.6	0.00	54.6	5.46	0.00	—	191

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.72	1.72
Stationary	1.05	0.63	0.98	7.80	0.05	0.59	—	0.59	0.59	—	0.59	—	8,143	8,143	0.16	0.10	—	8,176
Total	3.32	4.87	3.20	17.6	0.06	0.73	0.05	0.78	0.73	0.01	0.74	62.9	12,229	12,292	7.02	0.21	1.74	12,530

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.62	7.46	3.13	17.4	0.01	0.01	0.30	0.32	0.01	0.05	0.07	—	1,431	1,431	0.32	0.27	0.28	1,520
Area	—	11.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	23,322	23,322	2.99	0.27	—	23,477
Water	—	—	—	—	—	—	—	—	—	—	—	49.8	47.6	97.4	5.11	0.12	—	262
Waste	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Stationary	14.1	11.0	39.4	62.1	0.29	4.37	—	4.37	4.37	—	4.37	—	53,069	53,069	1.11	0.62	—	53,281
Total	22.7	30.9	51.5	87.1	0.35	5.07	0.30	5.37	5.06	0.05	5.12	380	77,869	78,249	42.5	1.28	10.7	79,703
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	7.29	7.08	3.56	23.4	0.01	0.01	0.30	0.32	0.01	0.05	0.07	—	1,391	1,391	0.42	0.30	0.01	1,491
Area	—	11.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	23,281	23,281	2.98	0.27	—	23,435
Water	—	—	—	—	—	—	—	—	—	—	—	49.8	47.6	97.4	5.11	0.12	—	262
Waste	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4

Stationar	14.1	11.0	39.4	62.1	0.29	4.37	—	4.37	4.37	—	4.37	—	53,069	53,069	1.11	0.62	—	53,281
Total	22.4	30.5	51.9	93.0	0.35	5.07	0.30	5.37	5.06	0.05	5.12	380	77,788	78,168	42.6	1.31	10.4	79,633
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	6.40	6.23	2.94	17.8	0.01	0.01	0.27	0.28	0.01	0.05	0.06	—	1,235	1,235	0.33	0.25	0.11	1,318
Area	—	11.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	23,301	23,301	2.98	0.27	—	23,455
Water	—	—	—	—	—	—	—	—	—	—	—	49.8	47.6	97.4	5.11	0.12	—	262
Waste	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Stationary	5.78	3.43	5.39	42.7	0.25	3.25	—	3.25	3.25	—	3.25	—	49,182	49,182	0.96	0.59	—	49,381
Total	13.2	22.1	17.3	68.1	0.31	3.95	0.27	4.21	3.95	0.05	3.99	380	73,766	74,146	42.4	1.23	10.5	75,581
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.17	1.14	0.54	3.24	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	204	204	0.06	0.04	0.02	218
Area	—	2.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.18	0.09	1.64	1.38	0.01	0.12	—	0.12	0.12	—	0.12	—	3,858	3,858	0.49	0.04	—	3,883
Water	—	—	—	—	—	—	—	—	—	—	—	8.24	7.88	16.1	0.85	0.02	—	43.3
Waste	—	—	—	—	—	—	—	—	—	—	—	54.6	0.00	54.6	5.46	0.00	—	191
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.72	1.72
Stationary	1.05	0.63	0.98	7.80	0.05	0.59	—	0.59	0.59	—	0.59	—	8,143	8,143	0.16	0.10	—	8,176
Total	2.40	4.02	3.16	12.4	0.06	0.72	0.05	0.77	0.72	0.01	0.73	62.9	12,213	12,276	7.01	0.20	1.74	12,513

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	7.62	7.46	3.13	17.4	0.01	0.01	0.30	0.32	0.01	0.05	0.07	—	1,431	1,431	0.32	0.27	0.28	1,520
General Light Industry	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	0.00
Enclosed Parking with Elevator	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	0.00
Parking Lot	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	0.00
Total	7.62	7.46	3.13	17.4	0.01	0.01	0.30	0.32	0.01	0.05	0.07	—	1,431	1,431	0.32	0.27	0.28	1,520
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	7.29	7.08	3.56	23.4	0.01	0.01	0.30	0.32	0.01	0.05	0.07	—	1,391	1,391	0.42	0.30	0.01	1,491
General Light Industry	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	0.00
Enclosed Parking with Elevator	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	0.00
Parking Lot	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	0.00
Total	7.29	7.08	3.56	23.4	0.01	0.01	0.30	0.32	0.01	0.05	0.07	—	1,391	1,391	0.42	0.30	0.01	1,491
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hospital	1.17	1.14	0.54	3.24	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	204	204	0.06	0.04	0.02	218
General Light Industry	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	0.00
Enclosed Parking with Elevator	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	0.00
Parking Lot	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	0.00
Total	1.17	1.14	0.54	3.24	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	204	204	0.06	0.04	0.02	218

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	7.62	7.46	3.13	17.4	0.01	0.01	0.30	0.32	0.01	0.05	0.07	—	1,431	1,431	0.32	0.27	0.28	1,520
General Light Industry	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	0.00
Enclosed Parking with Elevator	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	0.00
Parking Lot	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	0.00
Total	7.62	7.46	3.13	17.4	0.01	0.01	0.30	0.32	0.01	0.05	0.07	—	1,431	1,431	0.32	0.27	0.28	1,520
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	7.29	7.08	3.56	23.4	0.01	0.01	0.30	0.32	0.01	0.05	0.07	—	1,391	1,391	0.42	0.30	0.01	1,491

General Light Industry	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	0.00
Enclosed Parking with Elevator	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	0.00
Parking Lot	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	0.00
Total	7.29	7.08	3.56	23.4	0.01	0.01	0.30	0.32	0.01	0.05	0.07	—	1,391	1,391	0.42	0.30	0.01	1,491
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	1.17	1.14	0.54	3.24	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	204	204	0.06	0.04	0.02	218
General Light Industry	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	0.00
Enclosed Parking with Elevator	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	0.00
Parking Lot	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	0.00
Total	1.17	1.14	0.54	3.24	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	204	204	0.06	0.04	0.02	218

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	10,684	10,684	1.73	0.21	—	10,790

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	214	214	0.03	< 0.005	—	216
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	1,650	1,650	0.27	0.03	—	1,667
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	16.5	16.5	< 0.005	< 0.005	—	16.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	12,565	12,565	2.03	0.25	—	12,689
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	10,684	10,684	1.73	0.21	—	10,790
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	214	214	0.03	< 0.005	—	216
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	1,650	1,650	0.27	0.03	—	1,667
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	16.5	16.5	< 0.005	< 0.005	—	16.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	12,565	12,565	2.03	0.25	—	12,689
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	1,769	1,769	0.29	0.03	—	1,786
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	35.4	35.4	0.01	< 0.005	—	35.7
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	273	273	0.04	0.01	—	276
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.73	2.73	< 0.005	< 0.005	—	2.76

Total	—	—	—	—	—	—	—	—	—	—	—	—	2,080	2,080	0.34	0.04	—	2,101

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	10,699	10,699	1.73	0.21	—	10,805
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	215	215	0.03	< 0.005	—	217
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	1,675	1,675	0.27	0.03	—	1,692
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	16.5	16.5	< 0.005	< 0.005	—	16.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	12,606	12,606	2.04	0.25	—	12,731
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	10,684	10,684	1.73	0.21	—	10,790
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	214	214	0.03	< 0.005	—	216
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	1,650	1,650	0.27	0.03	—	1,667
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	16.5	16.5	< 0.005	< 0.005	—	16.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	12,565	12,565	2.03	0.25	—	12,689

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	1,770	1,770	0.29	0.03	—	1,788
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	35.5	35.5	0.01	< 0.005	—	35.8
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	—	275	275	0.04	0.01	—	278
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.73	2.73	< 0.005	< 0.005	—	2.76
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,084	2,084	0.34	0.04	—	2,104

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.94	0.47	8.57	7.20	0.05	0.65	—	0.65	0.65	—	0.65	—	10,225	10,225	0.90	0.02	—	10,253
General Light Industry	0.05	0.02	0.41	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	492	492	0.04	< 0.005	—	493
Enclosed Parking with Elevator	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
Parking Lot	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
Total	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	10,716	10,716	0.95	0.02	—	10,746
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hospital	0.94	0.47	8.57	7.20	0.05	0.65	—	0.65	0.65	—	0.65	—	10,225	10,225	0.90	0.02	—	10,253
General Light Industry	0.05	0.02	0.41	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	492	492	0.04	< 0.005	—	493
Enclosed Parking with Elevator	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
Parking Lot	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
Total	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	10,716	10,716	0.95	0.02	—	10,746
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.17	0.09	1.56	1.31	0.01	0.12	—	0.12	0.12	—	0.12	—	1,693	1,693	0.15	< 0.005	—	1,697
General Light Industry	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	81.4	81.4	0.01	< 0.005	—	81.6
Enclosed Parking with Elevator	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
Parking Lot	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
Total	0.18	0.09	1.64	1.38	0.01	0.12	—	0.12	0.12	—	0.12	—	1,774	1,774	0.16	< 0.005	—	1,779

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.94	0.47	8.57	7.20	0.05	0.65	—	0.65	0.65	—	0.65	—	10,225	10,225	0.90	0.02	—	10,253

General Light Industry	0.05	0.02	0.41	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	492	492	0.04	< 0.005	—	493
Enclosed Parking with Elevator	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
Parking Lot	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
Total	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	10,716	10,716	0.95	0.02	—	10,746
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.94	0.47	8.57	7.20	0.05	0.65	—	0.65	0.65	—	0.65	—	10,225	10,225	0.90	0.02	—	10,253
General Light Industry	0.05	0.02	0.41	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	492	492	0.04	< 0.005	—	493
Enclosed Parking with Elevator	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
Parking Lot	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
Total	0.99	0.49	8.98	7.54	0.05	0.68	—	0.68	0.68	—	0.68	—	10,716	10,716	0.95	0.02	—	10,746
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.17	0.09	1.56	1.31	0.01	0.12	—	0.12	0.12	—	0.12	—	1,693	1,693	0.15	< 0.005	—	1,697
General Light Industry	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	81.4	81.4	0.01	< 0.005	—	81.6
Enclosed Parking with Elevator	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
Parking Lot	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

Total	0.18	0.09	1.64	1.38	0.01	0.12	—	0.12	0.12	—	0.12	—	1,774	1,774	0.16	< 0.005	—	1,779

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	11.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	10.2	9.42	0.48	57.3	< 0.005	0.08	—	0.08	0.10	—	0.10	—	236	236	0.01	0.02	—	243
Total	10.2	21.3	0.48	57.3	< 0.005	0.08	—	0.08	0.10	—	0.10	—	236	236	0.01	0.02	—	243
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	11.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	11.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consumer	—	2.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.92	0.85	0.04	5.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	19.2	19.2	< 0.005	< 0.005	—	19.8
Total	0.92	3.02	0.04	5.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	19.2	19.2	< 0.005	< 0.005	—	19.8

4.3.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	11.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	11.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	11.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	11.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	2.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	2.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	33.4	32.0	65.4	3.43	0.08	—	176
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	16.4	15.6	32.0	1.68	0.04	—	86.1
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	49.8	47.6	97.4	5.11	0.12	—	262
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	33.4	32.0	65.4	3.43	0.08	—	176

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	16.4	15.6	32.0	1.68	0.04	—	86.1
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	49.8	47.6	97.4	5.11	0.12	—	262
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	5.53	5.30	10.8	0.57	0.01	—	29.1
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.71	2.58	5.30	0.28	0.01	—	14.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8.24	7.88	16.1	0.85	0.02	—	43.3

4.4.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	33.4	32.0	65.4	3.43	0.08	—	176
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	16.4	15.6	32.0	1.68	0.04	—	86.1

Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	49.8	47.6	97.4	5.11	0.12	—	262
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	33.4	32.0	65.4	3.43	0.08	—	176
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	16.4	15.6	32.0	1.68	0.04	—	86.1
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	49.8	47.6	97.4	5.11	0.12	—	262
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	5.53	5.30	10.8	0.57	0.01	—	29.1
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.71	2.58	5.30	0.28	0.01	—	14.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8.24	7.88	16.1	0.85	0.02	—	43.3

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	305	0.00	305	30.5	0.00	—	1,068
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	24.7	0.00	24.7	2.47	0.00	—	86.5
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	305	0.00	305	30.5	0.00	—	1,068
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	24.7	0.00	24.7	2.47	0.00	—	86.5
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	50.5	0.00	50.5	5.05	0.00	—	177
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	4.09	0.00	4.09	0.41	0.00	—	14.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	54.6	0.00	54.6	5.46	0.00	—	191

4.5.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	305	0.00	305	30.5	0.00	—	1,068
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	24.7	0.00	24.7	2.47	0.00	—	86.5
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hospital	—	—	—	—	—	—	—	—	—	—	—	305	0.00	305	30.5	0.00	—	1,068
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	24.7	0.00	24.7	2.47	0.00	—	86.5
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	330	0.00	330	33.0	0.00	—	1,155
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	50.5	0.00	50.5	5.05	0.00	—	177
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	4.09	0.00	4.09	0.41	0.00	—	14.3
Enclosed Parking with Elevator	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	54.6	0.00	54.6	5.46	0.00	—	191

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.75	0.75
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.63	9.63
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.75	0.75
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.63	9.63
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.59	1.59
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.72	1.72

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.75	0.75
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.63	9.63
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.75	0.75
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.63	9.63
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.4	10.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.59	1.59
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.72	1.72

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	9.67	8.80	39.4	22.4	0.04	1.29	—	1.29	1.29	—	1.29	—	4,503	4,503	0.18	0.04	—	4,518
Process Boiler	4.45	2.23	0.00	39.7	0.24	3.08	—	3.08	3.08	—	3.08	—	48,566	48,566	0.93	0.58	—	48,762

Total	14.1	11.0	39.4	62.1	0.29	4.37	—	4.37	4.37	—	4.37	—	53,069	53,069	1.11	0.62	—	53,281
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	9.67	8.80	39.4	22.4	0.04	1.29	—	1.29	1.29	—	1.29	—	4,503	4,503	0.18	0.04	—	4,518
Process Boiler	4.45	2.23	0.00	39.7	0.24	3.08	—	3.08	3.08	—	3.08	—	48,566	48,566	0.93	0.58	—	48,762
Total	14.1	11.0	39.4	62.1	0.29	4.37	—	4.37	4.37	—	4.37	—	53,069	53,069	1.11	0.62	—	53,281
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.24	0.22	0.98	0.56	< 0.005	0.03	—	0.03	0.03	—	0.03	—	102	102	< 0.005	< 0.005	—	102
Process Boiler	0.81	0.41	0.00	7.24	0.04	0.56	—	0.56	0.56	—	0.56	—	8,041	8,041	0.15	0.10	—	8,073
Total	1.05	0.63	0.98	7.80	0.05	0.59	—	0.59	0.59	—	0.59	—	8,143	8,143	0.16	0.10	—	8,176

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	9.67	8.80	39.4	22.4	0.04	1.29	—	1.29	1.29	—	1.29	—	4,503	4,503	0.18	0.04	—	4,518
Process Boiler	4.45	2.23	0.00	39.7	0.24	3.08	—	3.08	3.08	—	3.08	—	48,566	48,566	0.93	0.58	—	48,762

Total	14.1	11.0	39.4	62.1	0.29	4.37	—	4.37	4.37	—	4.37	—	53,069	53,069	1.11	0.62	—	53,281
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	9.67	8.80	39.4	22.4	0.04	1.29	—	1.29	1.29	—	1.29	—	4,503	4,503	0.18	0.04	—	4,518
Process Boiler	4.45	2.23	0.00	39.7	0.24	3.08	—	3.08	3.08	—	3.08	—	48,566	48,566	0.93	0.58	—	48,762
Total	14.1	11.0	39.4	62.1	0.29	4.37	—	4.37	4.37	—	4.37	—	53,069	53,069	1.11	0.62	—	53,281
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.24	0.22	0.98	0.56	< 0.005	0.03	—	0.03	0.03	—	0.03	—	102	102	< 0.005	< 0.005	—	102
Process Boiler	0.81	0.41	0.00	7.24	0.04	0.56	—	0.56	0.56	—	0.56	—	8,041	8,041	0.15	0.10	—	8,073
Total	1.05	0.63	0.98	7.80	0.05	0.59	—	0.59	0.59	—	0.59	—	8,143	8,143	0.16	0.10	—	8,176

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Hospital	4,330	2,669	2,499	1,398,396	1,083	667	625	349,599
General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Hospital	4,330	2,669	2,499	1,398,396	1,083	667	625	349,599

General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Enclosed Parking with Elevator	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	811,931	262,881	48,597

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Hospital	19,117,817	204	0.0330	0.0040	31,903,452
General Light Industry	382,208	204	0.0330	0.0040	1,533,968
Enclosed Parking with Elevator	2,953,145	204	0.0330	0.0040	0.00
Parking Lot	29,535	204	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Hospital	19,117,817	204	0.0330	0.0040	31,903,452
General Light Industry	382,208	204	0.0330	0.0040	1,533,968
Enclosed Parking with Elevator	2,953,145	204	0.0330	0.0040	0.00
Parking Lot	29,535	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Hospital	17,423,847	293,477
General Light Industry	8,556,250	0.00
Enclosed Parking with Elevator	0.00	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Hospital	17,423,847	293,477
General Light Industry	8,556,250	0.00
Enclosed Parking with Elevator	0.00	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Hospital	566	0.00
General Light Industry	45.9	0.00
Enclosed Parking with Elevator	0.00	0.00
Parking Lot	0.00	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Hospital	566	0.00
General Light Industry	45.9	0.00
Enclosed Parking with Elevator	0.00	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Hospital	Chillers	R-134a	1,430	< 0.005	2.00	2.00	23.0
Hospital	Household refrigerators and/or freezers	R-134a	1,430	< 0.005	0.60	0.00	1.00
Hospital	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Hospital	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Hospital	Chillers	R-134a	1,430	< 0.005	2.00	2.00	23.0
Hospital	Household refrigerators and/or freezers	R-134a	1,430	< 0.005	0.60	0.00	1.00
Hospital	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Hospital	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	2.00	1.00	50.0	2,682	0.73

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
Boiler - CNG (5–75 MMBTU)	CNG	2.00	10.5	126	45,990
Boiler - CNG (5–75 MMBTU)	CNG	2.00	6.70	80.4	29,346

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	23.0	annual days of extreme heat
Extreme Precipitation	2.50	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth

Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	45.0
AQ-PM	59.1
AQ-DPM	24.6
Drinking Water	41.6
Lead Risk Housing	85.3
Pesticides	0.00
Toxic Releases	36.8
Traffic	36.8

Effect Indicators	—
CleanUp Sites	53.4
Groundwater	85.6
Haz Waste Facilities/Generators	85.0
Impaired Water Bodies	58.7
Solid Waste	0.00
Sensitive Population	—
Asthma	85.9
Cardio-vascular	67.6
Low Birth Weights	69.2
Socioeconomic Factor Indicators	—
Education	64.1
Housing	64.5
Linguistic	35.3
Poverty	69.1
Unemployment	32.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	30.37341204
Employed	18.74759399
Median HI	23.23880405
Education	—
Bachelor's or higher	34.71063775
High school enrollment	100

Preschool enrollment	65.63582702
Transportation	—
Auto Access	34.87745413
Active commuting	39.80495316
Social	—
2-parent households	5.915565251
Voting	38.4832542
Neighborhood	—
Alcohol availability	20.44142179
Park access	33.32477865
Retail density	55.80649301
Supermarket access	37.28987553
Tree canopy	87.52726806
Housing	—
Homeownership	44.41165148
Housing habitability	53.07327088
Low-inc homeowner severe housing cost burden	63.67252663
Low-inc renter severe housing cost burden	27.25522905
Uncrowded housing	50.16040036
Health Outcomes	—
Insured adults	36.50712178
Arthritis	4.6
Asthma ER Admissions	25.6
High Blood Pressure	3.3
Cancer (excluding skin)	22.7
Asthma	12.1
Coronary Heart Disease	4.3

Chronic Obstructive Pulmonary Disease	3.9
Diagnosed Diabetes	19.9
Life Expectancy at Birth	1.4
Cognitively Disabled	26.7
Physically Disabled	29.8
Heart Attack ER Admissions	45.3
Mental Health Not Good	21.9
Chronic Kidney Disease	7.4
Obesity	14.4
Pedestrian Injuries	47.5
Physical Health Not Good	16.1
Stroke	6.5
Health Risk Behaviors	—
Binge Drinking	78.7
Current Smoker	20.2
No Leisure Time for Physical Activity	18.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	50.1
Elderly	30.4
English Speaking	48.2
Foreign-born	24.4
Outdoor Workers	25.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	36.9
Traffic Density	55.1

Traffic Access	0.0
Other Indices	—
Hardship	76.2
Other Decision Support	—
2016 Voting	24.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	27.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification

Land Use	Proposed project includes 194 new beds, 1,980 space parking garage, 30 KSF CUP, 3.5 KSF fuel tank yard, 3.5 KSF generator building addition, 16 parking spaces in north lot and 70 parking spaces at emergency department lot, and potential 150 KSF expansion.
Operations: Vehicle Data	Changed trip length to 0.25 miles for onsite mobile sources for AQAA. Assumed 100% primary trips.

St. Joseph's Medical Center - Existing Scenario (2022) Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Existing Scenario (2022)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.970477167130625, -121.28831281333078
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hospital	75.1	1000sqft	1.72	75,068	0.00	0.00	—	—
General Light Industry	15.0	1000sqft	0.34	15,000	0.00	0.00	—	—

Single Family Housing	1.00	Dwelling Unit	0.32	1,800	11,713	0.00	3.00	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.31	7.11	1.08	31.0	0.13	1.59	0.06	1.64	1.59	0.01	1.60	478	26,525	27,002	48.2	0.46	4.90	28,350
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.24	6.08	1.19	29.8	0.13	1.58	0.06	1.64	1.58	0.01	1.59	478	26,500	26,977	48.2	0.47	4.06	28,328
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.07	5.03	1.03	19.8	0.12	1.54	0.05	1.54	1.54	0.01	1.54	473	24,283	24,283	47.7	0.29	4.38	24,381
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.56	0.92	0.19	3.62	0.02	0.28	0.01	0.28	0.28	< 0.005	0.28	78.4	4,020	4,020	7.90	0.05	0.72	4,037

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.32	3.24	0.97	6.93	< 0.005	0.01	0.06	0.06	0.01	0.01	0.02	—	359	359	0.15	0.08	0.87	386
Area	0.75	2.76	0.05	4.20	< 0.005	0.04	—	0.04	0.04	—	0.04	5.43	26.8	32.2	0.03	< 0.005	—	33.3
Energy	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1,832	1,832	0.29	0.03	—	1,850
Water	—	—	—	—	—	—	—	—	—	—	—	24.8	23.8	48.5	2.54	0.06	—	130
Waste	—	—	—	—	—	—	—	—	—	—	—	447	0.00	447	44.7	0.00	—	1,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.04	4.04
Stationary	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381
Total	6.31	7.11	1.08	31.0	0.13	1.59	0.06	1.64	1.59	0.01	1.60	478	26,525	27,002	48.2	0.46	4.90	28,350
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.96	2.85	1.12	9.66	< 0.005	0.01	0.06	0.06	0.01	0.01	0.02	—	350	350	0.20	0.08	0.02	380
Area	0.05	2.11	0.01	0.23	< 0.005	0.03	—	0.03	0.03	—	0.03	5.43	10.5	16.0	0.03	< 0.005	—	16.6
Energy	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1,832	1,832	0.29	0.03	—	1,850
Water	—	—	—	—	—	—	—	—	—	—	—	24.8	23.8	48.5	2.54	0.06	—	130
Waste	—	—	—	—	—	—	—	—	—	—	—	447	0.00	447	44.7	0.00	—	1,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.04	4.04
Stationary	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381
Total	5.24	6.08	1.19	29.8	0.13	1.58	0.06	1.64	1.58	0.01	1.59	478	26,500	26,977	48.2	0.47	4.06	28,328
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.70	2.62	0.95	7.43	< 0.005	0.01	0.05	0.06	< 0.005	0.01	0.01	—	319	319	0.16	0.07	0.34	344
Area	0.36	2.41	0.02	2.01	< 0.005	0.01	—	0.01	0.01	—	0.01	1.22	10.4	11.6	0.01	< 0.005	—	12.0
Energy	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1,832	1,832	0.29	0.03	—	1,850
Water	—	—	—	—	—	—	—	—	—	—	—	24.8	23.8	48.5	2.54	0.06	—	130

Waste	—	—	—	—	—	—	—	—	—	—	—	447	0.00	447	44.7	0.00	—	1,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.04	4.04
Stationary	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381
Total	5.29	6.14	1.03	29.3	0.13	1.56	0.05	1.61	1.56	0.01	1.57	473	26,468	26,941	48.2	0.46	4.38	28,287
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.49	0.48	0.17	1.36	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	52.8	52.8	0.03	0.01	0.06	57.0
Area	0.07	0.44	< 0.005	0.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.20	1.72	1.92	< 0.005	< 0.005	—	1.98
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	303	303	0.05	0.01	—	306
Water	—	—	—	—	—	—	—	—	—	—	—	4.10	3.93	8.03	0.42	0.01	—	21.6
Waste	—	—	—	—	—	—	—	—	—	—	—	74.1	0.00	74.1	7.40	0.00	—	259
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.67	0.67
Stationary	0.41	0.20	0.00	3.62	0.02	0.28	—	0.28	0.28	—	0.28	—	4,020	4,020	0.08	0.05	—	4,037
Total	0.97	1.12	0.19	5.35	0.02	0.28	0.01	0.29	0.28	< 0.005	0.29	78.4	4,382	4,460	7.98	0.08	0.72	4,683

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	3.28	3.20	0.96	6.85	< 0.005	0.01	0.06	0.06	0.01	0.01	0.02	—	355	355	0.15	0.07	0.86	382

General Light Industry	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	0.00
Single Family Housing	0.04	0.04	0.01	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.21	4.21	< 0.005	< 0.005	0.01	4.52
Total	3.32	3.24	0.97	6.93	< 0.005	0.01	0.06	0.06	0.01	0.01	0.02	—	359	359	0.15	0.08	0.87	386
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	2.92	2.82	1.11	9.54	< 0.005	0.01	0.06	0.06	0.01	0.01	0.02	—	346	346	0.20	0.08	0.02	376
General Light Industry	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	0.00
Single Family Housing	0.03	0.03	0.01	0.11	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.11	4.11	< 0.005	< 0.005	< 0.005	4.46
Total	2.96	2.85	1.12	9.66	< 0.005	0.01	0.06	0.06	0.01	0.01	0.02	—	350	350	0.20	0.08	0.02	380
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.49	0.47	0.17	1.34	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	52.1	52.1	0.03	0.01	0.06	56.3
General Light Industry	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	0.00
Single Family Housing	0.01	0.01	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.67	0.67	< 0.005	< 0.005	< 0.005	0.72
Total	0.49	0.48	0.17	1.36	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	52.8	52.8	0.03	0.01	0.06	57.0

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	1,667	1,667	0.27	0.03	—	1,684
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	86.6	86.6	0.01	< 0.005	—	87.5
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4.76	4.76	< 0.005	< 0.005	—	4.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,759	1,759	0.28	0.03	—	1,776
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	1,667	1,667	0.27	0.03	—	1,684
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	86.6	86.6	0.01	< 0.005	—	87.5
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4.76	4.76	< 0.005	< 0.005	—	4.81
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,759	1,759	0.28	0.03	—	1,776
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	276	276	0.04	0.01	—	279
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	14.3	14.3	< 0.005	< 0.005	—	14.5
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	0.79	0.79	< 0.005	< 0.005	—	0.80
Total	—	—	—	—	—	—	—	—	—	—	—	—	291	291	0.05	0.01	—	294

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	59.7	59.7	0.01	< 0.005	—	59.8
General Light Industry	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.47	4.47	< 0.005	< 0.005	—	4.48
Single Family Housing	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.32	9.32	< 0.005	< 0.005	—	9.35
Total	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	73.5	73.5	0.01	< 0.005	—	73.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	59.7	59.7	0.01	< 0.005	—	59.8
General Light Industry	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.47	4.47	< 0.005	< 0.005	—	4.48
Single Family Housing	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.32	9.32	< 0.005	< 0.005	—	9.35
Total	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	73.5	73.5	0.01	< 0.005	—	73.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.88	9.88	< 0.005	< 0.005	—	9.91
General Light Industry	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.74	0.74	< 0.005	< 0.005	—	0.74

Single Family Housing	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.54	1.54	< 0.005	< 0.005	—	1.55
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.2	12.2	< 0.005	< 0.005	—	12.2

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.05	0.03	0.01	0.23	< 0.005	0.03	—	0.03	0.03	—	0.03	5.43	10.5	16.0	0.03	< 0.005	—	16.6
Consumer Products	—	1.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.70	0.65	0.03	3.97	< 0.005	0.01	—	0.01	0.01	—	0.01	—	16.3	16.3	< 0.005	< 0.005	—	16.7
Total	0.75	2.76	0.05	4.20	< 0.005	0.04	—	0.04	0.04	—	0.04	5.43	26.8	32.2	0.03	< 0.005	—	33.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.05	0.03	0.01	0.23	< 0.005	0.03	—	0.03	0.03	—	0.03	5.43	10.5	16.0	0.03	< 0.005	—	16.6
Consumer Products	—	1.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.05	2.11	0.01	0.23	< 0.005	0.03	—	0.03	0.03	—	0.03	5.43	10.5	16.0	0.03	< 0.005	—	16.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.20	0.39	0.59	< 0.005	< 0.005	—	0.62
Consumer Products	—	0.36	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.06	0.06	< 0.005	0.36	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.37
Total	0.07	0.44	< 0.005	0.37	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.20	1.72	1.92	< 0.005	< 0.005	—	1.98

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	18.1	17.2	35.2	1.85	0.04	—	94.8
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	6.65	6.32	13.0	0.68	0.02	—	34.9
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.08	0.27	0.35	0.01	< 0.005	—	0.61

Total	—	—	—	—	—	—	—	—	—	—	—	24.8	23.8	48.5	2.54	0.06	—	130
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	18.1	17.2	35.2	1.85	0.04	—	94.8
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	6.65	6.32	13.0	0.68	0.02	—	34.9
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.08	0.27	0.35	0.01	< 0.005	—	0.61
Total	—	—	—	—	—	—	—	—	—	—	—	24.8	23.8	48.5	2.54	0.06	—	130
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	2.99	2.84	5.83	0.31	0.01	—	15.7
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.10	1.05	2.15	0.11	< 0.005	—	5.78
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.01	0.04	0.06	< 0.005	< 0.005	—	0.10
Total	—	—	—	—	—	—	—	—	—	—	—	4.10	3.93	8.03	0.42	0.01	—	21.6

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	437	0.00	437	43.7	0.00	—	1,529

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	10.0	0.00	10.0	1.00	0.00	—	35.1
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.44	0.00	0.44	0.04	0.00	—	1.55
Total	—	—	—	—	—	—	—	—	—	—	—	447	0.00	447	44.7	0.00	—	1,565
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	437	0.00	437	43.7	0.00	—	1,529
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	10.0	0.00	10.0	1.00	0.00	—	35.1
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.44	0.00	0.44	0.04	0.00	—	1.55
Total	—	—	—	—	—	—	—	—	—	—	—	447	0.00	447	44.7	0.00	—	1,565
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	72.3	0.00	72.3	7.23	0.00	—	253
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	1.66	0.00	1.66	0.17	0.00	—	5.81
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.07	0.00	0.07	0.01	0.00	—	0.26
Total	—	—	—	—	—	—	—	—	—	—	—	74.1	0.00	74.1	7.40	0.00	—	259

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.90	3.90
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.04	4.04
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.90	3.90
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.04	4.04
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hospital	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.65	0.65
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.67	0.67

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Process Boiler	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381
Total	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Process Boiler	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381
Total	2.23	1.11	0.00	19.8	0.12	1.54	—	1.54	1.54	—	1.54	—	24,283	24,283	0.47	0.29	—	24,381
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Process Boiler	0.41	0.20	0.00	3.62	0.02	0.28	—	0.28	0.28	—	0.28	—	4,020	4,020	0.08	0.05	—	4,037
Total	0.41	0.20	0.00	3.62	0.02	0.28	—	0.28	0.28	—	0.28	—	4,020	4,020	0.08	0.05	—	4,037

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Hospital	805	580	508	266,529	201	145	127	66,632
General Light Industry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Single Family Housing	9.44	9.54	8.55	3,404	2.36	2.38	2.14	851

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	1
Propane Fireplaces	0

Electric Fireplaces	0
No Fireplaces	1
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
3645	1,215	135,102	45,034	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Hospital	2,983,651	204	0.0330	0.0040	186,169
General Light Industry	154,949	204	0.0330	0.0040	13,950
Single Family Housing	8,526	204	0.0330	0.0040	29,090

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Hospital	9,419,824	0.00
General Light Industry	3,468,750	0.00
Single Family Housing	40,674	200,939

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Hospital	811	0.00
General Light Industry	18.6	0.00
Single Family Housing	0.27	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Hospital	Chillers	R-134a	1,430	< 0.005	2.00	2.00	23.0
Hospital	Household refrigerators and/or freezers	R-134a	1,430	< 0.005	0.60	0.00	1.00
Hospital	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00
Hospital	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
Boiler - CNG (5–75 MMBTU)	CNG	1.00	6.70	80.4	29,346
Boiler - CNG (5–75 MMBTU)	CNG	1.00	10.5	126	45,990

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	23.0	annual days of extreme heat
Extreme Precipitation	2.50	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A

Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	45.0
AQ-PM	59.1
AQ-DPM	24.6
Drinking Water	41.6
Lead Risk Housing	85.3
Pesticides	0.00
Toxic Releases	36.8
Traffic	36.8
Effect Indicators	—
CleanUp Sites	53.4
Groundwater	85.6

Haz Waste Facilities/Generators	85.0
Impaired Water Bodies	58.7
Solid Waste	0.00
Sensitive Population	—
Asthma	85.9
Cardio-vascular	67.6
Low Birth Weights	69.2
Socioeconomic Factor Indicators	—
Education	64.1
Housing	64.5
Linguistic	35.3
Poverty	69.1
Unemployment	32.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	30.37341204
Employed	18.74759399
Median HI	23.23880405
Education	—
Bachelor's or higher	34.71063775
High school enrollment	100
Preschool enrollment	65.63582702
Transportation	—
Auto Access	34.87745413

Active commuting	39.80495316
Social	—
2-parent households	5.915565251
Voting	38.4832542
Neighborhood	—
Alcohol availability	20.44142179
Park access	33.32477865
Retail density	55.80649301
Supermarket access	37.28987553
Tree canopy	87.52726806
Housing	—
Homeownership	44.41165148
Housing habitability	53.07327088
Low-inc homeowner severe housing cost burden	63.67252663
Low-inc renter severe housing cost burden	27.25522905
Uncrowded housing	50.16040036
Health Outcomes	—
Insured adults	36.50712178
Arthritis	4.6
Asthma ER Admissions	25.6
High Blood Pressure	3.3
Cancer (excluding skin)	22.7
Asthma	12.1
Coronary Heart Disease	4.3
Chronic Obstructive Pulmonary Disease	3.9
Diagnosed Diabetes	19.9
Life Expectancy at Birth	1.4

Cognitively Disabled	26.7
Physically Disabled	29.8
Heart Attack ER Admissions	45.3
Mental Health Not Good	21.9
Chronic Kidney Disease	7.4
Obesity	14.4
Pedestrian Injuries	47.5
Physical Health Not Good	16.1
Stroke	6.5
Health Risk Behaviors	—
Binge Drinking	78.7
Current Smoker	20.2
No Leisure Time for Physical Activity	18.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	50.1
Elderly	30.4
English Speaking	48.2
Foreign-born	24.4
Outdoor Workers	25.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	36.9
Traffic Density	55.1
Traffic Access	0.0
Other Indices	—
Hardship	76.2

Other Decision Support	—
2016 Voting	24.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	27.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Existing uses includes 75,068 SF of buildings and a single-family residence.
Operations: Energy Use	Update per energy use information provided by applicant.
Operations: Vehicle Data	Updated trip length to 0.25 miles and primary trips for AQAA.

St. Joseph's Medical Center Hospital Expansion Project

Project Construction Energy Demand

Construction Worker Gasoline Demand

Phase	Vehicle CO_2 (MT)	Kg CO2/Gallon	Gallons
Total Phases 1 through 5	834.25	8.78	95,017.09
Total			**95,017.09**

Construction Haul Diesel Demand

Phase	Vehicle CO_2 (MT)	Kg CO2/Gallon	Gallons
Total Phases 1 through 5	104.48	10.21	10,232.67
Total			**10,232.67**

Construction Vendor Diesel Demand

Phase	Vehicle CO_2 (MT)	Kg CO2/Gallon	Gallons
Total Phases 1 through 5	1125.24	10.21	110,210.02
Total			**110,210.02**

Construction Equipment Diesel Demand

Phase	Equipment CO_2 (MT)	Kg CO2/Gallon	Gallons
Total Phases 1 through 5	2,916.13	10.21	285,614.77
Total			**285,614.77**

St. Joseph's Medical Center Hospital Expansion Project

Project Operational Energy Demand

Mobile Source Gasoline Demand

Scenario	Vehicle MT CO_2	Kg CO2/Gallon	Gallons
Project	2,003.95	8.78	228,240.15

Mobile Source Diesel Demand

Scenario	Vehicle MT CO_2	Kg CO2/Gallon	Gallons
Project	84.05	10.21	8,232.27

Electricity Demand

Project Facility	kWh/Year
Building and Lighting Electricity Demand	
Project	22,482,705.00
Water/Wastewater Electricity Demand	
Project	94,574.61
Total	**22,577,279.61**

Natural Gas Demand

Project Facility	Therms/yr
Project	334,453.00

Appendix D

Biological Resource Assessment and Arborist Report

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OAKLAND, CALIFORNIA 94612
T 510.601.2500 F 510.601.2501

MEMORANDUM

To:	Robert O' Hare, DBIA, Manager, Planning, Design and Construction
From:	Meghan Proctor
Subject:	St. Joseph's Medical Center Expansion Project Biological Resources Assessment
Date:	September 1, 2021
Attachment(s):	Figure 1- Project Location A – CNDDB, CNPS, and IPaC Database Search Results

This Biological Resource Assessment (BRA) summarizes the results of biological resource desktop studies and a field investigation of the site of a proposed hospital expansion, St. Joseph's Medical Center Hospital Expansion project (Project) on the existing St. Joseph's Medical Center campus located in Stockton, California (Figure 1).

This BRA describes the existing biological resources on the 27.6-acre project site (Figure 1) and immediately surrounding area in terms of vegetation, plants, wildlife, and wildlife habitats; discusses potential impacts to biological resources that would result from development of the Project; and provides mitigation measures to minimize potential impacts to special-status biological resources, if necessary.

Methods

An analysis of special-status plants and wildlife species habitats and where these resources are located was conducted through a desktop review of available relevant literature and data to determine those resources that have the potential for occurrence on the approximate 27.6-acre Project site and within approximately 100 feet of the Project footprint (i.e., the area of potential effect; APE). The desktop analysis included the most recent versions of the following resources to identify special-status biological resources present or potentially present: California Department of Fish and Wildlife's (CDFW) California Natural Diversity Data Base (CNDDB)[1], U.S. Fish and Wildlife Service's (USFWS) Environmental Conservation Online System (Information for Planning and Conservation Report [IPac])[2], and the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants[3]. The CNDDB and CNPS database searches included the U.S. Geological Survey (USGS) 7.5-minute quadrangle map on which the Project site is located (i.e., Stockton West) and the eight surrounding quadrangles (i.e., Terminous, Lodi South, Waterloo, Stockton East, Holt, Union Island, Lathrop, and Manteca). These databases provided information regarding special-status plants, wildlife, and habitats recorded for the study area and vicinity.

1 California Department of Fish and Wildlife. 2021. RareFind 5, Version 5.2.14. Biogeographic Data Branch. Sacramento, California: California Natural Diversity Database. Website https://map.dfg.ca.gov/rarefind/view/RareFind.aspx [accessed August 2021].

2 U.S. Fish and Wildlife Service. 2021. Environmental Conservation Online System, Information for Planning and Conservation Report (online edition). Website http://ecos.fws.gov/ipac/ [accessed August 2021].

3 California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, California. Website http://www.rareplants.cnps.org/ [accessed August 2021].

Special-status species were defined as those plant and wildlife species that are (1) listed as threatened or endangered by either the California or federal Endangered Species Acts, (2) plants that are candidates for listing, and species designated with a California Rare Plant Rank of 1 or 2 by CNPS, (3) wildlife that are candidates for listing and species with a designation from the CDFW of Fully Protected or Species of Special Concern. Other special-status biological resources include vegetation communities that are considered by CDFW as sensitive, that are of particular value to special-status plant or wildlife species or have a rank of S1–S3 on the CDFW List of Terrestrial Communities.

Following the desktop review, Dudek biologist Meghan Proctor conducted a reconnaissance survey of the Project site on August 11, 2021, to confirm current conditions within the APE and evaluate vegetation communities and land covers, habitat for special-status plants and wildlife, nesting resources, and potential jurisdictional aquatic resources (i.e., waters of the U.S./state). The reconnaissance survey was conducted from 09:15 to 10:45 AM, and weather conditions were favorable, with 0% cloud cover, a temperature that ranged from 81°F to 82°F, and wind speeds from 0 to 2 miles per hour. Vegetation communities and land cover were mapped according to the CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities[4] and List of Vegetation Alliances and Associations, also referred to as the Natural Communities List[5]. During the reconnaissance survey, a general inventory of plant and wildlife species detected by visual and aural cues, tracks, scat, or other signs was compiled.

Results

Following the reconnaissance survey, the Project site land cover was determined to be a combination of "Urban/Developed" for the buildings, parking lots, and roadways (approximately 25.8 acres), and "Parks and Ornamental Plantings" for the remainder based on the extensive presence of ornamental, ruderal and non-native vegetation (approximately 1.8 acres) within the APE. Tree species present within the Project footprint included Italian stone pine (*Pinus pinea*), deodar cedar (*Cedrus deodara*), Modesto ash (*Fraxinus velutina*), coast redwood (*Sequoia sempervirens*), tree of heaven (*Ailanthus altissima*), crape myrtle (*Lagerstroemia indica*), mayten (*Maytenus boaria*), Callery pear (*Pyrus calleryana*), southern magnolia (*Magnolia grandiflora*), and several other ornamental and non-native tree species. Other plant species present on site include echinacea (*Echinacea spp.*), cotoneaster (*Cotoneaster franchetii*), Matilija poppy (*Romneya coulteri*), narrow leaf milkweed (*Asclepias fascicularis*), blue plumbago (*Plumbago auriculata*), fountain grass (*Pennisetum* spp.), artichoke thistle (*Cynara cardunculus*), and several other herbaceous species commonly found in heavily disturbed or landscaped urban areas. No special-status plant species or jurisdictional aquatic resources were identified within the APE.

Wildlife species detected within the APE were limited to House Finch (*Haemorhous mexicanus*) and Northern Mockingbird (*Mimus polyglottos*). No active bird nests or bat roosts were observed during the reconnaissance survey , which occurred during the nesting season for most bird species; however, the various trees within the APE could support nesting birds and roosting bats. No amphibian, reptile, mammal or fish species were detected within the APE. Habitat for special-status or uncommon wildlife species in not present within the APE.

[4] CDFW (California Department of Fish and Wildlife). 2018. Protocols for Surveying and Evaluating Impacts to Special-Status Native Populations and Natural Communities. March 20. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline.

[5] CDFW. 2021. California Natural Community List. https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities.

CEQA Checklist – Biological Resources

a) Would the project 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 California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less-Than-Significant Impact. The biological resources assessment included the approximate 27.6-acre Project footprint, plus a 100-foot buffer around the Project site. The entire Project site is characterized by ruderal and other non-native species, and the 100-foot buffer area is entirely developed. As a result, the potential for special-status species occurrence is very low to non-existent. Further details are provided below.

Plant Species

No special-status plant species were detected within the APE during the reconnaissance survey on August 11, 2021. Based on the results of the desktop review, 23 special-status plant species were identified as previously occurring within the vicinity of the Project (Appendix A). However, none of these species are expected to occur within the APE based on the current disturbance levels observed during the reconnaissance survey, impervious surface matrix, vegetation communities (habitat) present, dominance of non-native and ornamental plant species, elevation ranges, and previous recorded occurrences. Additionally, there is no USFWS-designated Critical Habitat for listed plant species within the APE. As a result, direct or indirect impacts to special-status plant species would be less than significant.

Wildlife Species

No special-status were detected within the APE during the reconnaissance survey on August 11, 2021. Based on the results of the desktop study, 41 special-status wildlife species were identified as occurring within the region (Appendix A). Each of those 41 special-status wildlife species was determined to have either no potential to occur or a low potential to occur based on lack of vegetation communities that provide habitat, level of human disturbance, surrounding land uses, distance to known occurrences, and elevation. Additionally, there is no USFWS-designated Critical Habitat for federally listed wildlife species within the APE. As a result, direct or indirect impacts to special-status wildlife species would be less than significant.

b) Would the project 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 Game or U.S. Fish and Wildlife Service?

No Impact. The APE is characterized by disturbed and ornamental land covers and lacks riparian habitat or sensitive vegetation communities. As a result, the Project would have no impact to riparian or sensitive vegetation communities.

c) Would the project 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?

No Impact. No state or federally defined waters of the United States or waters of the state occur within the Project site or the APE. Therefore, no direct or indirect impacts to jurisdictional waters or wetlands would occur.

d) Would the project 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?

Less-Than-Significant Impact with Mitigation. The Project is located within an urban setting surrounded by residential and neighborhood park land covers. Due to the matrix of development surrounding the Project site, wildlife movement is extremely limited, and future development within the Project site would not constrain natural wildlife movement in its vicinity. However, the APE includes trees that provide potential habitat for nesting bird species, as well as bats. Nesting birds are protected under the Migratory Bird Treaty Act and California Fish and Game Code Section 3500, and compliance with these regulations is required. Project plans include the removal of existing vegetation, primarily trees and buildings considered suitable for nests and bat roosts. Additionally, indirect impacts to nesting birds and roosting bats from short-term construction-related noise could result in decreased reproductive success or abandonment of an area as nesting or roosting habitat if conducted during the bird nesting season (i.e., February through August) or near a bat maternity roost. Implementation of mitigation measure BIO-1 and mitigation measure BIO-2 would ensure potential impacts to nesting birds and roosting bats are reduced to less than significant.

BIO-1: Vegetation removal and initial ground-disturbing activities shall occur outside the nesting season (January 15 – August 31), to avoid potential impacts to breeding birds to ensure that active nests would not be disturbed and that vegetation removal activities would not be impeded. If vegetation removal and initial ground-disturbing activities occur during the nesting season, nesting bird surveys shall be conducted as detailed below prior to commencing any construction activities, including site clearing and tree removal.

(a) A qualified biologist shall conduct a preconstruction survey for nesting birds no more than 14 days prior to vegetation or tree removal or ground-disturbing activities during the nesting season (January 15 through August). The survey shall cover the limits of construction and suitable nesting habitat within 250 feet for raptors and 100 feet for other nesting birds, as feasible. This includes trees adjacent to the site within that buffer distance.

(b) If any active nests are observed during the preconstruction surveys, a qualified biologist shall establish a suitable avoidance buffer from the active nest. The buffer distance will typically range from 50 to 250 feet, and shall be determined based on factors such as the species of bird, buildings or other features between the disturbance and the nest, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule (e.g., construction schedule). Limits of construction to avoid active nests shall be established in the field with flagging, fencing, or other appropriate barriers and shall be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist.

(c) If vegetation removal activities are delayed, additional nest surveys shall be conducted such that no more than 7 days elapse between the survey and vegetation removal activities. It is

recommended that disturbing potential nesting habitat (i.e., trimming and/or vegetation removal) be performed outside of the nesting season (September 1 through January 14) to avoid impacts to nesting birds.

(d) If an active nest is identified in or adjacent to the construction zone after construction has started, work in the vicinity of the nest shall be halted until the qualified biologist can provide appropriate avoidance and minimization measures to ensure that the nest is not disturbed by construction. Appropriate measures may include a no-disturbance buffer until the birds have fledged and/or full-time monitoring by a qualified biologist during construction activities conducted in close proximity to the nest.

BIO-2: To the extent practicable, vegetation removal and building demolition shall occur outside peak bat activity periods (March 1 – April 30 and August 1 – October 31) when juvenile or overwintering bats may be present, to ensure protection of potentially occurring bats and their roosts on the project site. Additionally, construction activities shall be restricted to daylight hours to reduce indirect and direct disturbance to roosting and foraging bat species. Also, a pre-construction bat survey shall be conducted within 30 days of the removal of any trees or buildings. The survey shall include a visual inspection of potential roosting features (bats need not be present) and presence of guano in the construction footprint and within 50 feet. The survey report shall include a determination on whether active bat roosts are present on or within 50 feet of the project site. If a non-breeding and non-wintering bat colony is found, the individuals shall be evicted under the direction of a qualified biologist to ensure their protection and avoid unnecessary harm. If a maternity colony or overwintering colony is found in the trees or buildings on the project site, then the qualified biologist shall establish a suitable construction-free buffer around the location. The construction-free buffer shall remain in place until the qualified biologist determines that the nursery is no longer active.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than Significant Impact. The Project would remove various street trees. Of the trees marked for removal, only one tree meets the criteria of a "Heritage Tree[6]" and thirteen meet the criteria of a "City Street Tree[7]" under the city of Stockton's Municipal Code, Section 16.72.245 and 16.72.180, respectively. St. Joseph's Medical Center would be required to apply to the City of Stockton for a permit to remove the trees and comply with any permit conditions prior to, during, and after removal such as necessary replacement activities.

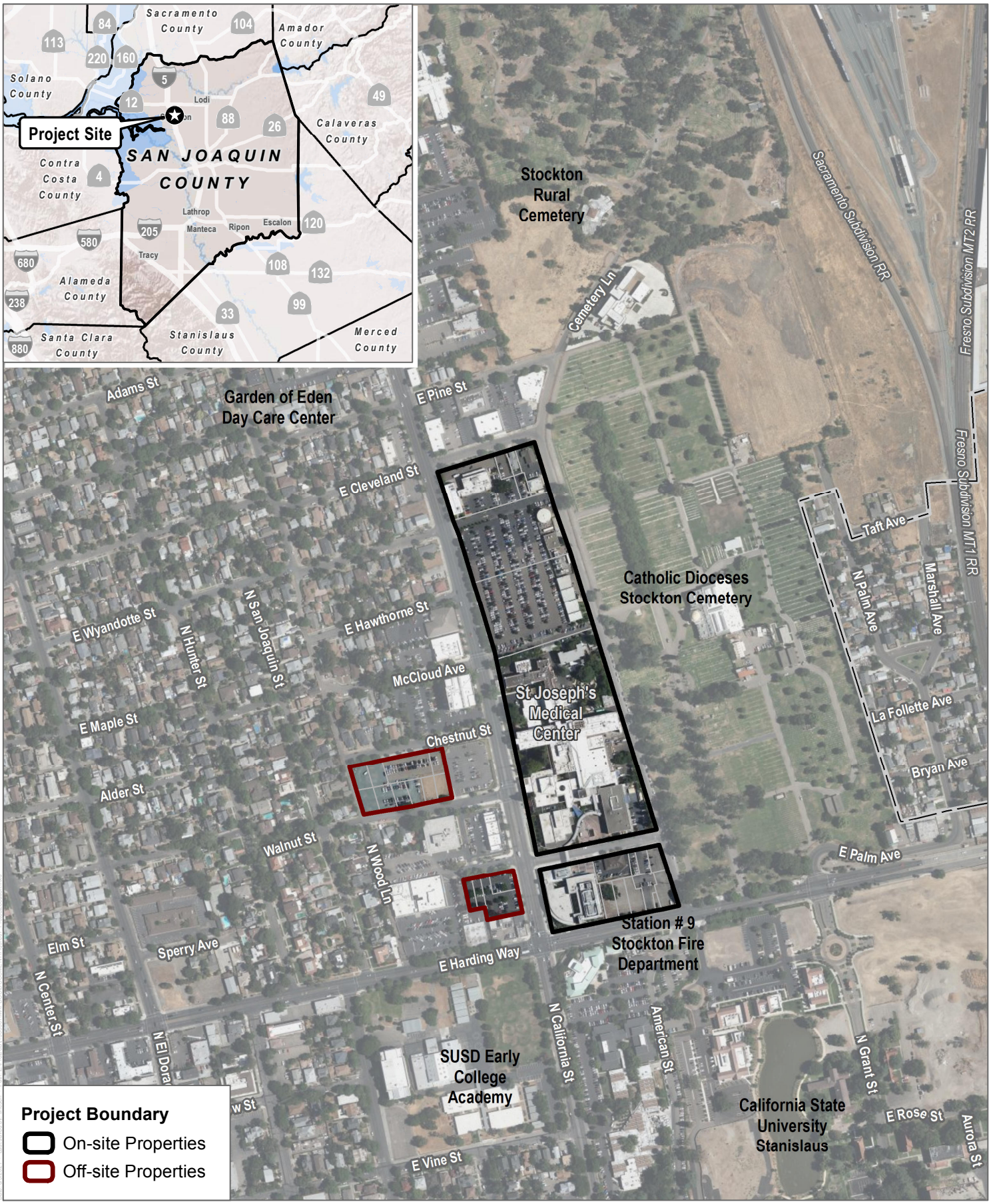
f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The Project is within the San Joaquin Multi-Species Conservation Plan Area. However, that plan focuses on coverage for conversion of open space and agricultural areas to development and the Project's

[6] A Heritage Tree is an oak species, specifically *Quercus agrifolia* (Coast Live Oak), *Quercus lobata* (Valley Oak), or *Quercus wislizenii* (Interior Live Oak), with a trunk circumference of 16 inches or multiple trunks with the combined total trunk diameter used for all trunks measuring 6 inches or greater and measured at a point 2 feet above ground level.

[7] A City Street Tree is any tree planted by the City, or by a permitted organization that has been sanctioned by the Director to plant in lieu of the City, either in the public right-of-way or public utility easement.

proposed redevelopment of disturbed and developed spaces is not a covered activity under that plan. Moreover, the redevelopment of the Project site would not conflict with any of the goals or objectives of the San Joaquin Multi-Species Conservation Plan. The Project site is not within or adjacent to any other conservation plan areas or a designated conservation area. As a result, the Project would not conflict with any local, regional or state habitat conservation plans.



SOURCE: Bing Imagery 2021; Open Street Map 2020; County of San Joaquin 2019

DUDEK

0 250 500 Feet

FIGURE 1

Project Location

St Joseph's Medical Center Expansion Project

Attachment A

CNDDB, CNPS, and IPaC Database Search Results

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Stockton West (3712183) OR Stockton East (3712182) OR Terminous (3812114) OR Waterloo (3812112) OR Manteca (3712172) OR Lodi South (3812113) OR Union Island (3712174) OR Holt (3712184) OR Lathrop (3712173))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Agelaius tricolor tricolored blackbird	G1G2 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	5 50	955 S:8	0	0	0	0	5	3	8	0	3	5	0
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	G2G3 S2S3	Threatened Threatened	CDFW_WL-Watch List IUCN_VU-Vulnerable	7 15	1261 S:2	0	0	1	0	1	0	2	0	1	0	1
Astragalus tener var. tener alkali milk-vetch	G2T1 S1	None None	Rare Plant Rank - 1B.2	15 15	65 S:1	0	0	0	0	1	0	1	0	0	0	1
Athene cunicularia burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	-5 40	2011 S:40	1	10	18	7	0	4	24	16	40	0	0
Atriplex cordulata var. cordulata heartscale	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		66 S:1	0	0	0	0	1	0	1	0	0	0	1
Blepharizonia plumosa big tarplant	G1G2 S1S2	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		53 S:2	0	0	0	0	0	2	2	0	2	0	0
Bombus crotchii Crotch bumble bee	G3G4 S1S2	None Candidate Endangered		50 50	437 S:1	0	0	0	0	0	1	1	0	1	0	0
Bombus occidentalis western bumble bee	G2G3 S1	None Candidate Endangered	USFS_S-Sensitive	25 60	306 S:2	0	0	0	0	0	2	2	0	2	0	0
Branchinecta mesovallensis midvalley fairy shrimp	G2 S2S3	None None		30 40	144 S:2	0	0	0	0	0	2	2	0	2	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Brasenia schreberi watershield	G5 S3	None None	Rare Plant Rank - 2B.3 IUCN_LC-Least Concern		43 S:1	0	0	0	0	0	1	1	0	1	0	0
Buteo swainsoni Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	-10 205	2541 S:236	31	39	21	7	3	135	116	120	233	2	1
Carex comosa bristly sedge	G5 S2	None None	Rare Plant Rank - 2B.1 IUCN_LC-Least Concern	5 5	32 S:1	0	0	0	0	1	0	1	0	0	1	0
Chloropyron palmatum palmate-bracted bird's-beak	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		25 S:1	0	0	0	0	1	0	1	0	0	1	0
Cirsium crassicaule slough thistle	G1 S1	None None	Rare Plant Rank - 1B.1	10 10	18 S:1	0	0	0	0	1	0	1	0	0	1	0
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	G3 S2.1	None None		0 5	60 S:7	0	2	0	0	0	5	7	0	7	0	0
Delphinium recurvatum recurved larkspur	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden		119 S:1	0	0	0	0	0	1	1	0	1	0	0
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T2 S3	Threatened None		8 65	271 S:3	0	1	0	1	0	1	3	0	3	0	0
Elanus leucurus white-tailed kite	G5 S3S4	None None	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern	5 20	180 S:2	0	0	1	0	0	1	0	2	2	0	0
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	1 5	1398 S:9	0	3	2	0	0	4	4	5	9	0	0
Eryngium racemosum Delta button-celery	G1 S1	None Endangered	Rare Plant Rank - 1B.1	15 15	26 S:1	0	0	0	0	1	0	1	0	0	1	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Extriplex joaquinana San Joaquin spearscale	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		127 S:1	0	0	0	0	1	0	1	0	0	0	1
Gonidea angulata western ridged mussel	G3 S1S2	None None		8 8	157 S:1	0	0	0	0	1	0	1	0	0	1	0
Great Valley Valley Oak Riparian Forest Great Valley Valley Oak Riparian Forest	G1 S1.1	None None		5 10	33 S:2	0	0	0	0	0	2	2	0	2	0	0
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	G5T3 S3	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	0 15	173 S:27	0	16	4	1	0	6	10	17	27	0	0
Hypomesus transpacificus Delta smelt	G1 S1	Threatened Endangered	AFS_TH-Threatened IUCN_EN-Endangered	0 0	29 S:4	0	0	0	0	0	4	0	4	4	0	0
Lanius ludovicianus loggerhead shrike	G4 S4	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	13 13	110 S:1	0	0	0	0	0	1	0	1	1	0	0
Laterallus jamaicensis coturniculus California black rail	G3G4T1 S1	None Threatened	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_NT-Near Threatened NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	0 10	303 S:8	0	3	0	0	0	5	3	5	8	0	0
Lathyrus jepsonii var. jepsonii Delta tule pea	G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_BerrySB-Berry Seed Bank SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	0 1	133 S:5	0	1	2	0	1	1	1	4	4	1	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Lepidurus packardi vernal pool tadpole shrimp	G4 S3S4	Endangered None	IUCN_EN-Endangered	50 50	324 S:1	0	0	0	0	0	1	1	0	1	0	0
Lilaeopsis masonii Mason's lilaeopsis	G2 S2	None Rare	Rare Plant Rank - 1B.1	0 5	198 S:17	0	10	3	2	0	2	4	13	17	0	0
Limosella australis Delta mudwort	G4G5 S2	None None	Rare Plant Rank - 2B.1	0 5	59 S:4	0	3	0	0	0	1	1	3	4	0	0
Linderiella occidentalis California linderiella	G2G3 S2S3	None None	IUCN_NT-Near Threatened	35 35	508 S:1	0	0	0	0	0	1	0	1	1	0	0
Lytta moesta moestan blister beetle	G2 S2	None None		40 40	12 S:1	0	0	0	0	0	1	1	0	0	1	0
Melospiza melodia song sparrow ("Modesto" population)	G5 S3?	None None	CDFW_SSC-Species of Special Concern	0 20	92 S:17	0	0	0	2	0	15	2	15	17	0	0
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	G5T2Q S2	Threatened None	AFS_TH-Threatened		31 S:3	0	0	0	1	0	2	0	3	3	0	0
Perognathus inornatus San Joaquin pocket mouse	G2G3 S2S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern		140 S:1	0	0	0	0	0	1	1	0	1	0	0
Sagittaria sanfordii Sanford's arrowhead	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	75 75	126 S:2	0	0	0	0	0	2	2	0	2	0	0
Scutellaria lateriflora side-flowering skullcap	G5 S2	None None	Rare Plant Rank - 2B.2 IUCN_LC-Least Concern	0 0	13 S:2	0	0	1	0	0	1	1	1	2	0	0
Spea hammondii western spadefoot	G2G3 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	5 5	1422 S:1	0	0	0	0	1	0	1	0	0	1	0
Spirinchus thaleichthys longfin smelt	G5 S1	Candidate Threatened		0 10	46 S:5	0	0	0	0	0	5	0	5	5	0	0
Sylvilagus bachmani riparius riparian brush rabbit	G5T1 S1	Endangered Endangered		10 15	20 S:12	0	0	4	5	0	3	0	12	12	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Symphyotrichum lentum Suisun Marsh aster	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	0 10	175 S:20	0	0	8	3	0	9	11	9	20	0	0
Taxidea taxus American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	50 50	594 S:1	0	0	0	0	0	1	1	0	1	0	0
Thamnophis gigas giant gartersnake	G2 S2	Threatened Threatened	IUCN_VU-Vulnerable	0 25	366 S:8	0	4	0	0	0	4	4	4	8	0	0
Trichocoronis wrightii var. wrightii Wright's trichocoronis	G4T3 S1	None None	Rare Plant Rank - 2B.1	20 20	12 S:1	0	0	0	0	0	1	1	0	1	0	0
Trifolium hydrophilum saline clover	G2 S2	None None	Rare Plant Rank - 1B.2		56 S:1	0	0	0	0	1	0	1	0	0	0	1
Tropidocarpum capparideum caper-fruited tropidocarpum	G1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	50 50	20 S:2	0	0	0	0	2	0	2	0	0	1	1
Valley Oak Woodland Valley Oak Woodland	G3 S2.1	None None		5 5	91 S:1	0	0	0	0	0	1	1	0	1	0	0
Vireo bellii pusillus least Bell's vireo	G5T2 S2	Endangered Endangered	IUCN_NT-Near Threatened NABCI_YWL-Yellow Watch List	20 20	503 S:1	0	0	0	0	0	1	1	0	1	0	0
Xanthocephalus xanthocephalus yellow-headed blackbird	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	15 15	13 S:1	0	0	0	0	0	1	1	0	1	0	0

Inventory of Rare and Endangered Plants of California

CALIFORNIA NATIVE PLANT SOCIETY

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Search Results

Back Export Results

23 matches found. Click on scientific name for details

Search Criteria: Quad is one of [**3712183,3712182,3812112,3812113,3812114,3712184,3712174,3712173,3712172**]

Scientific Name | Common Name | Family | Lifeform | Blooming Period | Fed List | State List | Global Rank | State Rank | CA Rare Plant Rank | General Habitats | Micro Habitats | Lowest Elevation | Highest Elevation | CA Endemic | Date Added | Photo

Search:

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	GENERAL HABITATS	LOWEST ELEVATION	HIGHEST ELEVATION	CA ENDEMIC
Astragalus tener var. *tener*	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G2T1	S1	1B.2	Playas, Valley and foothill grassland, Vernal pools	1	60	Yes
Atriplex cordulata var. *cordulata*	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	Chenopod scrub, Meadows and seeps, Valley and foothill grassland	0	560	Yes
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	None	None	G1G2	S1S2	1B.1	Valley and foothill grassland	30	505	Yes
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	None	None	G5	S3	2B.3	Marshes and swamps	0	2200	
Carex comosa	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	None	None	G5	S2	2B.1	Coastal prairie, Marshes and swamps, Valley and foothill grassland	0	625	
Centromadia parryi ssp. *rudis*	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	None	None	G3T3	S3	4.2	Valley and foothill grassland, Vernal pools	0	100	Yes

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Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	FE	CE	G1	S1	1B.1	Chenopod scrub, Valley and foothill grassland	5	155	Yes
Cirsium crassicaule	slough thistle	Asteraceae	annual/perennial herb	May-Aug	None	None	G1	S1	1B.1	Chenopod scrub, Marshes and swamps, Riparian scrub	3	100	Yes
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.2	Chenopod scrub, Cismontane woodland, Valley and foothill grassland	3	790	Yes
Eryngium racemosum	Delta button-celery	Apiaceae	annual/perennial herb	(May)Jun-Oct	None	CE	G1	S1	1B.1	Riparian scrub	3	30	Yes
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland	1	835	Yes
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	None	None	G3	S3	4.2	Valley and foothill grassland, Vernal pools	0	505	Yes
Hibiscus lasiocarpos var. *occidentalis*	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	G5T3	S3	1B.2	Marshes and swamps	0	120	Yes
Lasthenia ferrisiae	Ferris' goldfields	Asteraceae	annual herb	Feb-May	None	None	G3	S3	4.2	Vernal pools	20	700	Yes
Lathyrus jepsonii var. *jepsonii*	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	None	None	G5T2	S2	1B.2	Marshes and swamps	0	5	Yes
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	None	CR	G2	S2	1B.1	Marshes and swamps, Riparian scrub	0	10	Yes
Limosella australis	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	May-Aug	None	None	G4G5	S2	2B.1	Marshes and swamps, Riparian scrub	0	3	
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	Marshes and swamps	0	650	Yes
Scutellaria lateriflora	side-flowering skullcap	Lamiaceae	perennial rhizomatous herb	Jul-Sep	None	None	G5	S2	2B.2	Marshes and swamps, Meadows and seeps	0	500	
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	None	None	G2	S2	1B.2	Marshes and swamps	0	3	Yes
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	Asteraceae	annual herb	May-Sep	None	None	G4T3	S1	2B.1	Marshes and swamps, Meadows and seeps, Riparian forest, Vernal pools	5	435	
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.2	Marshes and swamps, Valley and foothill grassland, Vernal pools	0	300	Yes
Tropidocarpum capparideum	caper-fruited tropidocarpum	Brassicaceae	annual herb	Mar-Apr	None	None	G1	S1	1B.1	Valley and foothill grassland	1	455	Yes

Showing 1 to 23 of 23 entries

CONTACT US

Send questions and comments to rareplants@cnps.org.

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The Calflora Database
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IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

San Joaquin County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

NOT FOR CONSULTATION

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Riparian Brush Rabbit Sylvilagus bachmani riparius Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6189	Endangered

Reptiles

NAME	STATUS
Giant Garter Snake Thamnophis gigas Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/7850	Threatened

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Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Palmate-bracted Bird's Beak *Cordylanthus palmatus* Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1616	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

NOT FOR CONSULTATION

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 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.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

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.

NOT FOR CONSULTATION

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Lawrence's Goldfinch Carduelis lawrencei This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20

Long-eared Owl asio otus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse Baeolophus inornatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Olive-sided Flycatcher Contopus cooperi This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Tricolored Blackbird Agelaius tricolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Yellow-billed Magpie Pica nuttalli This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726	Breeds Apr 1 to Jul 31

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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 and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

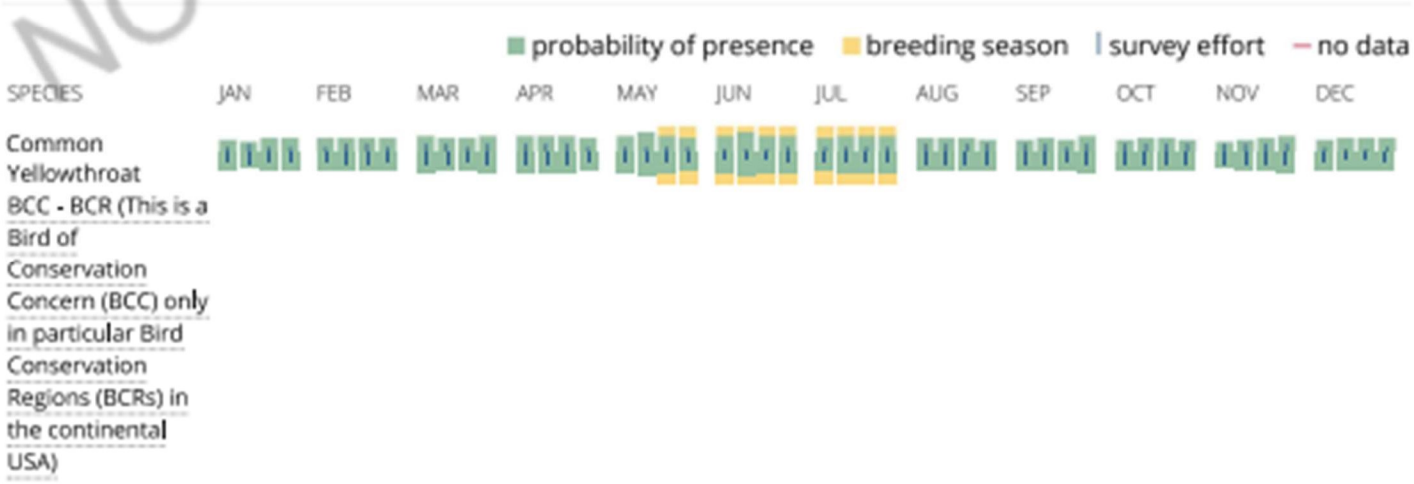
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Long-eared Owl BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Olive-sided Flycatcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



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Tricolored Blackbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Yellow-billed Magpie BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel *or* Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look

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carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

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 AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME
This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

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The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Arborist Report for the St. Joseph's Medical Center Expansion Project City of Stockton, California

Prepared for:

Dignity Health-St. Joseph's Medical Center
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Stockton, CA 95204

Prepared by:

DUDEK
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ISA Certified Arborist (#NY-5876AM)

OCTOBER 1, 2021

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1.0 Introduction

This report summarizes Dudek's evaluation and analysis of tree resources on the St. Joseph's Medical Center (SJMC) Hospital Expansion project site (or SJMC campus), located at 1800 N. California Street in the City of Stockton (City), California. Field inventory and assessments of trees present within the project site were conducted on June 10-11, and August 6, 2021. This report includes a discussion of the tree inventory including tree species and tree health, the evaluation and analysis methods, a summary of findings, identification of anticipated impacts, and tree protection and tree impact mitigation recommendations consistent with the City of Stockton's municipal code. The focus of Dudek's field evaluation was to inventory all on-site trees and then identify those trees that may be affected by the proposed development.

1.1 Summary

There are four hundred three (403) trees within the SJMC campus and the one nearby property identified as a potential site for temporary construction buildings. This tree count includes the trees that are protected by the City's municipal code as a Heritage tree or a Street Tree as well as the on-site trees that are not protected by the City's municipal code. Of the four hundred three trees inventoried two hundred fifty four (254) trees have the potential to be impacted by the proposed project. Of these two hundred fifty four trees, two hundred nineteen (219) lie within the footprint of the proposed hospital expansion and thirty five (35) trees are located within or around the temporary building site off E. Maple Street. One hundred forty nine (149) trees lie outside of the proposed construction area and are not likely to be impacted by the project. The focus of this report is on the impacted trees, those trees outside of the hospital expansion footprint were inventoried for thoroughness but are not further evaluated in this report.

Of the two hundred fifty four (254) trees within the Hospital Expansion project site, twenty nine (29) trees meet the criteria of either a City Street Tree or a Heritage Tree as defined by the City of Stockton municipal code. Twenty eight (28) trees are located within the public right-of-way and meet the definition of a City Street Tree (Municipal Code Section 16.72.180), which includes any tree growing on a public street right-of-way or in a public utility easement. Only one (1) tree meets the criteria for classification as a Heritage Tree, as defined by the City of Stockton (Municipal Code Section 16.72.245), which includes any Valley Oak, Coast Live Oak, and Interior Live Oak tree which is located on public or private property within the limits of the City, and has a trunk diameter of 16 inches or more, measured at 24-inches above actual grade. Trees of the species mentioned above, with multiple trunks, the combined total trunk diameter shall be used for all trunks measuring six (6) inches or greater measured at 24-inches above actual grade. The inventory found four (4) trees of the species protected by the City's Heritage Tree Ordinance; however, only one of these trees meet the criteria for tree size. The remaining two hundred twenty five (225) trees do not meet the criteria for classification as either a Heritage Tree or City Street Tree but are included in the analysis and impact calculations presented in this report.

Based on an evaluation of the most current SJMC Hospital Expansion Conceptual site plan, most of the existing buildings and surface parking within the project's footprint would need to be demolished and the site graded to accommodate construction of new buildings, parking structure, and the placement of necessary infrastructure (utilities, pathways, fire lanes, etc.). Based on this evaluation, one Heritage Tree located on the north side of the project site is expected to require removal for construction purposes. The Heritage Tree identified for removal in this report represents the maximum expected quantity for the project. Any future refinements to the Conceptual site

plan are expected to result in no change to the requirement to remove any of the Heritage Trees within the project site. To address the removal of one Heritage Tree for construction purposes, this report recommends planting three (3) 24-inch box size replacement trees of the same species on site, to be incorporated into the project's landscape plan. The Stockton City (Municipal) Code specifies replacement requirements for the removal of Heritage Trees; any heritage tree that is removed will be replaced on a three (3) for one (1) basis at the discretion of the City's Community Development Director. The size of the replacement trees is at the discretion of the Director but cannot be less than a 15-gallon size tree (Municipal Code Section 16.130.060). Twenty-four inch box size trees are recommended.

Based on the SJMC Hospital Expansion Conceptual site plan, construction-related removal of eighteen (18) City Street Trees along the project perimeter and within the project boundaries is expected. Removal of street trees along the perimeter of the project site is necessary to facilitate site access or utility installation. Removal of street trees within the project boundaries is necessary because the trees lie within the footprint of the proposed expansion.. As with Heritage Trees, City-issued permits are required for the removal of City Street Trees and would need to be obtained prior to any removal activity. None of the eighteen (18) City Street Trees identified for removal meet the criteria for classification as a Heritage Tree. As with the evaluation of Heritage Tree removals, the City Street Tree removal totals presented represent the maximum number of trees to be removed to accommodate the project. Any future refinements to the Conceptual site plan are expected to result in no change in the number of City Street Treeslated for removal. The City identifies replacement requirements for removal of City Street Trees (Municipal Code Section 16.162.060), each street tree removed must be replaced with one new street tree, a 15-gallon container size tree is the minimum acceptable size for a replacement tree. This report recommends planting eighteen (18) 24-inch box size replacement trees within the City's public street right-of-way adjacent to the project site. The replacement tree species should be based on the site conditions and the City's preferred street tree species for the area. At the time of the inspection there was space in the right-of-way on the SJMC properties to accommodate some replacement street trees. However, this report recommends that the number and location of replacement street trees be determined as part of the final landscape plan. If it is not possible to plant all the required replacement street trees in the City's right-of-way around the project site, then Dignity Health can reimburse the City for the cost to plant the trees elsewhere in the City right-of-way.

One hundred-seventy-four (174) non-heritage trees are located within the project construction footprint and it is expected that these trees would be removed in order to facilitate project development. Two (2) additional non-heritage trees are recommended for removal due to poor conditions. The number of non-heritage tree removals is based on the most current Conceptual site plans provided and additional tree removals may be necessary, in particular for the trees closest to the proposed expansion on the north side of the project site.

There are fifty nine (59) trees that would not be required to be removed from the project site to facilitate project development, these trees consist of: ten (10) street trees, and forty nine (49) non-heritage trees. These trees are located within the footprint of the project but are adjacent to the portions of the medical center that would remain operational during construction or are located at the temporary building sites.

1.2 Assignment

A Dudek International Society of Arboriculture (ISA) Certified Arborist performed the following key tasks:

- Assessed and inventoried all on-site trees and City Street Trees adjacent to the project site and documented tree species, general health, general structural condition, size, appearance, and presence of pests.
- Noted which trees meet the City of Stockton's definition of "Heritage Tree" or "City Street Tree."
- Mapped individual tree locations based on observations during the field inspection.
- Evaluated tree impacts based on project development plans.
- Prepared a tree information matrix that details individual tree attributes, including designations of Heritage Tree or City Street Tree status.
- Prepared a tree location exhibit (Appendices B and C).
- Prepared this report documenting site observations, analysis results, and impact mitigation and tree protection recommendations.

1.3 Setting

1.3.1 Location

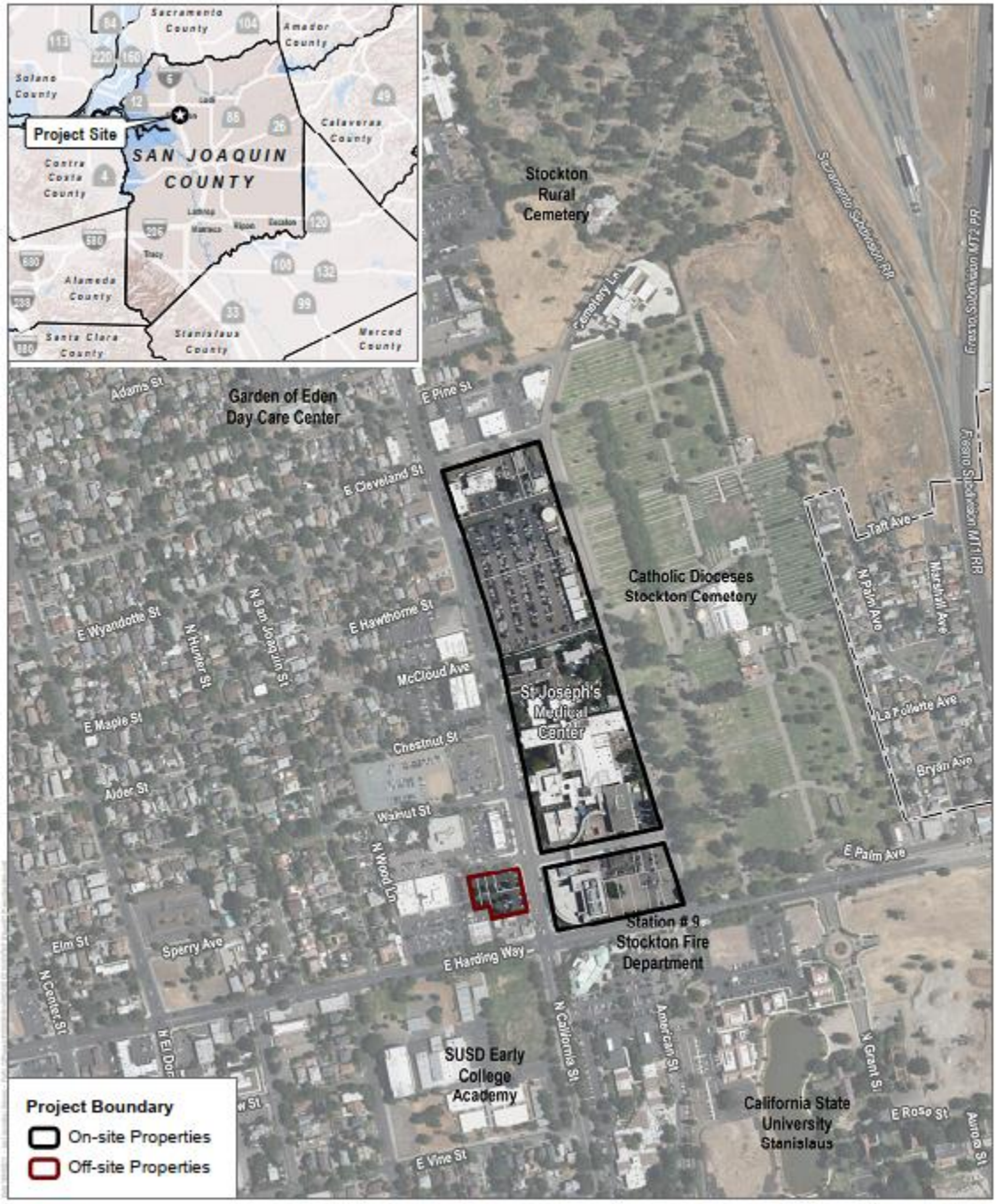
The project site is located northeast of downtown Stockton, California, and is generally bounded by E. Cleveland Avenue to the north, N. California Street to the west, E. Harding Way to the south, and Cemetery Lane to the east (Figure 1). The SJMC project site encompasses nine properties. Assessor's Parcel Numbers (APN) for the properties are: APNs 127-18-044, 127-17-430, 127-17-328, 127-16-422, 127-16-415, 127-16-416, 127-16-406, 127-16-408 and 127-16-407. This covers the northern portion of the existing medical center property, the large surface parking lot between McCloud Avenue and Wyandotte Street, the medical center engineering and physical plant, and several small structures in the northeast corner of the project site.

To house the services of the medical center that would be displaced during construction one site is identified on the Conceptual site plans for temporary and modular buildings. The site currently provides surface parking lots for the medical center. The site is located between Maple Street to the north and E. Harding Way to the south and contains the following parcels: APNs 127-150-49,127-150-24,127-150-25, and 127-150-48.

1.3.2 General Physical Characteristics

The project site covers approximately 11 acres and is generally flat with elevations on the site ranging from approximately 15 to 20 feet above mean sea level (AMSL) as one travels from the northeast corner to the southwest corner of the project site. The site is fully developed and occupied by surface parking lots and buildings associated with the medical center. The two off-site locations identified for use during construction for temporary buildings are both existing surface parking lots. Both are generally glat with elevations similar to the project site. The preferred temporary building site is 1.6 acres. The alternate temporary building site is 1.5 acres.

Figure 1 Project Site Location



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Tree cover is generally distributed unevenly across the project site and the off-site parking lot with areas of dense tree cover in the landscaped courtyards, areas of scattered tree cover in the surface parking lots, strips of tree cover along the property perimeters, and areas with no tree cover around the engineering buildings and the buildings at the south end of the project site. Most of the trees present are landscape plantings associated with the current land use. The SJMC has been operating in some form on the project site for more than a century and there have been several expansions and upgrades to the facilities during that time. As a result the trees present throughout the project site tend to form groups of species, size ,and age based on when that portion of the project site was last developed.

2.0 Methods

The following sections describe the methods for inventorying and evaluating trees on the project site and evaluating project-related tree impacts.

2.1 Field Tree Inventory and Evaluation

International Society of Arboriculture (ISA) Certified Arborist, Jeremy Cawn (#NY-5876AM), conducted the following site tree inventories:

- June 10 - 11, 2021– tree inventory and evaluation of all trees present at the project site.
- August 6, 2021- tree inventory and evaluation of all trees present in the two off-site temporary building locations.

During the tree inventory, tree attribute information was collected for all on-site trees. Tree attribute data collected during the inventory included species, trunk diameter, tree height, canopy spread, general health condition, structural condition, and presences of observable pests or other tree maladies. Trunk diameters were measured using a diameter tape which provides adjusted figures[1] for diameter measurements when wrapping the tape around a tree's circumference. Diameter measurements were collected using standard protocol described by the Council of Tree and Landscape Appraisers in the "Guide for Plant Appraisal," published by the ISA (2020). Inventoried trees were not tagged or otherwise marked to identify their status as a measured tree.

Trunk diameter measurements were taken at 4.5 feet above the ground along the trunk axis, with a few common exceptions. In cases where a tree's trunk split into multiple stems at approximately 4.5 feet above ground (ISA 2020), the measurement was made at the location that best represented the trunk's diameter. Tree height measurements were estimated by the arborist and tree canopy radius measurements were documented by "pacing-off" the measurement based on the arborist's knowledge of his stride length or visually estimating the canopy width.

Pursuant to the Guide for Plant Appraisal (ISA 2020), tree health and structure were evaluated with respect to five distinct tree components: roots, trunk, scaffold branches, small branches, and foliage. Each tree component was assessed regarding health factors such as insect, fungal or pathogen damage, mechanical damage, presence of decay, presence of wilted or dead leaves, and wound closure. Components were graded as *good*, *fair*, *poor,* and

[1] Circumference measurement (inches) divided by 3.14 (π) provides diameter measurement in inches.

dead with 'good' representing no apparent problems, and 'poor' representing a tree with significant problems or damage.

During the tree inventory, the location of each individual tree was marked on a surveyed base map and a project site plan. The tree locations marked on the site plans were then transferred to an aerial image of the project site in ArcMap. Individual tree locations are presented in Appendix A (Tree Location Exhibit) and individual tree data is presented in Appendix C (Tree Information Matrix). Additionally, representative site photographs were taken in the field and are presented in Appendix D (Representative Photographs).

2.2 Tree Impact Analysis

Following data collection and analysis efforts, Dudek used the most current project site plans to determine which trees would require removal to accommodate project development. All City Street Trees, Heritage Trees, and Non-Heritage Trees with health and structural ratings of 'Fair' or higher and which did not require removal to accommodate project development were recommended for retention and inclusion in the post-development landscape. Based on this assessment, an impact status was assigned to each tree, including the following options: (1) Retain (tree to be retained on site); (2) Remove – Construction (tree to be removed to accommodate construction); and (3) Remove – Health (tree to be removed due to poor health and/or structural condition). Following tree impact status assignments, the tree data set was analyzed to determine tree impacts, by attribute. A summary of project-related tree impacts is presented in Section 3.2.

2.3 Scope of Work Limitations

This report presents site tree information as observed in the field on June 10-11 and August 6, 2021. All the trees inventoried during the site visits were visually inspected from the ground; no root crown excavations or investigations, internal probing, or aerial canopy inspections were performed. Therefore, the presence or absence of internal decay or other hidden or inaccessible inferiorities in individual trees could not be confirmed. It is recommended that any large tree proposed for preservation in an urban setting be thoroughly inspected for internal or subterranean decay by a qualified arborist before finalizing preservation plans.

3.0 Findings/Results

3.1 Tree Quantities

There are two hundred fifty four (254) trees within the medical center property, within the public right-of-way adjacent to the project site or on the off-site temporary building location. There are thirty eight (38) tree species present on the project site, as shown in Table 1 . Tree locations are graphically presented in Appendix A.

Table 1 Summary of Existing Trees

Scientific Name	Common Name	Number of Removals	Number of Retained Trees	Number of Trees	Tree Type
Medical Center Property					
Acer japonica	Japanese Maple	1		1	Non-Heritage
Acer saccharinum	Silver Maple		4	4	Non-Heritage
Ailanthus altissima	Tree of Heaven	4		4	Non-Heritage
Brachychiton populenus	Kurrajong	2		2	Non-Heritage
Calocedrus decurrens	Incense Cedar	1		1	Non-Heritage
Carya illinoinensis	Pecan	1		1	Non-Heritage
Cedrus deodora	Deodar Cedar	3		3	Non-Heritage
Cupressus sempervirens	Italian Cypress	1		1	Non-Heritage
Cupressus x lelani	Leland Cypress	1		1	Non-Heritage
Fraxinus velutina	Modesto Ash	1		1	Non-Heritage
Ilex spp.	Holly	1		1	Non-Heritage
Juniperus chinensis	Hollywood Juniper	3		3	Non-Heritage
Lagerstroemia indica	Crape Myrtle	70	8	78	Non-Heritage
Ligustrum lucidum	Glossy Privet	2		2	Non-Heritage
Liquidambar styraciflua	American Sweetgum	7		7	Non-Heritage
Magnolia grandiflora	Southern Magnolia	8	3	11	Non-Heritage
Magnolia spp.	Magnolia	1		1	Non-Heritage
Parkinsonia spp.	Palo Verde	2		2	Non-Heritage
Pinus densiflora	Japanese Red Pine	1		1	Non-Heritage
Pinus thunbergii	Japanese Black Pine	1		1	Non-Heritage
Pistacia chinensis	Chinese Pistache	1		1	Non-Heritage
Pittosporum eugeniodes	Lemonwood Tree	1		1	Non-Heritage
Podocarpus macrophyllus	Podocarpus	10	1	11	Non-Heritage
Prunus cerasifera	Purple Leaf Plum[3]	4		4	Non-Heritage

Scientific Name	Common Name	Number of Removals	Number of Retained Trees	Number of Trees	Tree Type
Prunus serrulata	Flowering Cherry	2		2	Non-Heritage
Punica granatum	Pomegranate	3		3	Non-Heritage
Pyrus calleryana	Callery Pear	24[1]	2	26	Non-Heritage
Quercus agrifolia	Coast Live Oak	2		2	**Heritage**
Quercus lobata	Valley Oak	2		2	**Heritage**
Quercus suber	Cork Oak	1		1	Non-Heritage
Sequoia sempervirens	Coast Redwood	7		7	Non-Heritage
Thuja occidentalis	Arborvitae	2[2]	5	7	Non-Heritage
Triadica sebifera	Chinese Tallow Tree	12		12	Non-Heritage
Ulmus americana	American Elm	2		2	Non-Heritage
Washingtonia filifera	Mexican Fan Palm	2	1	3	Non-Heritage
Zelkova serrata	Japanese Zelkova	9		9	Non-Heritage
Total				219	
Temporary Construction Building Site					
Pistacia chinensis	Chinese Pistache		7	7	Non-Heritage
Platanus acerifolia	London Plane		5	5	Non-Heritage
Prunus persica	Peach		1	1	Non-Heritage
Prunus cerasifera	Purple-Leaf Plum		11	11	Non-Heritage
Pyrus calleryana	Ornamental Pear		7	7	Non-Heritage
Zelkova serrata	Japanese Zelkova		4	4	Non-Heritage
Total				35	

Source: Dudek 2021.

[1,2] Includes one tree that would be removed due to poor health.

The trees present within the project site represent the full spectrum of health and structural conditions. Where a tree is located on the project site is a significant factor in the health and condition of the tree; trees on sheltered sites with adequate space to develop were more likely to be in good condition while trees in sites that were more exposed and had limited growing space were in the poorest condition. This is most visible in comparing the condition of the trees in courtyards to the condition of the trees in the sidewalk tree pits and in the parking lots. The Heritage Trees within the project site exhibited good to fair health and structural conditions. This rating summary is consistent with older, larger trees which exhibit less-vigorous growth and other maladies typical of aging urban trees that are surrounded by hardscape and infrastructure.

The City Street Trees around the perimeter and within the project site exhibited good to poor health and structural condition. The street trees with poorest health and structure tended to be grouped together in areas where there had been recent street, sidewalk, or utility work that had resulted in damage to the above or below ground portions of the tree, such as the trees along the South side of McCloud Avenue where the sidewalk had been recently repaired.

In general, the Non-Heritage Trees exhibited fair to good to fair health and structural conditions; however, the distribution of these conditions was not even across the project site. As previously noted, the location of the tree and the amount of growing space is an important factor in the condition and health of the tree. As a result, the Non-Heritage trees in the best condition tended to be concentrated in the large courtyard behind the McCloud building. Conversely, the trees in poorer condition tended to be those in the small planters in the middle of the parking lots and around the entrance to the emergency room. Tree size and age also tended to be concentrated into groups based on location. The largest and most mature trees were generally located in the older sections of the medical center; the areas around the McCloud Building and the Main Hospital building, while the newer sections of the medical center have only small, recently planted trees.

Observed tree health and structural issues for evaluated trees include physical damage to the trunk, roots and branches, canopy dieback, previous limb failure, included bark, and poor branch unions amongst others. Tree health assessments consider a number of observable tree characteristics. For example, a tree with a 'Fair' health rating is one that exhibits average overall health. There is nothing necessarily wrong with a tree given a 'Fair' rating, but it is simply not exhibiting better than average health. Trees with 'Fair' ratings can live for a very long time. Structural condition relates to the architecture of the tree. Trees with 'Poor' structural ratings can have trunk issues (cavities, cracks, etc.), poor branch attachments that can lead to branch failure, or other structural soundness issues which relates to the risk of a tree or tree part failing. A summary of tree health conditions is presented in Table 2.

Table 2 Summary of Tree Health for Existing Trees

Health Rating	Tree Quantities			
	Heritage Trees	City Street Trees	Non-Heritage Trees	Total
Good	1	12	173	**186**
Fair	0	9	39	**48**
Poor	0	7	13	**20**
Total	1	28	225	254

Source: Dudek 2021.

Attributes of each tree included in the inventory are presented in Appendix B (Tree Information Matrix).

3.2 Project-Related Impacts

Impact totals are based on an evaluation of tree locations compared with the project's Conceptual site plan. Much of the project site north of the West Wing building will need to be demolished, then graded to accommodate construction of buildings, parking lots, and the placement of necessary infrastructure (utilities, access roads, fire lanes, etc.). The remainder of the medical center from the West Wing building south is to remain intact and

operational. Based on the Conceptual site plans and the assumption that the southern portion of the medical center (generally south of Chestnut Street) would not be included in any construction activities the areas south of the West Wing Building would be able to retain existing Heritage, City Street, and Non-Heritage trees. The off-site temporary building locations would not experience any heavy construction activity, (e.g. demolition, excavation, grading, etc.) because the temporary building location would only provide temporary buildings (trailers, modular buildings, etc.) that would be removed when construction is complete. No tree removal would be required to accommodate the temporary buildings; however, it may become necessary to trim one or more trees to accommodate the temporary buildings.

Future refinements to the Conceptual site plan are expected to result in either no change or no reduction in the number of Heritage Trees, City Street Trees, or Non-Heritage Tree removals for the project site. Trees identified for retention and removal are graphically presented in Appendix A (Tree Location by Construction Impact).

3.2.1 Individual Trees

The following summarizes the impact status of all trees currently regulated under the City of Stockton Municipal Code (Heritage Trees and City Street Trees):

- 1 Heritage Tree would require removal for construction purposes (#47).
- 18 City Street Trees would require removal for construction purposes (#1-2, 39, 132-145, & 200)
- 10 City Street Trees would be retained on site (# 27,31,33, & 248-254)

In addition to the impacts presented above for Heritage Trees and City Street Trees, forty nine (49) Non-Heritage Trees would be retained on site and one hundred seventy four (174) Non-Heritage Trees would require removal. Removal of trees #35 and #230 is recommended due to poor health condition. Table 3 summarizes tree retention and removal totals for the project, by tree type and impact status. Appendix A presents the locations of trees, classified by impact status.

Table 3 Tree Retention and Removal Totals by Tree Type

Tree Type	Impact Status			
	Retain	Remove (Construction)	Remove (Health)[1]	Total
Heritage Trees	0	1	0	**1**
City Street Trees	10	18	0	**23**
Non-Heritage Trees	49	174	2	**230**
Total	**59**	**193**	**2**	**254**

Source: Dudek 2021.
[1] Tree removal due to poor health

The above totals are based on the SJMC Hospital Expansion Project Conceptual site plan and represent the maximum number of trees required for removal to accommodate future development. The actual number of trees

that would require removal may be reduced if portions of the site remain undisturbed. Upon review of more detailed site plans at later stages of project planning, Dudek can provide a follow up memorandum to quantify the final number of impacted Heritage Trees, City Street Trees, and Non-Heritage Trees, which is expected to be equal to or less than those presented in this report. This effort will allow for the determination of which trees would require removal and which would need protection measures implemented. Mitigation tree planting and new landscape tree totals could also be added during this effort.

4.0 Mitigation and Management Recommendations

4.1 Mitigation Recommendations

Based on expected project-related impacts to trees on the site, tree replacement, mitigation, and protection recommendations are provided below. While, Heritage Tree and Street Tree replacement requirements are subject to tree removal permit conditions issued by the Director of Community Development, the following tree replacement recommendations are consistent with the City's standards for Heritage and City Street Tree removal.

- The one Heritage Tree to be removed for construction purposes should be replaced at a 3:1 ratio with 24-inch box size trees. The three replacement trees should be planted on site and incorporated into the project's landscape plan. The replacement trees should be the same species as the tree removed (Valley Oak).
- The eighteen (18) City Street Trees to be removed for construction purposes should be replaced at a 1:1 ratio with 18 24-inch box size trees. The City's minimum required size for street tree replacement is a 15 gallon size tree; however, this report recommends a larger 24-inch box size tree because the larger trees are more tolerant of physical damage and stress that is typical of high traffic sites (Nowak 1990). City Street Tree replacement trees should be re-planted within the City right-of-way in coordination with the City's Public Works Department. If there is not enough room the in the public right-of-way for all the required replacement street trees then the developer should pay the cost to replant the remainder the trees to the City so the City can plant additional trees in the right-of-way elsewhere in the City.
- Replacement street tree species should be determined in coordination with City's Public Works Department. Larger shade tree species are recommended for replacement street due to their greater environmental benefits.
- Large shade tree species are recommended as replacement trees and for newly-planted landscape trees due to their environmental benefits. Selected tree species should be appropriate to the site and consider the post-construction environment (e.g. shading from buildings).
- Tree planting should comply with the City's landscaping requirements (Stockton Municipall Code Sections 16.130, 16.560, and 16.620,).
- Canopy pruning of any retained trees to accommodate construction and/or fire lane access should be conducted according to ISA and ANSI A300 tree pruning standards.

- All retained protected trees on-site Heritage Trees and City Street Trees shall be protected from construction-related impacts pursuant to City Municipal Code Sections 12.72.245 (Heritage Trees) and 12.64.070 (City Street Trees). It is recommended that the Non-heritage trees on site that are near the proposed construction, near construction staging sites, and those at the temporary building location be protected as well. City-required measures and additional tree protection recommendations are provided in Appendix E.

4.2 Tree Permits

The project applicant will need to submit a Tree Removal Permit Application to the City of Stockton Community Development Departmemt, accompanied by a $249.50 application fee. A copy of the Tree Permit Application is provided in Appendix D. A copy of this report and the final project site plan should accompany the application. A Tree Removal Permit is required for removal a Heritage or City Street Tree. Once reviewed by the City, final determination of tree replacement requirements will be provided by the Public Works Director.

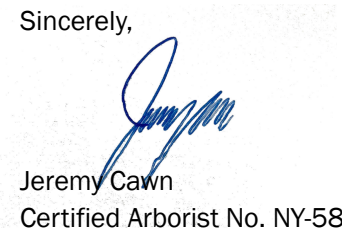
5.0 Conclusion

Dudek inventoried four three (403) trees on the SJMC Hospital campus in Stockton, California on June 10-11 and August 6, 2021. There are two hundred fifty four (254) trees that have the potential to be impacted by future development; two hundred nineteen trees (219) lie within the footprint of the proposed hospital expansion and thirty five (35) are located within and around the temporary building site. Twenty eight (28) of these trees meet the criteria for classification for a protected City Street Tree and one meets the requirements as a Heritage Tree. It is anticipated that one Heritage Tree, eighteen (18) City Street Trees, and one hundred seventy four (174) Non-Heritage Trees would require removal to accommodate project development. Two (2) Non-Heritage trees trees are recommened for removal due to poor health. No tree removal is proposed on the off-site property to accommodate the temporary buildings; however canopy pruning of additional trees within the temporary building sites may be necessary to create space for the modular buildings. The tree removal totals presented herein represent the maximum expected quantity for the project. Refinements to the Conceptual site plan are expected to result in no change or no reduction in the amount of tree removals for the site. This report recommends that three trees of 24-inch box size be planted on-site to mitigate the removal of one Heritage Tree. Once the final site plan is determined, project landscapers should coordinate with the City to locate sites in the City's right-of-way around the project site to plant eighteen (18) trees of 24-inch box size trees, consistent with the City's 1:1 mitigation requirement for impacts to City Street Trees. Required mitigation is ultimately subject to tree removal permit conditions issued by the City's Director of Community Development. Finally, it is recommended that the project landscape plan incorporate the planting of large shade trees, ideally in new open green spaces or courtyards to replace the trees that would be removed to facilitate the construction of the new medical center facilities.

This report provides conclusions and recommendations based on an examination of the trees and surrounding site by an ISA Certified Arborist. Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Arborists cannot detect every condition that could possibly lead to the failure of a tree. Trees are living organisms that fail in ways not fully understood. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. There are no guarantees that a tree's condition will not change over a short or long period due to

weather or environmental conditions or landscape management actions. Trees can be managed but not controlled. To live near trees is to accept some degree of risk.

Sincerely,



Jeremy Cawn
Certified Arborist No. NY-5876AM

6.0 References

International Society of Arboriculture (ISA). 2020. Guide for Plant Appraisal (10th Edition).

Nowak, David J.; McBride, Joe R.; Beatty, Russell A. 1990. Newly planted street tree growth and mortality. Journal of Arboriculture. 16(5): 124-130.

Appendix A: Tree Location Map 1 Tree location by tree type within the St Joseph's Medical Center



Appendix A: Tree Location Map 2 Tree location by tree type within the temporary building locations



Appendix B: Tree Location Map 1 Tree Impacts within the St Joseph's Medical Center



Appendix B: Tree Location Map 2 Tree Impacts within the temporary building locations



Appendix C: Tree Information Matrix

Tree Number	Scientific Name	Common Name	Quantity of Stems	Trunk Diameter (in.)						Cumulative Diameter (in.)	Height (ft.)	Crown Radius (ft.)	Health Condition	Structural Condition	Tree Type[1,2]	Impact	Notes
				D1	D2	D3	D4	D5	D6								
1	*Pistacia chinensis*	Chinese Pistache	1	16.0						16	22	13	Good	Good	Street Tree	Remove-Construction	Asymmetric crown
2	*Carya illinoinensis*	Pecan	1	10.5						11	20	12	Good	Good	Street Tree	Remove-Construction	
3	*Lagerstroemia indica*	Crape Myrtle	1	3.0						3	10	4	Good	Good	Non-Heritage Tree	Retain	
4	*Lagerstroemia indica*	Crape Myrtle	1	3.0						3	10	4	Good	Good	Non-Heritage Tree	Retain	
5	*Lagerstroemia indica*	Crape Myrtle	1	2.0						2	8	3	Fair	Good	Non-Heritage Tree	Retain	
6	*Acer saccharinum*	Silver Maple	1	5.0						5	15	4	Good	Good	Non-Heritage Tree	Retain	
7	*Acer saccharinum*	Silver Maple	1	6.0						6	15	6	Good	Good	Non-Heritage Tree	Retain	
8	*Acer saccharinum*	Silver Maple	1	4.0						4	15	4	Good	Good	Non-Heritage Tree	Retain	overtopped by tree #2
9	*Acer saccharinum*	Silver Maple	1	5.0						5	15	4	Fair	Good	Non-Heritage Tree	Retain	overtopped by tree #2
10	*Podocarpus macrophyllus*	Podocarpus	2	3.0	3.0					6	10	3	Good	Good	Non-Heritage Tree	Remove-Construction	Maintained as a hedge
11	*Podocarpus macrophyllus*	Podocarpus	1	3.0						3	10	3	Good	Good	Non-Heritage Tree	Remove-Construction	Maintained as a hedge
12	*Punica granatum*	Pomegrante	2	3.0	2.0					5	10	3	Good	Good	Non-Heritage Tree	Remove-Construction	Maintained as a hedge
13	*Podocarpus macrophyllus*	Podocarpus	1	3.0						3	10	3	Fair	Good	Non-Heritage Tree	Remove-Construction	Maintained as a hedge
14	*Podocarpus macrophyllus*	Podocarpus	1	3.0						3	8	2	Fair	Good	Non-Heritage Tree	Remove-Construction	Maintained as a hedge
15	*Podocarpus macrophyllus*	Podocarpus	1	3.0						3	8	2	Fair	Good	Non-Heritage Tree	Remove-Construction	Maintained as a hedge
16	*Punica granatum*	Pomegrante	2	3.0	3.0					6	8	6	Good	Good	Non-Heritage Tree	Remove-Construction	Maintained as a hedge
17	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	12	6	Good	Good	Non-Heritage Tree	Retain	

18	*Lagerstroemia indica*	Crape Myrtle	1	6.0						6	12	6	Good	Good	Non-Heritage Tree	Retain	
19	*Pyrus calleryana*	Callery Pear	1	14.0						14	30	15	Good	Fair	Non-Heritage Tree	Retain	poor branch structure, included bark
20	*Lagerstroemia indica*	Crape Myrtle	1	6.0						6	15	6	Good	Good	Non-Heritage Tree	Retain	
21	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	4	Good	Good	Non-Heritage Tree	Retain	
22	*Lagerstroemia indica*	Crape Myrtle	1	7.0						7	10	6	Good	Good	Non-Heritage Tree	Retain	
23	*Pyrus calleryana*	Callery Pear	1	11.0						11	20	8	Good	Good	Non-Heritage Tree	Retain	
24	*Pyrus calleryana*	Callery Pear	1	9.0						9	20	9	Poor	Fair	Non-Heritage Tree	Retain	poor branch structure, inlcuded bark. Sparse crown
25	*Podocarpus macrophyllus*	Podocarpus	1	3.0						3	6	3	Good	Good	Non-Heritage Tree	Retain	
26	*Washingtonia filifera*	Mexican Fan Palm	1	3.0						3	6	3	Good	Good	Non-Heritage Tree	Retain	Volunteer tree
27	*Magnolia grandiflora*	Southern Magnolia	1	14.0						14	25	14	Good	Good	Street Tree	Retain	4' x 4' tree pit on N. California Ave
28	*Thuja occidentalis*	Arborvitae	4	2.0	2.0	2.0	2.0			8	7	3	Good	Good	Non-Heritage Tree	Retain	Maintained as a hedge, topped
29	*Thuja occidentalis*	Arborvitae	5	2.0	2.0	2.0	2.0	2.0		10	7	3	Good	Good	Non-Heritage Tree	Retain	Maintained as a hedge, topped
30	*Thuja occidentalis*	Arborvitae	5	2.0	2.0	2.0	2.0	2.0		10	7	3	Good	Good	Non-Heritage Tree	Retain	Maintained as a hedge, topped
31	*Magnolia grandiflora*	Southern Magnolia	1	14.0						14	25	14	Good	Good	Street Tree	Retain	4' x 4' tree pit on N. California Ave, Tree crown is in contact with the adjacent building
32	*Thuja occidentalis*	Arborvitae	5	2.0	2.0	2.0	2.0	2.0		10	7	3	Good	Good	Non-Heritage Tree	Retain	Maintained as a hedge, topped
33	*Magnolia grandiflora*	Southern Magnolia	1	10.0						10	20	10	Fair	Good	Street Tree	Retain	4' x 4' tree pit on N. California Ave, tree is smaller than cohorts
34	*Thuja occidentalis*	Arborvitae	4	3.0	3.0	3.0	3.0			12	7	3	Fair	Good	Non-Heritage Tree	Retain	Maintained as a hedge, topped. Sparse crown with some dieback
35	*Thuja occidentalis*	Arborvitae	4	3.0	3.0	3.0	3.0			12	7	3	Poor	Poor	Non-Heritage Tree	Remove-Health	Maintained as a hedge, topped. Sparse crown with +50% dieback

36	*Liquidambar styraciflua*	American Sweetgum	1	13.0						13	35	12	Fair	Fair	Non-Heritage Tree	Remove-Construction	Sparse crown, in a small planter with three other trees
37	*Liquidambar styraciflua*	American Sweetgum	1	7.0						7	12	12	Fair	Fair	Non-Heritage Tree	Remove-Construction	Heavy lean towards street with asymmetric crown, in a small planter with three other trees
38	*Liquidambar styraciflua*	American Sweetgum	1	7.0						7	18	9	Good	Fair	Non-Heritage Tree	Remove-Construction	overtopped by tree # 36, asymmetric crown, in a small planter with three other trees
39	*Magnolia grandiflora*	Southern Magnolia	1	13.0						13	15	10	Good	Good	Street Tree	Remove-Construction	
40	*Podocarpus macrophyllus*	Podocarpus	1	3.0						3	15	2	Good	Good	Non-Heritage Tree	Remove-Construction	
41	*Podocarpus macrophyllus*	Podocarpus	4	2.0	2.0	2.0	2.0			8	18	2	Good	Good	Non-Heritage Tree	Remove-Construction	
42	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
43	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
44	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	9	6	Good	Good	Non-Heritage Tree	Remove-Construction	
45	*Lagerstroemia indica*	Crape Myrtle	1	6.0						6	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
46	*Lagerstroemia indica*	Crape Myrtle	1	6.0						6	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
47	*Quercus lobata*	Valley Oak	1	34.0						34	35	28	Good	Good	Heritage Tree	Remove-Construction	Dripline is %80 pavement
48	*Pittosporum eugeniodes*	Lemonwood Tree	3	10.0	10.0	10.0				30	20	12	Poor	Poor	Non-Heritage Tree	Remove-Construction	50-60% dieback with multiple large dead branches
49	*Washingtonia filifera*	Mexican Fan Palm	1	23.0						23	35	6	Good	Good	Non-Heritage Tree	Remove-Construction	
50	*Quercus agrifolia*	Coast Live Oak	2	7.0	5.0					12	10	7	Good	Good	Non-Heritage Tree	Remove-Construction	Asymmetric crown, Located in a small planter with several other trees
51	*Quercus lobata*	Valley Oak	5	5.0						5	8	7	Good	Fair	Non-Heritage Tree	Remove-Construction	Asymmetric crown with a heavy lean to the NW, Located in a small planter with several other trees

52	*Ailanthus altissima*	Tree of Heaven	2	8.0	8.0					16	16	11	Good	Good	Non-Heritage Tree	Remove-Construction	Located in a small planter with several other trees. Invasive species.
53	*Quercus agrifolia*	Coast Live Oak	1	4.0						4	8	4	Good	Good	Non-Heritage Tree	Remove-Construction	Asymmetric crown , Located in a small planter with several other trees
54	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	8	6	Fair	Good	Non-Heritage Tree	Remove-Construction	
55	*Lagerstroemia indica*	Crape Myrtle	2	2.0	2.0	2.0	2.0			8	8	6	Good	Good	Non-Heritage Tree	Remove-Construction	
56	*Ailanthus altissima*	Tree of Heaven	2	3.0	3.0					6	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	Located behind a fence at the private residence ,Volunteer tree, Invasive species
57	*Ailanthus altissima*	Tree of Heaven	2	3.0	3.0					6	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	Located behind a fence at the private residence ,Volunteer tree, Invasive species
58	*Thuja occidentalis*	Arborvitae	2	6.0	7.0					13	15	10	Good	Fair	Non-Heritage Tree	Remove-Construction	Aysmmetric crown, heavy lean to the S. Located behind a fence at the Clevland Classroom
59	*Cupressus sempervirens*	Italian Cypress	1	23.0						23	45	6	Good	Good	Non-Heritage Tree	Remove-Construction	Located behind a fence at the Clevland Classroom
60	*Cupressus x lelani*	Leland Cypress	1	26.0						26	45	16	Good	Good	Non-Heritage Tree	Remove-Construction	Located behind a fence at the Clevland Classroom
61	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
62	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	7	Good	Good	Non-Heritage Tree	Remove-Construction	
63	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
64	*Lagerstroemia indica*	Crape Myrtle	1	6.0						6	10	8	Good	Good	Non-Heritage Tree	Remove-Construction	
65	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	8	6	Good	Good	Non-Heritage Tree	Remove-Construction	
66	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
67	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
68	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	

69	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	9	6	Good	Good	Non-Heritage Tree	Remove-Construction	
70	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
71	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
72	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	7	6	Good	Good	Non-Heritage Tree	Remove-Construction	
73	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	8	6	Good	Good	Non-Heritage Tree	Remove-Construction	
74	*Lagerstroemia indica*	Crape Myrtle	1	3.0						3	7	6	Good	Good	Non-Heritage Tree	Remove-Construction	
75	*Lagerstroemia indica*	Crape Myrtle	1	6.0						6	10	7	Good	Good	Non-Heritage Tree	Remove-Construction	
76	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
77	*Lagerstroemia indica*	Crape Myrtle	2	4.0	4.0					8	9	6	Good	Good	Non-Heritage Tree	Remove-Construction	
78	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	9	6	Good	Good	Non-Heritage Tree	Remove-Construction	
79	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	11	7	Good	Good	Non-Heritage Tree	Remove-Construction	
80	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	9	Good	Good	Non-Heritage Tree	Remove-Construction	
81	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	8	4	Fair	Good	Non-Heritage Tree	Remove-Construction	branch tip dieback throughout the crown.
82	*Washingtonia filifera*	Mexican Fan Palm	1	46.0						46	22	6	Good	Good	Non-Heritage Tree	Remove-Construction	
83	*Punica granatum*	Pomegrante	4	3.0	3.0	2.0	2.0			10	8	4	Fair	Good	Non-Heritage Tree	Remove-Construction	
84	*Lagerstroemia indica*	Crape Myrtle	1	6.0						6	12	9	Good	Good	Non-Heritage Tree	Remove-Construction	
85	*Lagerstroemia indica*	Crape Myrtle	1	8.0						8	15	15	Good	Good	Non-Heritage Tree	Remove-Construction	
86	*Lagerstroemia indica*	Crape Myrtle	1	3.0						3	8	4	Fair	Good	Non-Heritage Tree	Remove-Construction	Sparse crown with some branch tip dieback
87	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	9	6	Good	Good	Non-Heritage Tree	Remove-Construction	
88	*Lagerstroemia indica*	Crape Myrtle	1	6.0						6	11	7	Fair	Good	Non-Heritage Tree	Remove-Construction	Sparse crown with yellowing foliage
89	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	15	9	Good	Good	Non-Heritage Tree	Remove-Construction	
90	*Lagerstroemia indica*	Crape Myrtle	6	4.0	4.0	2.0	3.0	3.0	2.0	18	15	9	Good	Good	Non-Heritage Tree	Remove-Construction	
91	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	15	9	Good	Good	Non-Heritage Tree	Remove-Construction	
92	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	
93	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	
94	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	

95	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	12	9	Good	Good	Non-Heritage Tree	Remove-Construction	
96	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	
97	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	12	8	Good	Good	Non-Heritage Tree	Remove-Construction	
98	*Lagerstroemia indica*	Crape Myrtle	1	6.0						6	14	9	Good	Good	Non-Heritage Tree	Remove-Construction	
99	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	12	8	Good	Good	Non-Heritage Tree	Remove-Construction	
100	*Lagerstroemia indica*	Crape Myrtle	1	6.0						6	15	8	Good	Good	Non-Heritage Tree	Remove-Construction	
101	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	15	9	Fair	Fair	Non-Heritage Tree	Remove-Construction	Previous large branch failure on the South side of the crown.
102	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	
103	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	
104	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	
105	*Ligustrum lucidum*	Glossy Privet	1	3.0						3	8	4	Good	Good	Non-Heritage Tree	Remove-Construction	
106	*Ailanthus altissima*	Tree of Heaven	3	3.0	2.0	2.0				7	8	6	Good	Good	Non-Heritage Tree	Remove-Construction	Invasive species.
107	*Pyrus calleryana*	Callery Pear	1	20.0						20	20	18	Good	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark
108	*Pyrus calleryana*	Callery Pear	1	6.0						6	12	9	Good	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark
109	*Pyrus calleryana*	Callery Pear	1	18.0						18	18	18	Good	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark
110	*Pyrus calleryana*	Callery Pear	1	12.0						12	15	11	Good	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark
111	*Pyrus calleryana*	Callery Pear	1	12.0						12	18	13	Good	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark

112	*Pyrus calleryana*	Callery Pear	1	12.0						12	18	15	Good	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark
113	*Pyrus calleryana*	Callery Pear	1	11.0						11	12	8	Poor	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark. Sparse crown with yellowing in the remaining foliage.
114	*Pyrus calleryana*	Callery Pear	1	13.0						13	18	13	Fair	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark. Top half of the crown has noticably less foliage.
115	*Pyrus calleryana*	Callery Pear	1	13.0						13	16	15	Good	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark
116	*Pyrus calleryana*	Callery Pear	1	8.0						8	16	11	Fair	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark
117	*Pyrus calleryana*	Callery Pear	1	14.0						14	18	12	Good	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark
118	*Pyrus calleryana*	Callery Pear	1	11.0						11	15	12	Fair	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark. Sparse crown.
119	*Pyrus calleryana*	Callery Pear	1	5						5	10	3	Poor	Good	Non-Heritage Tree	Remove-Construction	Sparse crown with dieback and wilting in the live foliage.
120	*Pyrus calleryana*	Callery Pear	1	13						13	20	13	Good	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark

121	*Pyrus calleryana*	Callery Pear	1	11						11	16	12	Fair	Poor	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark. Sparse crown. Recently tipped.
122	*Pyrus calleryana*	Callery Pear	1	13						13	20	16	Good	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark
123	*Pyrus calleryana*	Callery Pear	1	15						15	20	16	Good	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark
124	*Pyrus calleryana*	Callery Pear	1	13						13	18	12	Good	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark
125	*Pyrus calleryana*	Callery Pear	1	14						14	20	13	Good	Fair	Non-Heritage Tree	Remove-Construction	poor branch structure; narrow branch unions with included bark
126	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
127	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
128	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	
129	*Lagerstroemia indica*	Crape Myrtle	1	3.0						3	8	3	Poor	Good	Non-Heritage Tree	Remove-Construction	
130	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	12	8	Good	Good	Non-Heritage Tree	Remove-Construction	
131	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	
132	*Magnolia grandiflora*	Southern Magnolia	1	10.0						10	15	10	Poor	Poor	Street Tree	Remove-Construction	Very large wound on the West of the tree trunk. Sparse crown with some dieback
133	*Magnolia grandiflora*	Southern Magnolia	1	5.0						5	12	4	Poor	Poor	Street Tree	Remove-Construction	Very large wound on the West of the tree trunk. Sparse crown with some dieback
134	*Magnolia grandiflora*	Southern Magnolia	1	5.0						5	10	3	Poor	Poor	Street Tree	Remove-Construction	Very large wound on the West of the tree trunk. Sparse crown with some dieback

135	*Magnolia grandiflora*	Southern Magnolia	1	6.0						6	10	6	Poor	Poor	Street Tree	Remove-Construction	Very large wound on the West of the tree trunk. Sparse crown with some dieback
136	*Pyrus calleryana*	Callery Pear	1	6.0						6	10	3	Poor	Poor	Street Tree	Remove-Construction	Very large wound on the West of the tree trunk with decay visible. Sparse crown with some dieback
137	*Zelkova serrata*	Japanese Zelkova	1	21.0						21	30	21	Poor	Poor	Street Tree	Remove-Construction	Sidewalk and curb recently replaced. Large roots cut off at the trunk flare. Dieback in the branch tips throughout the crown
138	*Zelkova serrata*	Japanese Zelkova	1	23.0						23	30	25	Good	Good	Street Tree	Remove-Construction	Sidewalk and curb recently replaced.
139	*Zelkova serrata*	Japanese Zelkova	1	20.0						20	30	18	Good	Good	Street Tree	Remove-Construction	Sidewalk and curb recently replaced.
140	*Zelkova serrata*	Japanese Zelkova	1	22.0						22	25	22	Poor	Poor	Street Tree	Remove-Construction	Sidewalk and curb recently replaced. Large roots cut off at the trunk flare.
141	*Zelkova serrata*	Japanese Zelkova	1	23.0						23	25	21	Fair	Poor	Street Tree	Remove-Construction	Sidewalk and curb recently replaced. Large roots cut off at the trunk flare. Dieback in the branch tips throughout the crown. Utility wires overhead and the tree has been topped.
142	*Prunus serrulata*	Flowering Cherry	1	16.0						16	10	8	Fair	Fair	Street Tree	Remove-Construction	Bad graft at the main stem union with swelling and poor structure.

143	*Zelkova serrata*	Japanese Zelkova	1	23.0						23	20	11	Fair	Poor	Street Tree	Remove-Construction	Sidewalk and curb recently replaced. Large roots cut off at the trunk flare. Utility wires overhead and the tree has been topped.
144	*Zelkova serrata*	Japanese Zelkova	1	24.0						24	20	13	Fair	Poor	Street Tree	Remove-Construction	Sidewalk and curb recently replaced. Large roots cut off at the trunk flare. Utility wires overhead and the tree has been topped.
145	*Zelkova serrata*	Japanese Zelkova	1	20.0						20	20	13	Fair	Poor	Street Tree	Remove-Construction	Sidewalk and curb recently replaced. Large roots cut off at the trunk flare. Utility wires overhead and the tree has been topped.
146	*Lagerstroemia indica*	Crape Myrtle	1	6.0						6	8	3	Good	Good	Non-Heritage Tree	Remove-Construction	
147	*Lagerstroemia indica*	Crape Myrtle	1	8.0						8	8	3	Good	Good	Non-Heritage Tree	Remove-Construction	
148	*Lagerstroemia indica*	Crape Myrtle	1	7.0						7	10	3	Good	Good	Non-Heritage Tree	Remove-Construction	
149	*Lagerstroemia indica*	Crape Myrtle	1	8.0						8	10	3	Good	Good	Non-Heritage Tree	Remove-Construction	
150	*Lagerstroemia indica*	Crape Myrtle	1	8.0						8	10	3	Good	Good	Non-Heritage Tree	Remove-Construction	
151	*Lagerstroemia indica*	Crape Myrtle	1	6.0						6	10	3	Good	Good	Non-Heritage Tree	Remove-Construction	
152	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	3	Fair	Good	Non-Heritage Tree	Remove-Construction	
153	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	3	Fair	Good	Non-Heritage Tree	Remove-Construction	
154	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	10	3	Fair	Good	Non-Heritage Tree	Remove-Construction	
155	*Quercus suber*	Cork Oak	1	34.0						34	45	27	Good	Fair	Non-Heritage Tree	Remove-Construction	In a restricted area at the rear of the McCloud Building. Asymmetric crown due to power line clearance thinning.

156	*Pinus densiflora*	Japanese Red Pine	1	23.0						23	35	15	Poor	Poor	Non-Heritage Tree	Remove-Construction	Adjacent to McCloud building. Asymmetric crown with deadwood buildup on the North side. Several large poor attached branches visible in the crown. Heavy lean towards the North.
157	*Juniperus chinensis*	Hollywood Juniper	1	9.0						9	15	4	Fair	Good	Non-Heritage Tree	Remove-Construction	
158	*Juniperus chinensis*	Hollywood Juniper	1	13.0						13	30	11	Good	Good	Non-Heritage Tree	Remove-Construction	
159	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	
160	*Lagerstroemia indica*	Crape Myrtle	1	4.0						4	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	
161	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	15	6	Good	Good	Non-Heritage Tree	Remove-Construction	
162	*Lagerstroemia indica*	Crape Myrtle	1	5.0						5	15	8	Good	Good	Non-Heritage Tree	Remove-Construction	
163	*Cedrus deodora*	Deodar Cedar	1	28.0						28	45	27	Poor	Good	Non-Heritage Tree	Remove-Construction	Very sparse crown.
164	*Zelkova serrata*	Japanese Zelkova	1	8.0						8	20	10	Fair	Fair	Non-Heritage Tree	Remove-Construction	Asymmetric Crown
165	*Brachychiton populenus*	Kurrajong	1	12.0						12	25	6	Good	Good	Non-Heritage Tree	Remove-Construction	Located in small raised planter at the rear of the Main Hospital building.
166	*Cedrus deodora*	Deodar Cedar	1	44.0						44	45	28	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
167	*Ilex spp.*	Holly	2	4.0	4.0					8	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
168	*Podocarpus macrophyllus*	Podocarpus	1	7.0						7	30	6	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
169	*Brachychiton populenus*	Kurrajong	1	2.0						2	15	6	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
170	*Sequoia sempervirens*	Coast Redwood	1	44.0						44	70	11	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
171	*Sequoia sempervirens*	Coast Redwood	1	15.0						15	30	7	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
172	*Triadica sebifera*	Chinese Tallow Tree	1	15.0						15	30	15	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
173	*Ligustrum lucidum*	Glossy Privet	3	3.0	3.0	3.0				9	15	6	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park. In a fenced enclosure adjacent to Cemetery Dr.

174	*Ulmus americana*	American Elm	1	4.0						4	17	4	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park. In a fenced enclosure adjacent to Cemetery Dr.
175	*Ulmus americana*	American Elm	1	5.0						5	18	15	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park. In a fenced enclosure adjacent to Cemetery Dr.
176	*Triadica sebifera*	Chinese Tallow Tree	1	10.0						10	20	16	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
177	*Liquidambar styraciflua*	American Sweetgum	1	8.0						8	28	8	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
178	*Liquidambar styraciflua*	American Sweetgum	1	8.0						8	25	10	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
179	*Liquidambar styraciflua*	American Sweetgum	1	5.0						5	30	5	Fair	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park. Suppressed by neighboring Sweetgum trees.
180	*Triadica sebifera*	Chinese Tallow Tree	1	18.0						18	25	13	Fair	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park. Sparse crown
181	*Prunus serrulata*	Flowering Cherry	1	8.0						8	12	5	Fair	Poor	Non-Heritage Tree	Remove-Construction	Schroeder Park. Bad graft at main stem union with fungal fruiting bodies present. Topped.
182	*Liquidambar styraciflua*	American Sweetgum	1	7.0						7	27	12	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
183	*Triadica sebifera*	Chinese Tallow Tree	1	8.0						8	25	10	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
184	*Triadica sebifera*	Chinese Tallow Tree	1	17.0						17	25	13	Fair	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park. Sparse crown
185	*Triadica sebifera*	Chinese Tallow Tree	1	14.0						14	25	15	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
186	*Triadica sebifera*	Chinese Tallow Tree	1	15.0						15	25	10	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
187	*Triadica sebifera*	Chinese Tallow Tree	1	16.0						16	25	12	Fair	Fair	Non-Heritage Tree	Remove-Construction	Schroeder Park. Sparse crown with a large dead area in the center of the crown.
188	*Triadica sebifera*	Chinese Tallow Tree	1	12.0						12	25	10	Fair	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park. Sparse crown.
189	*Triadica sebifera*	Chinese Tallow Tree	1	12.0						12	25	15	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
190	*Parkinsonia spp.*	Palo Verde	2	2.0	2.0					4	8	3	Poor	Poor	Non-Heritage Tree	Remove-Construction	Schroeder park. Sparse crown, topped.

191	*Parkinsonia spp.*	Palo Verde	2	2.0	2.0					4	8	4	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
192	*Pinus thunbergii*	Japanese Black Pine	1	3.0						3	5	3	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
193	*Sequoia sempervirens*	Coast Redwood	1	31.0						31	70	15	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
194	*Sequoia sempervirens*	Coast Redwood	1	28.0						28	70	12	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
195	*Triadica sebifera*	Chinese Tallow Tree	1	15.0						15	30	12	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
196	*Sequoia sempervirens*	Coast Redwood	1	22.0						22	45	9	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park. Asymmetric crown
197	*Sequoia sempervirens*	Coast Redwood	1	23.0						23	47	10	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
198	*Sequoia sempervirens*	Coast Redwood	1	25.0						25	50	15	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
199	*Triadica sebifera*	Chinese Tallow Tree	1	17.0						17	30	18	Good	Good	Non-Heritage Tree	Remove-Construction	Schroeder Park
200	*Fraxinus velutina*	Modesto Ash	1	24.0						24	33	33	Good	Good	Street Tree	Remove-Construction	In a 4' X 4 ' planter on N. California Ave
201	*Juniperus chinensis*	Hollywood Juniper	1	12.0						12	30	4	Fair	Good	Non-Heritage Tree	Remove-Construction	In the cafeteria courtyard, in a raised concrete planter
202	*Lagerstroemia indica*	Crape Myrtle	1	7.0						7	18	12	Good	Good	Non-Heritage Tree	Remove-Construction	In the cafeteria courtyard, in a raised concrete planter
203	*Lagerstroemia indica*	Crape Myrtle	1	7.0						7	18	9	Good	Good	Non-Heritage Tree	Remove-Construction	In the cafeteria courtyard, adjacent to the building. Asymmetric crown with a lean to to the South.
204	*Magnolia spp.*	Magnolia	1	14.0						14	30	12	Good	Good	Non-Heritage Tree	Remove-Construction	In the cafeteria courtyard.
205	*Calocedrus decurrens*	Incense Cedar	1	34.0						34	55	15	Good	Good	Non-Heritage Tree	Remove-Construction	In the cafeteria courtyard.
206	*Cedrus deodora*	Deodar Cedar	1	47.0						47	40	27	Poor	Poor	Non-Heritage Tree	Remove-Construction	Sparse crown. Topped. Wounds visible in upper crown from large branch failures, decay visible in the wounds.
207	*Pyrus calleryana*	Callery Pear	1	7.0						7	16	13	Good	Good	Non-Heritage Tree	Remove-Construction	

208	*Magnolia grandiflora*	Southern Magnolia	1	23.0						23	35	21	Poor	Fair	Non-Heritage Tree	Remove-Construction	Buried trunk flare, Sparse crown with dieback in the upper 1/4 of the crown
209	*Magnolia grandiflora*	Southern Magnolia	2	21.0	20.0					41	35	24	Good	Fair	Non-Heritage Tree	Remove-Construction	Buried trunk flare, Asymmetrica crown
210	*Magnolia grandiflora*	Southern Magnolia	1	25.0						25	35	16	Fair	Good	Non-Heritage Tree	Remove-Construction	Buried trunk flare, Sparse crown with branch tip dieback
211	*Acer japonica*	Japanese Maple	3	2.0	2.0	2.0				6	10	6	Good	Good	Non-Heritage Tree	Remove-Construction	
212	*Podocarpus macrophyllus*	Podocarpus	1	3.0						3	8	6	Good	Good	Non-Heritage Tree	Remove-Construction	
213	*Podocarpus macrophyllus*	Podocarpus	1	3.0						3	8	3	Good	Good	Non-Heritage Tree	Remove-Construction	
214	*Prunus cerasifera*	Purple Leaf Plum	1	3.0						3	12	8	Good	Good	Non-Heritage Tree	Remove-Construction	
215	*Prunus cerasifera*	Purple Leaf Plum	1	3.0						3	12	8	Good	Good	Non-Heritage Tree	Remove-Construction	
216	*Prunus cerasifera*	Purple Leaf Plum	1	3.0						3	12	6	Good	Good	Non-Heritage Tree	Remove-Construction	
217	*Prunus cerasifera*	Purple Leaf Plum	1	4.0						4	12	8	Good	Fair	Non-Heritage Tree	Remove-Construction	heavy lean towards the West
218	*Pyrus calleryana*	Callery Pear	1	4.0						4	12	5	Poor	Good	Non-Heritage Tree	Remove-Construction	Sparse crown, yellowing and wilting of the live foliage.
219	*Pyrus calleryana*	Callery Pear	1	6.0						6	18	12	Good	Good	Non-Heritage Tree	Remove-Construction	
220	*Prunus cerasifera*	Purple-Leaf Plum	4	6.0	4.0	4.0	6.0			20	15	20	Good	Fair	Non-Heritage Tree	Retain	Large hanging Branch over planter strip
221	*Prunus cerasifera*	Purple-Leaf Plum	4	4.0	4.0	3.0	5.0			16	15	20	Good	Fair	Non-Heritage Tree	Retain	Main stem union has narrow V-shaped attachment with included bark
222	*Prunus cerasifera*	Purple-Leaf Plum	4	5.0	5.0	5.0	3.0			18	15	18	Good	Good	Non-Heritage Tree	Retain	
223	*Prunus cerasifera*	Purple-Leaf Plum	6	5.0	4.0	3.0	4.0	5.0	5.0	26	12	25	Good	Fair	Non-Heritage Tree	Retain	Weak attachment at main stem Union with included bark
224	*Prunus cerasifera*	Purple-Leaf Plum	6	4.0	5.0	4.0	5.0	4.0	4.0	26	15	24	Good	Good	Non-Heritage Tree	Retain	Asymmetric crown
225	*Prunus cerasifera*	Purple-Leaf Plum	4	4.0	4.0	4.0	5.0			17	15	24	Good	Fair	Non-Heritage Tree	Retain	Weak attachments at the main stem union with included bark
226	*Prunus cerasifera*	Purple-Leaf Plum	6	4.0	4.0	4.0	4.0	4.0	4.0	24	12	24	Good	Fair	Non-Heritage Tree	Retain	Beneath power lines, weak attachments at

																	the main stem union with included bark
227	*Prunus cerasifera*	Purple-Leaf Plum	5	5.0	4.0	4.0	4.0	4.0		21	15	24	Good	Fair	Non-Heritage Tree	Retain	Weak attachments at the main stem union with included bark , beneath power lines
228	*Prunus cerasifera*	Purple-Leaf Plum	3	5.0						5	15	18	Fair	Fair	Non-Heritage Tree	Retain	Weak attachments at the main stem union with included bark, crown is in contact with the neighboring building
229	*Prunus cerasifera*	Purple-Leaf Plum	5	5.0	4.0	4.0	5.0	4.0		22	15	24	Good	Fair	Non-Heritage Tree	Retain	Weak attachments at the main stem union with included bark.
230	*Pyrus calleryana*	Ornamental Pear	1	13.0						13	20	18	Poor	Good	Non-Heritage Tree	Remove-Health	Mistletoe, cut roots
231	*Prunus cerasifera*	Purple-Leaf Plum	5	5.0	5.0	5.0	5.0	4.0		24	15	24	Good	Fair	Non-Heritage Tree	Retain	Weak attachments at the main stem union with included bark, large hanging Branch over planter area
232	*Zelkova serrata*	Japanese Zelkova	1	6.0						6	18	18	Fair	Fair	Non-Heritage Tree	Retain	Weak attachments at the main stem union with included bark.
233	*Zelkova serrata*	Japanese Zelkova	1	8.0						8	15	18	Good	Good	Non-Heritage Tree	Retain	
234	*Zelkova serrata*	Japanese Zelkova	1	8.0						8	15	18	Good	Good	Non-Heritage Tree	Retain	
235	*Zelkova serrata*	Japanese Zelkova	1	8.0						8	15	24	Good	Fair	Non-Heritage Tree	Retain	Weak attachments at the main stem union with included bark.
236	*Pyrus calleryana*	Ornamental Pear	1	10.0						10	25	24	Fair	Fair	Non-Heritage Tree	Retain	Large Branches with weak attachments
237	*Pyrus calleryana*	Ornamental Pear	1	9.0						9	25	18	Fair	Fair	Non-Heritage Tree	Retain	Mistletoe, cut roots, leaning towards parking lot

238	*Pyrus calleryana*	Ornamental Pear	1	6.0						6	18	12	Fair	Good	Non-Heritage Tree	Retain	Mistletoe
239	*Pyrus calleryana*	Ornamental Pear	1	7.0						7	18	24	Good	Fair	Non-Heritage Tree	Retain	Asymmetric crown
240	*Pistacia chinensis*	Chinese Pistache	1	8.0						8	18	30	Fair	Good	Non-Heritage Tree	Retain	
241	*Prunus persica*	Peach	2	3.0	3.0					6	7	12	Good	Good	Non-Heritage Tree	Retain	
242	*Pistacia chinensis*	Chinese Pistache	2	10.0						10	24	36	Good	Good	Non-Heritage Tree	Retain	
243	*Pistacia chinensis*	Chinese Pistache	1	8.0						8	20	24	Fair	Good	Non-Heritage Tree	Retain	
244	*Pistacia chinensis*	Chinese Pistache	1	10.0						10	24	24	Good	Good	Non-Heritage Tree	Retain	Buried root flare, some Branch tip dieback
245	*Pistacia chinensis*	Chinese Pistache	1	10.0						10	24	30	Good	Fair	Non-Heritage Tree	Retain	Several large Branch unions with weak attachments and included bark
246	*Pistacia chinensis*	Chinese Pistache	1	10.0						10	24	24	Good	Good	Non-Heritage Tree	Retain	Some Branch tip dieback in the crown
247	*Pistacia chinensis*	Chinese Pistache	6	6.0						6	24	18	Fair	Good	Non-Heritage Tree	Retain	
248	*Platanus acerifolia*	London Plane	1	23.0						23	45	50	Fair	Good	Street Tree	Retain	Sparse crown with abundant epicormic shoots, previous large Branch failure
249	*Platanus acerifolia*	London Plane	1	17.0						17	40	30	Fair	Good	Street Tree	Retain	Sparse crown with abundant epicormic shoots
250	*Platanus acerifolia*	London Plane	1	23.0						23	45	36	Good	Good	Street Tree	Retain	
251	*Platanus acerifolia*	London Plane	1	8.0						8	24	24	Good	Good	Street Tree	Retain	
252	*Platanus acerifolia*	London Plane	1	11.0						11	24	24	Good	Good	Street Tree	Retain	

253	*Pyrus calleryana*	Ornamental Pear	1	9.0						9	18	24	Fair	Fair	Street Tree	Retain	Weak attachments at the main stem union with included bark. Mistletoe
254	*Pyrus calleryana*	Ornamental Pear	1	10.0						10	18	24	Good	Good	Street Tree	Retain	Mistletoe

Notes [1] A "**Heritage Tree**" is defined by Stockton City Code Section 12.64.020 as Any Quercus lobata (commonly known as "Valley Oak"), Quercus agrifolia (Coast Live Oak), and Quercus wislizenii (Interior Live Oak) tree which is located on public or private property within the limits of the City, and which has a trunk diameter of 16 inches or more, measured at 24 inches above actual grade. For Oak trees of the species mentioned above, with multiple trunks, the combined total trunk diameter shall be used for all trunks measuring six (6) inches or greater measured at 24 inches above actual grade. A "**Street tree**" means a tree planted by the City, or by another party that has been permitted by the Director to plant in lieu of the City, either in the public right-of-way or public utility easement.

[2] A "Non-Heritage" Tree is any measured tree that is on private property and does not meet the criteria for either a Heritage or Street Tree.

Appendix D: Site Photos

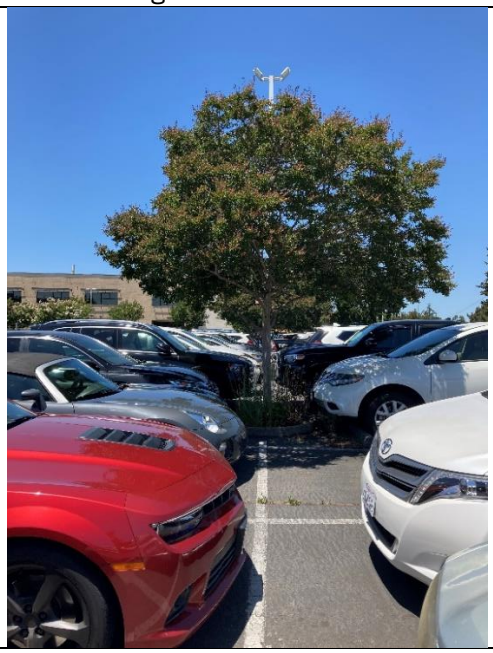
	
Photo 1: Street Trees on the South side of E Cleveland St., Tree # 1 shown	Photo 2: Non-Heritage Tree # 18 (Crape Myrtle) in the Parking lot on E Cleveland St.
	
Photo 3: Heritage Tree #47 (Valley Oak) in the parking lot at the northern portion of the project site.	Photo 4: A typical Non-Heritage shade Tree #71 (Crape Myrtle) in the central parking lot



Photo 5: City Street Tree #112 (Zelkova) on the north side of McCloud Ave.



Photo 6: Non-Heritage Trees #36-38 at the southwest corner of the HCCL Building



Photo 7: Non-Heritage Trees #58-60 at the northeast corner of the project site.



Photo 8: Non-Heritage Tree #109 (Callery Pear) in a row of trees between the central parking lot and N. California Ave.

Appendix E: City of Stockton Tree Removal Permit

P **Tree Removal Permit** CITY OF STOCKTON

COMMUNITY DEVELOPMENT DEPARTMENT • PLANNING & ENIGINEERING SERVICES DIVISION
345 N. EL DORADO STREET • STOCKTON, CA 95202 • (209) 937-8266• (209) 937-8893 FAX
www.stocktongca.gov/planningpermits

- Refer to the Stockton Municipal Code (SMC), Title 16, Development Code, Section 16.130, Heritage Oak Trees, including SMC Section 16.130.050 for Emergency Heritage Oak Trees Removal
- Refer to SMC, Title 16, Development Code, Section 16.162 for Street Tree Permit, including SMC Section 16.162.070 for Emergency Removal, and Section 16.240.020, Definitions of Specialized Terms and Phrases, for information related to removal permits,
- Property owner is requesting permission to remove heritage oak tree and/or street tree(s) at his/her expense.
- Property owner agrees that heritage oak tree and/or street tree removals shall be in their entirety, in accordance with the SMC.

☐ **STREET TREE REMOVAL** ☐ **HERITAGE OAK TREE REMOVAL**

REQUIRED FOR APPLICATION SUBMITTAL:

☐ Site Plan with the location of street tree(s) or heritage oak tree(s); and

☐ Project Description to illustrate the reason for the request to remove street tree(s) or heritage oak tree(s)

PROPERTY AND TREE LOCATION

Address: _____ Assessor's Parcel No: ___ ___ _____

STATEMENT OF INTENT / PROJECT DESCRIPTION
(Provide a detailed description of the project below or on a separate attachment.)

_____

_____

_____

APPLICANT

Name: _____ E-mail: _____

Address: _____ Phone 1: _____

City: _____ State: _____ Zip: _____ Phone 2: _____

PROPERTY OWNER (If different than Applicant)

Name: _____ E-mail: _____

Address: _____ Phone 1: _____

City: _____ State: _____ Zip: _____ Phone 2: _____

OFFICE USE ONLY

SAN JOAQUIN MULTI-SPECIES HABITAT CONVERSATION & OPEN SPACE PLAN (SJMSCP) Date Rec'd: _____

_____ Not subject to _____ May be subject to Processed by: _____

P#

1/11/2017

Page 1 of 2

Appendix E

Cultural Resources Report and Historical Resources Inventory and Evaluation Report

Robert O'Hare, Manager, Planning Design and Construction
CommonSpirit Health/Dignity Health
3400 Data Drive
Rancho Cordova, CA 95670

Subject: Cultural Resources Letter Report for the St. Joseph's Medical Center Hospital Expansion Project, Stockton, California

Dear Robert O'Hare:

This letter report documents the cultural resources study conducted by Dudek for the proposed St. Joseph's Medical Center Hospital Expansion Project (Project), located in the City of Stockton, California. The City of Stockton (City) is the lead agency responsible for compliance with the California Environmental Quality Act (CEQA). This cultural resources study included a Central California Information Center (CCaIC) records search and a Native American Heritage Commission (NAHC) Sacred Lands File search for cultural resources. Review of aerial imagery of the Project area indicated that all areas within the Project area were obscured by gravel or other development and, as such, a pedestrian survey was not justified. The cultural resources study was conducted by Dudek in accordance with the standards and guidelines defined by the California Office of Historic

Project Location and Description

The Project site is located in Section 2 of Township 1 North, Range 6 East, of the Stockton West, California 7.5' USGS Quadrangle map (Figure 1). The Project area is roughly bound by East Cleveland Street to the north, North California Street to the west, East Harding Way to the south, and La Follete Avenue east. The Project proposes the following improvements to the St. Joseph's Medical Center campus:

- Construction of new hospital building, the Acute Care Hospital Tower, for the expansion of acute care services
- Construction of a new multi-level parking structure and surface level parking
- Construction of new central utility plant and other related support facilities
- Other seismic retrofits and interior building remodels
- Updates and changes to utilities, infrastructure, and circulation
- Demolition of existing buildings and replacement of surface parking

These improvements are proposed on approximately 20 acres of the existing St. Joseph Medical Center campus.

Regulatory Framework

State Regulations

The California Register of Historical Resources

In California, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural,

engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code [PRC] Section 5020.1(j)). In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1(a)). The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP), enumerated below. According to PRC Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see California Code Regulations, Title 14, Section 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- PRC Section 21083.2(g) defines "unique archaeological resource."
- PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) defines "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource;" it also defines the circumstances when a project would materially impair the significance of an historical resource.
- PRC Section 21074(a) defines "tribal cultural resources."
- PRC Section 5097.98 and CEQA Guidelines Section 15064.5(e): Set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.

- PRC Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4: Provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC Section 21084.1; CEQA Guidelines Section 15064.5(b)). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC Section 5024.1(q)), it is a "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (PRC Section 21084.1; CEQA Guidelines Section 15064.5(a)).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1); PRC Section 5020.1(q)). In turn, the significance of a historical resource is materially impaired when a project:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA (CEQA Guidelines Section 15064.5(b)(2)).

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a], [b], and [c]).

PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (PRC Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)). However, if a non-unique archaeological resource qualifies as tribal cultural resource (PRC Sections 21074(c); 21083.2(h)), further consideration of significant impacts is required.

CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in PRC Section 5097.98.

Native American Historic Cultural Sites

State law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the Heritage Commission to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy a Native American historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Health and Safety Code Section 7050.5

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (Section 7050.5b). PRC Section 5097.98 also outlines the process to be followed in the event that remains are discovered. If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (Section 7050.5c). The NAHC will notify the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 48 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

Environmental and Archaeological Context

This section describes the existing cultural resource setting in the City as it relates to the proposed project.

Natural Setting

The proposed project is located in the City, which is within the Sacramento-San Joaquin River Delta region located in the middle of California's Central Valley within the northern portion of the San Joaquin Valley. The Delta is a large estuary and river delta formed by the confluence of the Sacramento River from the north and San Joaquin River to the south. The Delta is bordered by the Sierra Nevada Mountain Range to the east, the Sacramento Valley to the north, the San Joaquin Basin to the south, and the Coast Range and San Francisco Bay to the west. The City, specifically, is located in the southern portion of the Delta, near the transition to the San Joaquin Basin watershed.

Prehistoric Setting

The archaeology and prehistory of the San Joaquin Valley are not well understood however a general chronological framework developed for the Central Valley has been developed. The archaeological record of the Central Valley can be divided into the Paleoindian Period (11,550–8550 calibrated years [cal] BC), Archaic Period (8550 cal BC – cal AD 1100), Emergent Period (cal AD 1100–1750), and Ethnohistoric Period (post-AD 1769), with the Archaic Period further subdivided into three phases, the Lower Archaic (8550-5550 cal BC), Middle Archaic (5550-550 cal BC), and Upper Archaic (550 cal BC – cal AD 1100) based on climatic and cultural variations.

Paleoindian Period (ca. 11,550 – 8550 cal BC)

While few sites of Paleoindian age have been identified in the San Joaquin Valley and Delta regions, occupation is known to date to at least 11,000 years ago (e.g., Fenenga 1993; Fredrickson and Grossman 1977; Riddell and Olsen 1969; Siefkin 1999; Wallace 1991; Wallace and Riddell 1988). Most of the evidence for a Paleoindian presence in the valley has been limited to surface finds of fluted projectile points, which are typically regarded by North American archaeologists as late Pleistocene early Holocene time markers. Numerous specimens of these fluted, concave base (Clovis or "Clovis-like") projectile points and other artifacts presumed to be Paleoindian in age (e.g., "humpies" and crescents – see Fredrickson and Grossman 1977; Sampson 1991) have been collected from surface contexts in several locations in the San Joaquin Valley. Unfortunately, most of these discoveries have been made by amateur collectors, many of whom were collecting illegally, so virtually no provenance has been provided for these artifacts. This has resulted in an enormous and irretrievable loss of data for understanding the Paleoindian Period in this region.

Archaic Period (8,550 cal BC– cal AD 1,100)

The Archaic Period in California is generally characterized by gradual development of specific regional adaptations and the proliferation and regional differentiation of subsistence strategies and tool types as people became increasingly sedentary, or at least reoccupied a greater number of locations with greater frequency, resulting in the formation of a larger number of regionally or functionally distinct sites. The Archaic Period in the Central Valley is subdivided into three phases: Lower Archaic, Middle Archaic, and Upper Archaic.

Lower Archaic deposits in the Central Valley tend to be isolated finds lacking stratigraphic context. It is believed that human subsistence during this period was based largely on the hunting of large game and fishing (Sutton 1997:12), and grinding implements, such as mortars, pestles, milling stones, and handstones, appear infrequently during this time. Middle Archaic sites are typified by the distinct adaptive pattern of more generalized and logistically organized subsistence practices and residential stability along river corridors (Rosenthal et al. 2007). While hunting and fishing continue to be important aspects of subsistence, the increased prevalence of groundstone tools, including

early examples of mortars and pestles, suggest an increased reliance on vegetal resources, likely the result of greater residential stability driving resource intensification. The continued importance of fishing is indicative in the adoption of new fishing technologies, including gorge hooks, composite bone hooks, and spears, identified at Middle Archaic sites in Contra Costa, Sacramento, and San Joaquin counties (Heizer 1949; Rosenthal et al. 2007; Schulz 1981). The archaeological record from the Upper Archaic is better understood and represented, and is marked by an increase in cultural diversity, with numerous regional distinctions in burial posture, artifact styles, and other elements of material culture (Bennyhoff and Fredrickson 1994; Rosenthal et al. 2007). The period is marked by the development and proliferation of numerous bone tools and implements, as well as widespread production and trade of manufactured goods, including Olivella shell beads, Haliotis ornaments, and obsidian bifacial roughouts and ceremonial blades (Bennyhoff and Fredrickson 1994; Moratto 1984). Subsistence economies during the Upper Archaic focused on seasonally structured resources that could be harvested and processed in bulk, including acorns, salmon, shellfish, deer, and rabbits. The proliferation of mortars and pestles and archaeobotanical remains indicate that the first widespread reliance on acorns occurred during this period (Wohlgemuth 1996, 2004). Large, mounded village sites also first occurred in the Delta region during this period (Bennyhoff and Fredrickson 1994; Boey 1995; Rosenthal et al. 2007).

Emergent Period (cal AD 1100–Historic Contact)

The archaeological record for the Emergent Period is the most substantial and well-documented of any period in the Central Valley, and the assemblages and adaptations represented therein are the most diverse. The Emergent Period also marks the onset of cultural traditions consistent with those documented at European contact and the disappearance of several previous archaeological traditions. Large villages developed in areas of the Sacramento Valley, and the number of mound villages and smaller hamlets increased across the region. Subsistence economies during the Emergent Period were increasingly focused on fishing and plant gathering, with subsistence intensification evident in the increased reliance on small seeds and a more diverse assortment of mammals and birds (Broughton 1994; Rosenthal et al. 2007; Wohlgemuth 2004). Perhaps the most notable technological change during the Emergent Period is the introduction of the bow and arrow, as the favored hunting implement sometime between AD 1100 and AD 1300 (Bennyhoff and Fredrickson 1994, Moratto 1984). The Emergent Period in general is marked by an increase in population size and the number of residential sites and villages throughout the region, with increasing regional variability and resource intensification.

Ethnographic Setting

During the ethnohistoric period, the City would have likely been the tribal territory of the Delta Yokuts, or Far Northern Valley Yokuts, whose dialects were spoken along the lower course of the San Joaquin River from its confluence with the Merced River to the delta soughs north of Stockton. The vicinity of the proposed project area specifically, was the territory of the *Yachikamne*, whose principal village was in Stockton (Golla 2011).

Northern Valley Yokuts habitation areas were most commonly situated in proximity to rivers and major tributaries, more often on the east side of the river (Kroeber 1925). West of the river, populations were much sparser and concentrated in the foothills on minor waterways. This focus on waterways can also be seen in their dietary resources which included various fish, waterfowl, antelope, elk, acorns, tule roots, and various seeds. The focus on fishing is seen in the material culture consisting of net sinkers and harpoons, likely used from rafts constructed from tule reed bundles (Wallace 1978).

Relatively little other information is known about the Delta Yokuts as their population saw sharp and devastating decline from disease and relocation to coastal missions nearly immediately after Spanish contact (Osbourne 1992). This only increased with the large influx of cattle ranching and Anglo Americans after the gold rush (Osborne 1992; Cook 1976).

Historic Context

The San Joaquin River delta area has been settled since the prehistoric era. The Spanish first explored the San Joaquin Valley in 1772; however, Gabriel Moraga named the valley San Joaquin de los Tulares in 1808 after the rushes and wetland plants that grew in the valley. In 1828, Jedediah Smith traveled for the Rocky Mountain Fur Company to Southern California, then to the San Joaquin Valley to trap beaver at the French Camp settlement, just south of present-day Stockton. This was followed by a trapper party led by John Work in 1832 for the Hudson Bay Company. Several party members were infected with a fever illness, which spread to the local Native American population in the San Joaquin Delta when the two groups eventually clashed (Mokelumne and Yokuts). This, as well as years of aggression from the Spanish then Mexican armies, decreased the Native American habitation on the slough as well. Overall, aside from a fur company camp, the area was not well settled prior to the 1840s (Kaiser et al. 2021).

Charles M. Weber and business partner William Gulnac acquired a land grant to the 48,747-acre Rancho Campo de los Franceses in 1843. Weber, a German immigrant, came to California with the 1841 Bidwell Bartleson Party, which was one of the earliest settlement parties from the eastern United States to successfully reach California. Weber and his wife Helen settled on the rancho and began planning the City of Stockton. Weber and Gulnac planned to raise livestock in the area but were particularly interested in the San Joaquin River Delta for its shipping potential and physical outlet into the San Francisco Bay. However, the Gold Rush altered the economic environment around Stockton after the discovery of gold at Coloma on the American River in 1848. Settlement at the Stockton location began as early as 1847, and in 1849, the Webers hurriedly paid for a survey and plat for the town. The City of Stockton incorporated in 1850. The town's early growth can be attributed to profiteering from the necessary shipping and freighting for the Gold Rush miners (Kaiser et al. 2021).

Though well positioned at the head of a navigable waterway to receive passengers and freight, Stockton's location in a delta of the San Joaquin and Calaveras Rivers left it prone to seasonal flooding, and it took nearly 15 years (1850–1865) to build a permanent elevated, dry road out of town to French Camp. In the earliest years, tents, rather than permanent buildings dominated Stockton as the main building type. Nevertheless, the City grew quickly. In 1850, the population was marked as 2,500 people, but by 1854, it had grown to 7,000 people, making Stockton the third-largest city in California (Kaiser et al. 2021).

The City continued to grow, and in 1870, the population surpassed 10,000 persons. Chinese immigrants, restricted by the Chinese Exclusion Act in 1882, made up a significant portion of the population and commercial growth in the 1880s. During the 1890s, Stockton's population had grown to over 14,000, and new projects were completed throughout the City. In 1890, a new courthouse was constructed, followed by a jail in 1893. Multistory brick buildings including banks, commercial buildings, schools, and hotels were also erected during the 1890s, leading to the nickname "Brick City" for Stockton (Kaiser et al. 2021).

Stockton remained a center for agriculture, commerce, and manufacturing into the twentieth century. By 1900, Stockton had several hundred manufacturing companies including canneries, ship builders, and farm equipment manufacturers (Kaiser et al. 2021).

State Regulations

The California Register of Historical Resources

In California, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code [PRC] Section

Background Research

Cultural Records Search Results

A records search was completed for the St. Joseph's Medical Center campus including a 1/2-mile radius by staff at the CCaIC at California State University, Stanislaus on March 10, 2020 (Confidential Appendix A). This search included a review of their collection of mapped prehistoric, historical, and built-environment resources, Department of Parks and Recreation Site Records, technical reports, historical maps, and local inventories. Additional consulted sources included the NRHP, California Inventory of Historical Resources/CRHR and listed Office of Historic Preservation Archaeological Determinations of Eligibility, California Points of Historical Interest, and California Historical Landmarks.

Previously Conducted Studies

CCaIC records indicate that one (1) previous cultural resources study has been conducted within the Project area and seventeen (17) additional previous cultural resource studies have been conducted within 1/2-mile of the proposed Project site (Table 1).

Table 1. Previous Technical Studies

Report Number	Date	Title	Author
Reports within the Project Site			
SJ-08749	1999	St. Joseph's Medical Center: Caring Hearts and Healing Hands throughout a Century of Healing; San Joaquin Historian, Quarterly Journal of the San Joaquin Historical Society, Volume 13/ Number 3, Fall 1999	Morrison, D., editor and San Joaquin Historian
Reports within the ½-Mile Search Area			
SJ-02219	1979	Historic Survey Project Agreement, Final Report; Project Period June 1, 1978 to March 31, 1979.	City of Stockton
SJ-02246	1980	Completion Report, Historic Survey Project Agreement No. 36-09-006, Stockton, California; Project Period April 1, 1979 to March 31, 1980.	Hermenau, H.
SJ-02247	1980	Stockton Historic Resource Inventory II: Analysis Report, June 1980.	Rapp, Linda

Table 1. Previous Technical Studies

Report Number	Date	Title	Author
SJ-03995	2000	Cultural Resource Survey for the Level (3) Communications Long Haul Fiber Optics Project; Segment WS04: Sacramento to Bakersfield	Nelson, W. J.
SJ-04976	1987	The History of Streetcars in Stockton. The San Joaquin Historian, Vol. I (Summer 1987), No. 2:1-11.	Burks, J. L.
SJ-05198	2003	Historical Evaluation for the Pacific Medical Center Project, East Walnut, California, and Chestnut Streets and Wood Lane, Stockton, California.	Marvin, J.
SJ-05341	1976	Stockton State Hospital: A Century and a Quarter of Service. San Joaquin Historian Vol. XII, No. 3, pages 115-122.	Starr, N. L.
SJ-06019	2006	Collocation ("CO") Submission Packet, FCC Form 621, Sprint-Nextel Mudville, CA-3289A, San Joaquin County, CA	Supernowicz, D.
SJ-06345	2006	Cultural Resources Final Report of Monitoring and Findings for the QWest Network Construction Project, State of California. SWCA Project No. 10715-180.	SWCA Environmental Consultants
SJ-06740	2007	Cultural Resources Survey Report and Unanticipated Discovery Plan For the Proposed Altamont Commuter Express Maintenance Facility, Stockton, California.	Jurich, D.
SJ-07048	2008	Cultural Resources Survey and Subsurface Testing Report: Altamont Commuter Express Maintenance Facility Project West of West Lane, Stockton, California.	Jurich, D. M. and J. Martinez
SJ-07446	2011	Cultural Resources Study of Waterloo Project, Cingular Wireless Site No. SAC-007A, 1805 N. California Street, Stockton, San Joaquin County, CA	Supernowicz, D.
SJ-07539	2011	Cultural Resources Inventory Report, Stockton "A" Reconductoring Project, San Joaquin County, California; ECORP Project No. 2011-123.	Pappas, S., and L. Westwood
SJ-08284	2011	Cultural Resources Inventory Report for the Central Valley Independent Network Fiber Optic Communications Network Project, California (Calaveras, Merced, San Joaquin, Stanislaus, and Tuolumne Counties in the CCaIC Area of Responsibility)	AECOM
SJ-08782	2011	Phase I Cultural Resources Assessment For University Park Alternative- Veterans Affairs Outpatient Clinic Project, San Joaquin County, California.	Marks, Brian, and Brad Brewster
SJ-08786	2000	California State University, Stanislaus Stockton Center. Former Site of the Stockton Developmental Center and Insane Asylum of California Stockton, California. Cultural Resources Survey	Architectural Resources Group
SJ-08809	2016	Positive Train Control Filing Subject to Expedited Treatment Under Program Comment, Union Pacific Railroad - PTC Wayside Poles - Sacramento Subdivision One (1) Excluded PTC Pole (Mile Post 94.94) in San Joaquin County, California - TCNS #141507	Blazenko, S. J.

Previously Identified Cultural Resources

CCaIC records indicate that no archaeological or built-environment resources are on file within or adjacent to the Project site. Thirty-eight (38) resources were on file within the ½-mile records search area (Table 2).

Table 2. Previously Recorded Cultural Resources

Primary	Trinomial	Resource Name	Resource Type	Age	Attributes	NRHP/CRHR Eligibility
Resource within Project Site						
None						
Resources within ½-Mile Search Area						
P-39-000002	CA-SJO-000250H	Southern Pacific Railroad in San Joaquin County	Structure, Site	Historic	Foundations/structure pads; Privies/dumps/trash scatters; Roads/trails/railroad grades; Walls/fences; Engineering structure	Unevaluated
P-39-000510		Magnolia Historic Preservation District	District	Historic	Other	Unevaluated
P-39-000541		Stockton Developmental Center (complex)	Building, Site, Other	Historic	Hospital	Unevaluated
P-39-004389		402 Chestnut	Building	Historic	Single family property	Unevaluated
P-39-004390		404/406 Chestnut Street	Building	Historic	Multiple family property	Unevaluated
P-39-004391		403 Walnut	Building	Historic	Single family property	Unevaluated
P-39-004392		407 Walnut	Building	Historic	Single family property	Unevaluated
P-39-004393		409 Walnut	Building	Historic	Multiple family property	Unevaluated
P-39-004394		411 Walnut	Building	Historic	Single family property	Unevaluated
P-39-004395		415 Walnut Street	Building	Historic	Single family property	Unevaluated
P-39-004396		417 Walnut Street	Building	Historic	Single family property	Unevaluated
P-39-004457	CA-SJO-000294H	Central California Traction Company Railroad	Structure	Historic	Roads/trails/railroad grades; Engineering structure	Unevaluated

Table 2. Previously Recorded Cultural Resources

Primary	Trinomial	Resource Name	Resource Type	Age	Attributes	NRHP/CRHR Eligibility
P-39-004543		California State Hospital Elevated Water Tower and Tank	Building	Historic	Engineering structure	Unevaluated
P-39-004863	CA-SJO-000318H	ACE 1H (recorder field number)	Site	Historic	Privies/dumps/trash scatters	Unevaluated
P-39-004965		Stockton Rural Cemetery;	Site	Prehistoric, Historic	Cemetery	Unevaluated
P-39-004973		Staten Island School/Stockton High School/Commodore Stockton Skills School	Building	Historic	Educational building	Unevaluated
P-39-005080		George K. Wever Professional Building	Building	Historic	3+ story commercial building	Unevaluated
P-39-005102		North School	Building	Historic	Educational building	Unevaluated
P-39-005276		Stockton Developmental Center-Weber Square-Bldg. 056	Building	Historic	Hospital	Unevaluated
P-39-005277		Stockton Development Center- Bertha Kowles Auditorium-Building 007	Building	Historic	Hospital	Unevaluated
P-39-005279		Acacia Court; Building 001 Stockton Developmental Center	Building	Historic	Hospital	Unevaluated
P-39-005282		Campbell Achievement Ctr/ Female Cottage A	Building	Historic	Hospital	Unevaluated
P-39-005284		Men's Occupational Therapy/ Industrial Building/ Curved Needle	Building	Historic	Hospital	Unevaluated
P-39-005285		Cottage D/ Delta Learning Center	Building	Historic	Hospital	Unevaluated

Table 2. Previously Recorded Cultural Resources

Primary	Trinomial	Resource Name	Resource Type	Age	Attributes	NRHP/CRHR Eligibility
P-39-005286		Nurses Housing/ Foster Grandparents	Building	Historic	Hospital	Unevaluated
P-39-005287		Cottage B / Lots of Tots	Building	Historic	Hospital	Unevaluated
P-39-005299		Male Cottage #2 / Religious Center	Building	Historic	Hospital	Unevaluated
P-39-005300		Santi Rogers Library / Library	Building	Historic	Hospital	Unevaluated
P-39-005301		Vegetable Prep Building / Saw Shop	Building	Historic	Hospital	Unevaluated
P-39-005305		Volunteer Center	Building	Historic	Hospital	Unevaluated
P-39-005306		Vonnie Erb Library / Woman's Occupational Therapy	Building	Historic	Hospital	Unevaluated
P-39-005307		Administration Building	Building	Historic	Hospital	Unevaluated
P-39-005309		Boiler Plant	Building	Historic	Hospital	Unevaluated
P-39-005310		Female Cottage C/ California Conservation Corp.	Building	Historic	Hospital	Unevaluated
P-39-005311		Emergency Generator	Building	Historic	Hospital	Unevaluated
P-39-005312		Laundry	Building	Historic	Hospital	Unevaluated
P-39-005313		Stockton Developmental Center-Female Cottage E/ Mariposa Place-Bldg. 024	Building	Historic	Hospital	Unevaluated
P-39-005317		Cottage F/ Willow Building	Building	Historic	Hospital	Unevaluated

Archival and Building Development Research

Dudek consulted historic maps and aerial photographs to understand development of the proposed Project site and surrounding properties. Historic aerial photographs were available from 1928, 1949, 1957, 1963, 1967, 1970, 1982, 1987, 1993, 2002, 2009, 2010, 2012, 2014, and 2016 (NETR 2021, UCSB 2021). Historic

topographic maps were available from 1913, 1943, 1954, 1959, 1967, 1970, 1978, 1987, 2012, 2015, 2018. Aerial images and topographic maps indicate that the Project site has been developed since the early 1900s, with the St. Joseph Home and Hospital complex visible as early as 1928. The area immediately east of the Project has been maintained as a cemetery since at least 1913. The parcels surrounding the Project area were already partially developed by 1928 but have seen increasing density and intensity of development through time. Numerous changes to the St. Joseph's hospital complex are also documented in the aerial imagery, these changes are discussed in detail in the Historical Resource Inventory and Evaluation Report prepared for this Project (Kaiser et al. 2021). The review of available historic maps and aerial photographs indicates that the Project area and its surrounds have been heavily developed and modified over the course of the 20th century.

NAHC and Tribal Correspondence

Dudek requested a NAHC search of their Sacred Lands File on March 2, 2020 for the Project site. The NAHC results, received March 9, 2020 indicated the Sacred Lands File search failed to identify any cultural resources within the records search area. The NAHC then provided a list of Native American tribes culturally affiliated with the location of the Project site and recommended contacting them for further information. None of the Native American tribes were contacted by Dudek; follow-up communication and formal consultation with Native American tribes pursuant to Assembly Bill (AB) 52 will be completed by City staff.

The proposed Project is subject to compliance with AB 52 (PRC Section 21074), which requires consideration of impacts to "tribal cultural resources" as part of the CEQA process and requires the CEQA lead agency to notify any groups (who have requested notification) of the Project who are traditionally or culturally affiliated with the geographic area of the Project. Because AB 52 is a government-to government process, all records of correspondence related to AB 52 notification and any subsequent consultation are on file with the City.

Intensive Pedestrian Survey

Review of aerial imagery of the Project site indicated that an intensive pedestrian survey was not necessary or appropriate. All observed areas of the Project site were obscured by gravel or other development.

Geomorphology

The Project site is located within the Great Valley Geomorphic Province of California, a large basin comprised of the Sacramento and San Joaquin Valleys, bounded by the Serra Nevada and Coast Ranges to the east and west respectively.

Potential for yet identified cultural resources in the vicinity was reviewed against geologic and topographic GIS data for the area and information from other nearby projects. The "archaeological sensitivity," or potential to support the presence of a buried prehistoric archaeological deposits, is generally interpreted based on geologic landform and environmental parameters (i.e., distance to water and landform slope). The Project site is situated in the floodplain of San Joaquin River, approximately 0.9 miles (1.5 kilometers) northeast of the nearest existing waterway. Soils within the site are entirely characterized as Jacktone-Urban land complex soil series, a type typically composed of moderately deep to hardpan layer of alluvium commonly found on somewhat poorly drained basin floors (UC Davis 2020, USDA 2017). Jacktone soil series are derived from alluvium from mixed sources. The Project site's proximity to the San Joaquin River and the soil type indicated the vicinity has been subject to occasional periodic flooding. The Project site is very level consisting of slopes ranging from 0 to 2 percent. Based on review of this information

and ignoring surface disturbances and development, the flat topography and proximity to an active waterway indicate the Project site would be low to moderate suitability for the formation or continued presence of buried cultural deposits or surface manifestations.

Summary and Management Recommendations

Archaeological Resources

Observation of the present conditions within the proposed Project site indicate surface conditions are disturbed from development, including construction of the existing hospital and parking facilities and landscaping. A CCaIC records search did not identify the presence of cultural resources within the proposed Project site or the immediate surrounding vicinity. An NAHC Sacred Lands File search failed to identify Native American resources within the search area, which included the proposed Project site and the surrounding 1/2-mile buffer. The proposed Project, as currently designed, appears to have a very low potential for encountering intact cultural deposits during ground-disturbing activities and would have no impact to known cultural resources. Based on these negative findings and the observed conditions of the present proposed Project site, no additional cultural resources efforts, including archaeological monitoring, are recommended to be necessary beyond standard protection measures for unanticipated discoveries of cultural resources and human remains, outlined below.

Unanticipated Discovery of Archaeological Resources

In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the proposed Project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, be contacted to evaluate the significance of the find and determine whether or not additional study is warranted. Depending upon the significance of the find under CEQA (14 CCR 15064.5(f); PRC Section 21082), the archaeologist may simply record the find and allow work to continue. If the discovery proves significant under CEQA, additional work such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted.

Unanticipated Discovery of Human Remains

In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be immediately notified of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within 2 working days of notification of the discovery, if the potential remains are human in origin. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descendent (MLD) from the deceased Native American. The MLD shall provide their recommendation within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

If you have questions about this report, please contact me at nhanten@dudek.com

Sincerely,

Nicholas Hanten
Archaeologist

cc: *Adam Giacinto, MA, RPA, Dudek*
Christine Kronenberg, Dudek

Att.: *NADB Information*
Figure 1.: Project Location
Figure 2. Project Site
Appendix A. CCaIC Records Search Results – Confidential
Appendix B. NAHC SLF Search

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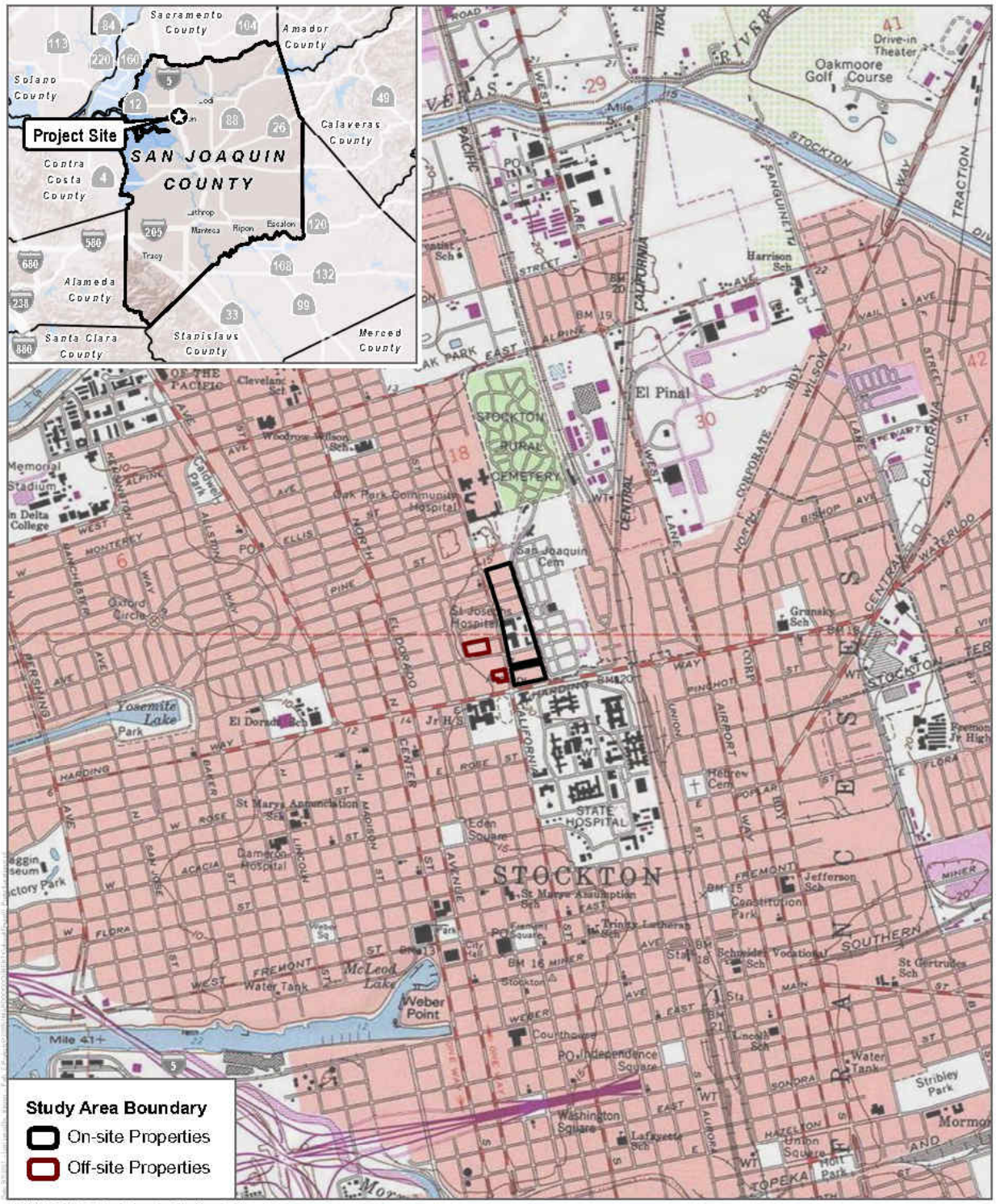
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National Archaeological Database (NADB) Information

Authors:	Nicholas Hanten, MA, and Adam Giacinto, MA, RPA
Firm:	Dudek
Project Proponent:	Dignity Health
Report Date:	September 2021
Report Title:	Cultural Resources Letter Report for the St. Joseph's Medical Center Hospital Expansion Project, Stockton, California
Type of Study:	Archaeological Inventory
Acreage:	Approximately 20 acres
Resources:	None
USGS Quads:	Section 2, Township 1 North, Range 6 East, Stockton West 7.5' Quadrangle USGS map
Keywords:	Stockton, Archaeological Inventory, St. Joseph Medical Center

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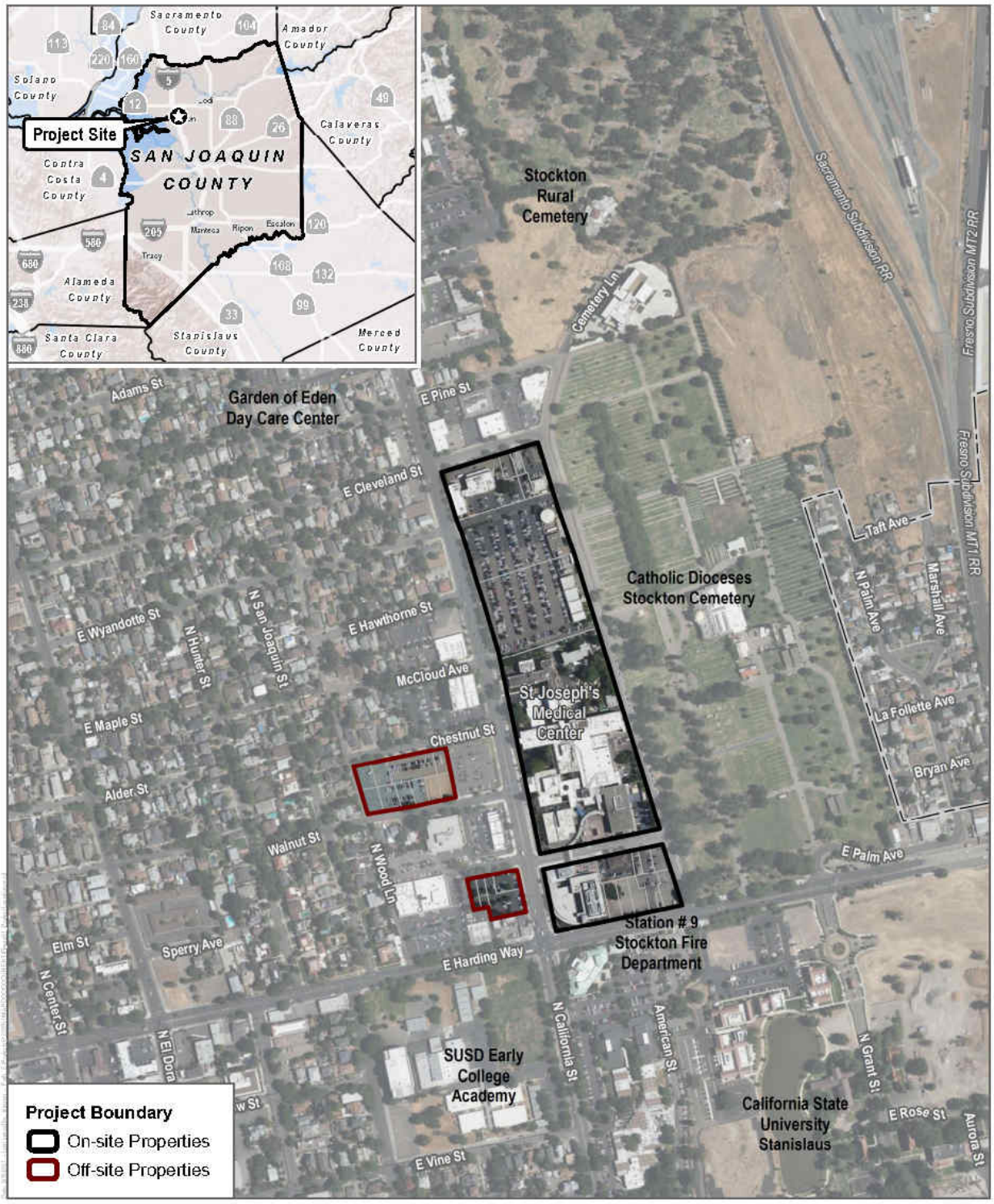


SOURCE: USGS 7.5 minute series Stockton Quadrangle
Township 1N / Range 6E / Sections 2 & 3
Township 2N / Range 6E / Sections 34 & 35

DUDEK 0 1,000 2,000 Feet

FIGURE 1
Project Location
Historical Resources Inventory and Evaluation Report for the St. Josephs Master Plan Project

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SOURCE: Bing Imagery 2021; Open Street Map 2020; County of San Joaquin 2019

DUDEK 0 250 500 Feet

FIGURE 2
Project Site
St Joseph's Medical Center Expansion Project

APPENDIX A (CONFIDENTIAL)

CCaIC Records Search Results

APPENDIX B
NAHC SLF Search

NATIVE AMERICAN HERITAGE COMMISSION

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Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
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COMMISSIONER
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Wintun

COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
Joseph Myers
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COMMISSIONER
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nahc@nahc.ca.gov
NAHC.ca.gov

March 9, 2020

William Burns

DUDEK

Via Email to: wburns@dudek.com

Re: St. Joseph's Medical Center Project (Dudek #12547), San Joaquin County

Dear Mr. Burns:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

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

Attachment

Native American Heritage Commission
Native American Contact List
San Joaquin County
3/9/2020

Buena Vista Rancheria of Me-Wuk Indians
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1418 20th Street, Suite 200 — Me-Wuk
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Ione Band of Miwok Indians
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The Confederated Villages of Lisjan
Corrina Gould, Chairperson
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Oakland, CA, 94603 — Ohlone
Phone: (510) 575 - 8408 — Delta Yokut
cvltribe@gmail.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed St. Joseph's Medical Center Project (Dudek #12547), San Joaquin County.

HISTORICAL RESOURCES INVENTORY AND EVALUATION REPORT FOR THE ST. JOSEPH'S MEDICAL CENTER EXPANSION PROJECT, STOCKTON, CALIFORNIA

Prepared for:

Dignity Health

St. Joseph's Medical Center

1800 North California Street

Stockton, California 95204

Contact: Robert O'Hare, DBIA

Manger, Planning, Design and Construction

National Real Estate Services

Prepared by:

Kate Kaiser, MSHP; Fallin Steffen, MPS; Nicole Frank, MSHP; Sarah Corder, MA; and William Burns, MSc, RPA

DUDEK

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OCTOBER 2021

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Acronyms and Abbreviations

Acronym or Abbreviation	Definition
API	Area of Potential Impacts
APN	Assessor's Parcel Number
CCalC	Central California Information Center
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
City	City of Stockton
CMU	concrete masonry unit
County	San Joaquin County
CRHR	California Register of Historical Resources
CUP	Central Utility Plant
LEED	Leadership in Energy and Environmental Design
NRHP	National Register of Historic Places
OSHPD	California Office of Statewide Health Planning and Development
PG&E	Pacific Gas and Electric
Project	St. Joseph's Medical Center Hospital Expansion Project
SB	Senate Bill

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Executive Summary

Dudek was retained by Dignity Health (Applicant) to prepare a historical resources inventory and evaluation report in support of the St. Joseph's Medical Center Hospital Expansion Project (Project). This report documents Dudek's efforts to identify and evaluate historic age built environment resources primarily located within the St. Joseph's Medical Center Complex or on parcels adjacent to the complex that may be acquired or subject to indirect impacts. The proposed Project area includes 24 parcels located in the City of Stockton, California (Project area). The following five properties comprised of six parcels are located both within and immediately adjacent to the Project area and contain buildings over 45 years of age: Property 1: St. Joseph's Medical Center Complex (1638 North California Street and 1800 North California Street/542 McCloud Avenue [Assessor Parcel Numbers (APNs) 127-190-32 and 127-180-44]), Property 2: 534 East Maple Street (APN 127-190-30), Property 3: 425 East Harding Way (APN 127-150-39), Property 4: 445 East Harding Way (APN 127-150-51), and Property 5: 564 East Cleveland Street (APN 127-164-06). Because these identified properties within and immediately adjacent to the proposed Project area contain buildings that are over 45 years old, they are subject to consideration under the California Environmental Quality Act (CEQA) regarding potential impacts to historical resources. In order to assess potential impacts, these properties must first be evaluated for historical significance.

Efforts to identify historical resources on the proposed Project site included an intensive level survey by qualified architectural historians, a California Historical Resources Information System (CHRIS) records search, building development and archival research, development of an appropriate historic context, and recordation and evaluation of five properties for historical significance and integrity in consideration of National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and local eligibility requirements. This report was prepared in conformance with CEQA Guidelines Section 15064.5 for historical resources.

As a result of Dudek's extensive archival research, field survey, and property significance evaluations, all properties within the Project area do not appear eligible for listing in the NRHP and the CRHR due to a lack of historical associations, architectural merit, and compromised integrity. For these same reasons, the properties also do not rise to the level of significance for local designation under Stockton's Structure of Merit criteria or Landmark criteria. Therefore, none of the properties within the Project site are considered historical resources for the purposes of CEQA, and no further study or treatment is recommended.

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1 Introduction

This section provides a description of the proposed St. Joseph's Medical Center Expansion Project (Project), which includes a Master Development Plan to implement long-term development and expansion of the Medical Center, including information about the location, setting, and proposed Project activities. This section also presents the regulatory setting for the Project, and a description of the Area of Potential Impacts for Built Environment Resources (Built Environment API).

1.1 Project Location and Description

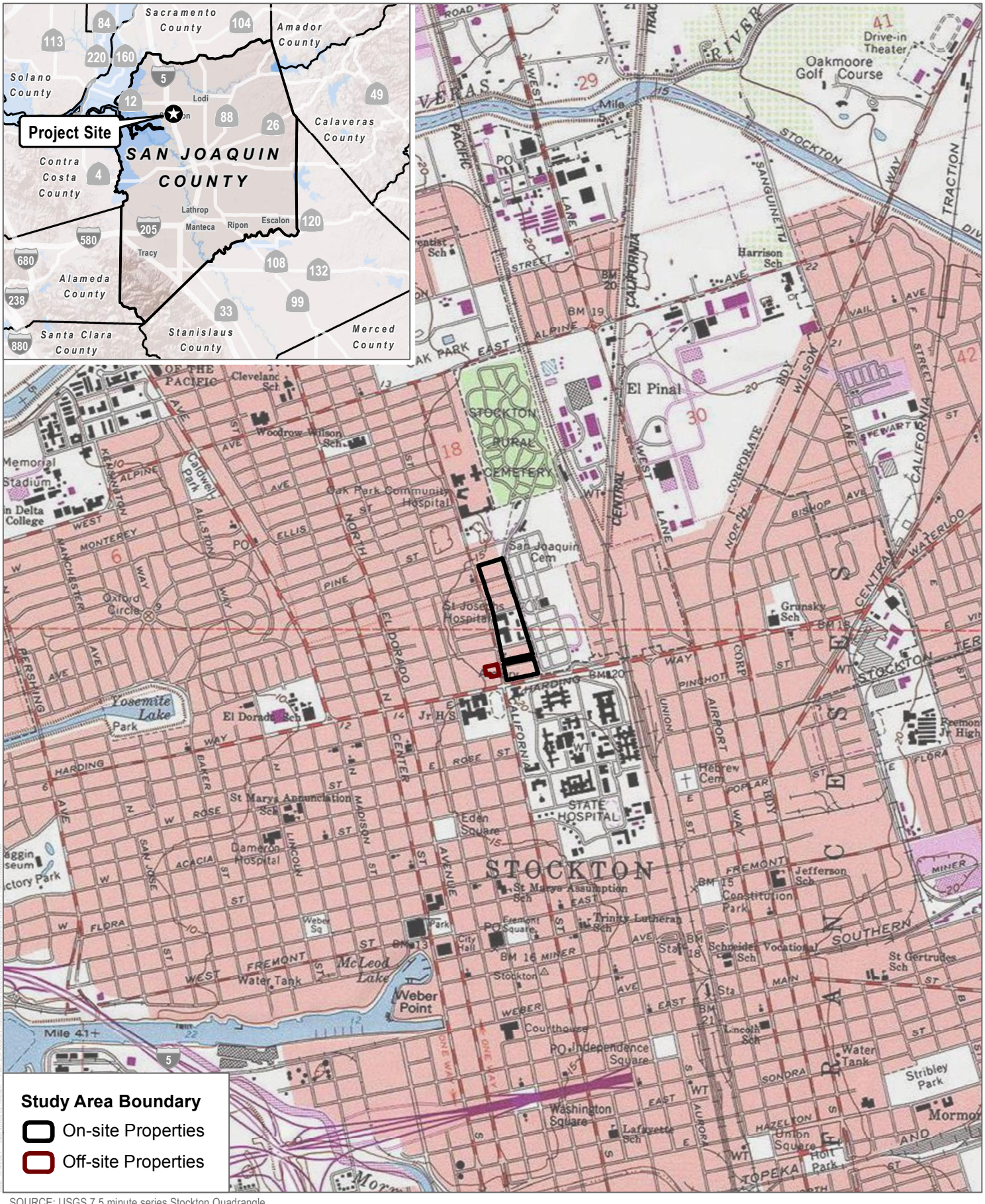
The proposed Project area is comprised area of 24 parcels located in the City of Stockton (City) in San Joaquin County (County; see Figure 1, Project Location). The Project area is roughly bound by East Cleveland Street to the northwest, North California Street to the south and southwest, East Harding Way to the southeast, and Cemetery Lane to the north and northeast. There is also one noncontiguous, off-site section of the Project area on the southwest side of North California Street identified as APNs 127-150-49, 127-150-48, 127-150-25, and 127-150-24. Table 1 provides a detailed list of the 24 parcels that are located within the proposed Project area along with information about the buildings that occupy the sites.

Table 1. Parcels Located in the Proposed Project Area

Address	APN	Property Description (Construction Date)
1800 North California Street	127-190-32	St. Joseph's Medical Center Complex (1899-present)
541 East Harding Way	127-150-33	Parking lot
549 and 551 East Harding Way	127-150-32	Parking lot
No Situs	127-150-31	Parking lot
561 East Harding Way	127-150-29	Parking lot
563 East Harding Way	127-150-30	Parking lot
565 East Harding Way/1505 Cemetery Lane	127-150-28	Parking lot
1509 Cemetery Lane	127-190-08	Parking lot
550 East Maple Street	127-190-09	Parking lot
No Situs	127-190-10	Parking lot
534 East Maple Street	127-190-30	Private Medical Clinic (1968)
1638 North California Street/542 McCloud Avenue	127-180-44	St. Joseph's Medical Center Complex (1899-present), McCloud Building (1928)
1930 North California Street	127-174-30 127-173-28	Engineering Shop (c.1982–1993) Cooling Tower Yard (c.1982–1993) Utility Plant (c. 1982–1993) Cooling Tank (c. 1982–1993) Parking Lot
2102 North California Street	127-164-22	Health Care Clinical Laboratory Building (c. 1982–1993)
545 East Wyandotte Street	127-164-08	Parking lot
555 East Wyandotte Street	127-164-07	Generator Building (c. 2005–2009)
564 East Cleveland Street	127-164-06	Cleveland Classroom Building (1951)

Table 1. Parcels Located in the Proposed Project Area

Address	APN	Property Description (Construction Date)
554 East Cleveland Street	127-164-16	Single-family house (1979)
546 East Cleveland Street	127-164-15	Parking Lot
1517 and 1521 North California Street	127-150-49	Parking Lot
1545 North California Street	127-150-48	Parking Lot
434 East Maple Street	127-150-25	Parking Lot
430 East Maple Street	127-150-24	Parking Lot



SOURCE: USGS 7.5 minute series Stockton Quadrangle
Township 1N / Range 6E / Sections 2 & 3
Township 2N / Range 6E / Sections 34 & 35

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FIGURE 1

Project Location

Historical Resources Inventory and Evaluation Report for the St. Joseph's Medical Center Expansion Project

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1.1.1 Project Background

St. Joseph's Medical Center consists of buildings that have been built, updated, and remodeled over more than 12 decades. The approximately 18.7-acre campus is bound by East Cleveland Street on the north, East Harding Way on the south, North California Street on the west, and Cemetery Lane on the east in the City of Stockton. The main campus consists of multiple structures and is located at 1800 North California Street approximately 1 mile northeast of the City's downtown historic core and approximately 4 miles east of Interstate 5 and 3 miles west of Highway 99.

Buildings have been modernized or renovated over recent years, including a 25-bay emergency room expansion on the first floor in the Heart Center and numerous minor improvements throughout the main hospital buildings over the years. The most recent significant building added to the campus was in 2009, with the addition of the St. Joseph's Women's and Infant Center (Pavilion Building), which included significant renovations, a ten-bed postpartum expansion and expansion of neo-natal intensive care beds, and related services.

Dignity Health continues to complete seismic retrofit requirements required by Senate Bill (SB) 1953 (known as the Alfred E. Alquist Hospital Seismic Safety Act of 1983), which has provided an opportunity to consider modifications to the existing campus to enhance the services provided on site. The site is physically constrained, with surface parking and older, partially used buildings limiting the ability to expand.

In addition to meeting seismic retrofit requirements of SB 1953, the Project will (1) add additional beds to accommodate projected future growth, (2) continue the modernization of existing facilities to accommodate new clinical technology, (3) provide flexible interior spaces that allow for the conversion of some existing acute/medical surgical beds to single-occupancy rooms with the capacity to convert to semi-private to meet short-term increases in patient census for circumstances similar to the recent pandemic, (4) expand facilities for local residency training programs, and (5) optimize use of available land for medical and educational services by converting surface parking to a parking structure.

The Project will enhance capacity to support growth, service line expansion, academic program development, and enhance the healing environment for patients. With more efficient use of existing land, each of these program objectives is possible.

1.1.2 Project Objectives

The Project aims to accomplish the following key objectives:

1. Provide a broad range of healthcare services to Stockton and the surrounding region (Northern San Joaquin Valley) to further establish St. Joseph's Medical Center as a leading regional provider of health care services.
2. Expand and modernize existing medical facilities to meet current patient needs and the anticipated population growth in the Northern San Joaquin Valley.
3. Broaden the established medical learning environment that serves as a premier teaching institution for the Northern San Joaquin Valley that will support historical and anticipated shortages of medical professionals in the region.
4. Address seismic requirements required by SB 1953.

5. Implement a Site Master Plan, Development Standards, and Design Guidelines that facilitate the redevelopment of underutilized property.
6. Include design elements (e.g., heliports) that allow for a transition of the Medical Center to trauma center designation, should regional needs arise in the future.

1.1.3 Project Elements

The Project would construct a new hospital building for the expansion of acute care services, along with a new parking structure, a new central utility plant, and other required support facilities on the existing site. Construction must be phased to allow for uninterrupted provision of medical care, and some temporary structures will be necessary during the construction phases. Demolition of existing structures will be necessary to accommodate the modernized facilities and maximize use of available land. Each of these Project elements is described in further detail, below.

Acute Care Hospital Tower. The Project includes a new five-story building, with two parallel towers to accommodate inpatient acute care hospital services. Major components of the acute care expansion include:

- an additional 24 intensive care patient beds
- an additional 120 general acute care patient beds
- a new and expanded Emergency Department
- a new canopied entry for ambulances
- a new surgical area with ten operating rooms
- space to accommodate an expanded Interventional Stroke Suite
- a new Sterilizing Center
- enhanced Kitchen/Dining facilities
- new entry lobby, patient drop off and admitting area
- roof-top green space connecting the two new north towers

Parking Structure and Surface Level Parking. The Project would include a new parking structure of 8 to 10 floors (excluding roof elevator stop and heliport deck) will be constructed to accommodate a minimum of 1,700 parking spaces. The maximum height of the parking structure is not anticipated to exceed 120 feet. The parking structure roof would include a new heliport to allow for emergency medical service landings. The Project also includes a new surface parking area for the Emergency Department with approximately 70 spaces.

Central Utility Plant (CUP) This new two-story building would be approximately 20,000 square feet and house infrastructure and operational equipment for the Medical Center. The Project provides for two options (A and B) for the replacement of the existing CUP.

Accessory Structures Several modifications and new structures are required to support the new Acute Care Hospital Tower, including: the existing generator building, cooling tower yard, chiller room, heating hot water plant, boiler fuel storage tanks, bulk oxygen tank, storage rooms, transformers, and switchgear. The Project also includes new loading docks. Depending on which option is elected for the CUP, the existing engineering shop building would be demolished and replaced or retained and upgraded.

Circulation and Access. The Project would provide for efficient site access and internal circulation while maintaining adequate emergency access to all buildings. The existing ambulance access on Cemetery Lane would be relocated north to the new Acute Care Hospital Tower. The hospital is currently served by an emergency heliport, located on the roof of the Southeast Wing. The Project includes up to two additional heliports to provide better access to hospital facilities for air medical services.

Building Demolition. Development of the Project would require demolition of the following buildings, listed below. The total square footage to be demolished is 84,660. Old Main Building (1800 N. California Street, APN 127-190-32) (1916)[1]

- Heating Plant Generator Building (identify by map location street address/APN if on a separate parcel; 1917)
- McCloud Building (542 McCloud Avenue, APN 127-190-44; 1928)
- North Wing, 4th floor only (address and APN; 1957) may be demolished
- Small unnamed cinderblock structure
- 564 East Cleveland Street (APN 127-164-06), presently used as a classroom
- Small unnamed utility building (identify by map location and street address/APN if on a separate parcel)
- Single-family residence (554 East Cleveland Street, APN 127-164-16); this residence has been acquired by St. Joseph's Medical Center through a private transaction and will be unoccupied.
- Plant maintenance shop building

In addition to the structures to be removed, an existing Dignity Health, staff and visitor only, on-site respite area, which bears the commemorative name of "Schroeder Park," would be relocated and redesigned to accommodate the new Acute Care Hospital Tower.

1.1.4 Project Phasing and Construction

It is anticipated that the Project would be implemented in four to five phases:

Phase 1 involves the demolition and temporary staff relocation to prepare for the construction of the new Acute Care Hospital Tower. Demolition of Medical Center buildings requires support services and staff to be relocated to temporary modular structures on site as well as into off-campus space. The McCloud and Old Main buildings are the primary structures that would be demolished during Phase 1.

Phase 2 involves construction of the new Medical Center parking structure.

Phase 3 includes the construction of the Acute Care Hospital Tower, CUP, onsite and offsite street improvements, and accessory structure construction and renovations. No additional demolition is anticipated during this phase.

Phase 4 includes removal of the fourth floor of the existing North Tower, if required by seismic retrofit requirements under this phase. Activity would also include façade improvements and interior renovations to existing hospital spaces.

Phase 5, optional phase, would allow for the future expansion of the Medical Center to meet the community's evolving needs. Under Phase 5, the Acute Care Hospital Tower may be expanded up to an additional 150,000 square feet and would require removal of approximately 70 surface parking spaces.

[1] The year built is provided in parentheses.

1.2 Built Environment API

The API is the geographic area or areas within a proposed Project boundary that may directly or indirectly cause changes in the character or use of historical resources as defined by CEQA. The determination of the API is influenced by a project's planned activities or setting, the scale and nature of the project, and the different kinds of impacts that may result from the project (36 CFR 800.16[d]). The methodology used to delineate the Project's Built Environment API and a description of the Built Environment API boundaries are detailed below.

1.2.1 Study Area

To develop the Built Environment API for the proposed Project, Dudek established a Built Environment Study Area (Study Area), consisting of the Project area's outer boundary and any adjacent parcels, to gather information on buildings older than 45 years that might sustain direct and indirect effects as a result of the proposed Project. Dudek staff conducted a desktop survey of all properties within the Study Area. Staff then consulted the results of the CHRIS record search and the California Built Environment Resource Directory to determine if the Study Area contained any properties that have been previously identified or evaluated as historical resources (individually or as part of a historic district). Dudek staff also conducted desktop research through ParcelQuest and Google Earth Pro (Google Earth 2020) to assess potential effects to properties adjacent to the proposed Project site. Finally, staff reviewed the current Project plans to determine direct impacts where physical impacts would occur and potential indirect impacts to adjacent properties, such as noise, alterations to setting, visual effects, and potential construction-related vibration effects.

Research indicates that there are no previously identified individually eligible historical resources, and no previously identified national, state, or local historic districts are present within the Study Area (see Section 2.1.2, Previously Recorded Cultural Resources within the Study Area, for more information). Therefore, there is no potential for the Project to affect the continuity of an existing historic district or previously identified historical resources.

1.2.2 Built Environment API Delineation

Based on the findings described above, the identified Built Environment API follows the maximum possible area of potential impacts resulting from the proposed Project. Research indicates that 4 properties containing resources over 45 years of age are located within the 24 parcels comprising the proposed Project area:

- 1638 North California Street (APN: 127-180-44)
- 1800 North California Street and 542 McCloud Avenue (APN: 127-190-32)
- 534 East Maple Street (APN: 127-190-30)
- 564 East Cleveland Street APN: 127-164-06

Additionally, two properties containing buildings over the age of 45 years are located directly adjacent to the proposed Project footprint:

- 425 East Harding Way (APN: 127-150-39)
- 445 East Harding Way (APN: 127-150-51)

Table 2 below provides a summary of the five properties comprised of six parcels located within the Built Environment API that required formal recordation and significance evaluation as part of the proposed Project. The properties and the buildings thereon were evaluated for historic significance under NRHP, CRHR, and City of Stockton criteria as a part of this report. The properties are located on three separate blocks: Property 1 and Property 2 are located on the two blocks divided by East Maple Street and otherwise bound by McCloud Avenue to the north, Cemetery Lane to the east, East Harding Way to the south, and North California Street to the west. Property 3 and Property 4 are located on the block bound by East Maple Street to the north, North California Street to the east, East Harding Way to the south, and Northwood Lane to the west. Property 5 is located on a block bound by East Cleveland Street to the north, Cemetery Lane to the east, East Wyandotte Street to the south, and North California Street to the west. The property number for each property in the table corresponds to their location in Figure 2, Built Environment Study Area.

Table 2. Parcels in the Built Environment Area of Potential Impacts

Property Number	Name/Address	APN	Built Date	Additional Information
1	St. Joseph's Medical Center Complex • 1638 North California Street • 1800 North California Street and 542 McCloud Avenue	127-180-44 127-190-32	1899-present	The St. Joseph's Medical Center is sited at both 1638 North California Street and 1800 North California Street; however, the free-standing McCloud Building, which shares an APN with the 1800 North California Street address, is sited at 542 McCloud Avenue. Because of the complexity and long development history of this property, the St. Joseph's Medical Center Complex is illustrated in more detail in Figure 3, St. Joseph's Medical Center Complex Map and Development History.
2	534 East Maple Street	127-190-30	1968	N/A
3	425 East Harding Way	127-150-39	1963	N/A
4	445 East Harding Way	127-150-51	c. 1975	N/A
5	564 East Cleveland Street	127-164-06	1951	N/A



SOURCE: Bing Imagery 2021; Open Street Map 2020

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FIGURE 2

Built Environment Study Area

Historical Resources Inventory and Evaluation Report for the St. Joseph's Medical Center Expansion Project

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Built Environment Study

Buildings by Era

1910s
- *A: Main Hospital Wing (1916)*
- *B: Heating Plant Generator Bldg (1917)*

1920s
- *C: McCloud Building (1928)*

1939 - 1950s
- *D: North Wing (1957)*

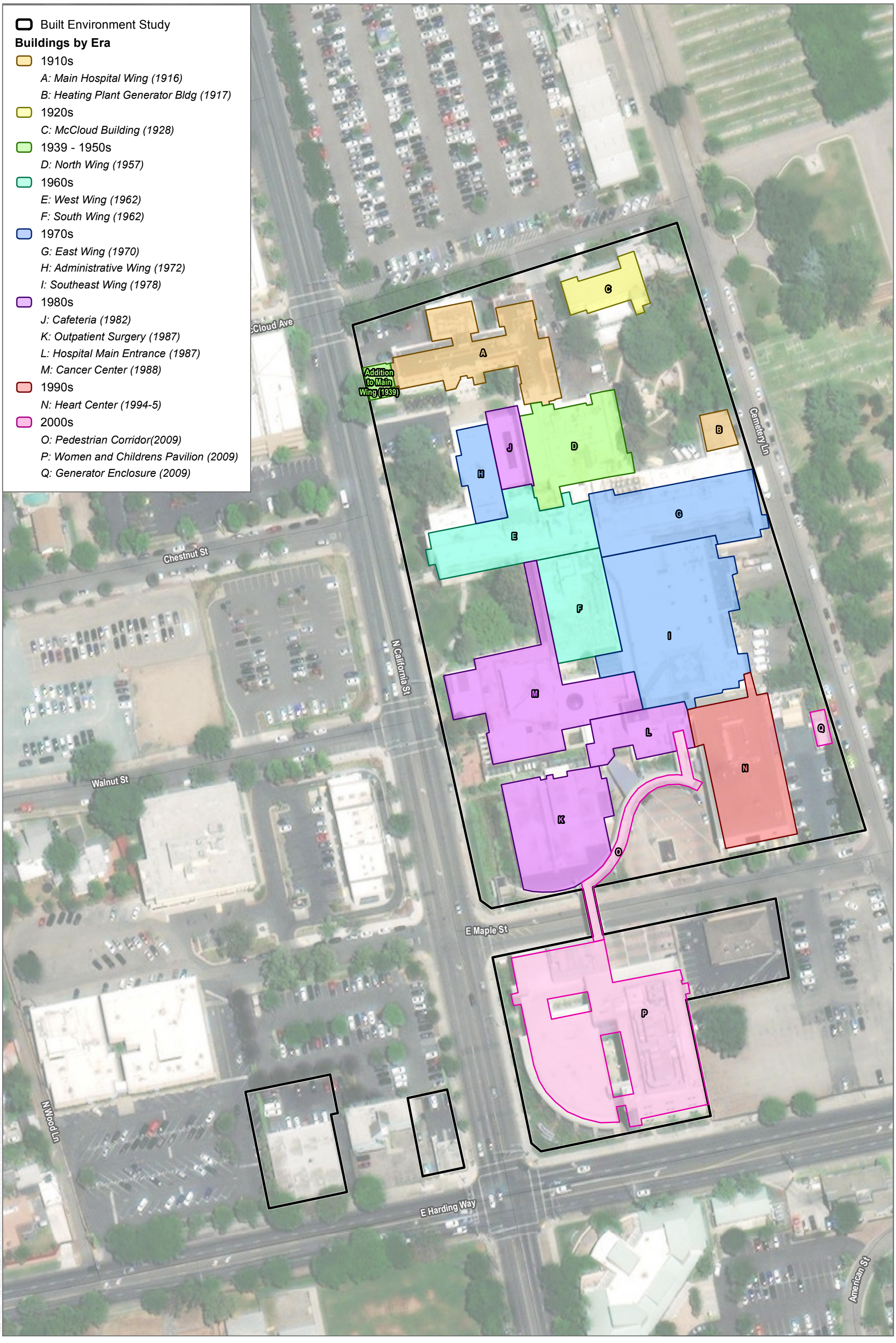
1960s
- *E: West Wing (1962)*
- *F: South Wing (1962)*

1970s
- *G: East Wing (1970)*
- *H: Administrative Wing (1972)*
- *I: Southeast Wing (1978)*

1980s
- *J: Cafeteria (1982)*
- *K: Outpatient Surgery (1987)*
- *L: Hospital Main Entrance (1987)*
- *M: Cancer Center (1988)*

1990s
- *N: Heart Center (1994-5)*

2000s
- *O: Pedestrian Corridor(2009)*
- *P: Women and Childrens Pavilion (2009)*
- *Q: Generator Enclosure (2009)*



SOURCE: Bing Imagery 2021, Open Street Map 2020

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0 55 110 Feet

FIGURE 3

St. Joseph's Medical Center Campus Map and Development History

Historical Resources Inventory and Evaluation Report for the St. Joseph's Medical Center Expansion Project

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1.3 Project Personnel

This report and associated property evaluations were prepared by Dudek Architectural Historians Kate Kaiser, MSHP; Fallin Steffen, MPS; and Nicole Frank, MSHP. Fieldwork was completed by Fallin Steffen, MPS, and Sarah Corder, MFA. William Burns, MSc, RPA, contributed to archaeological components of this report, including review and summary of CHRIS records search results. The report was reviewed for quality assurance/quality control by Dudek Historic Built Environment Lead, Sarah Corder, MFA. All authors and reviewers meet the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) for architectural history. Preparer's qualifications are located in Appendix A.

1.4 Regulatory Setting

1.4.1 Federal

1.4.1.1 National Register of Historic Places

While there is no federal nexus for this project, the subject property was evaluated in consideration of NRHP designation criteria. The NRHP is the United States' official list of districts, sites, buildings, structures, and objects worthy of preservation. Overseen by the National Park Service, under the U.S. Department of the Interior, the NRHP was authorized under the National Historic Preservation Act, as amended. Its listings encompass all National Historic Landmarks, as well as historic areas administered by the National Park Service.

NRHP guidelines for the evaluation of historic significance were developed to be flexible and to recognize the accomplishments of all who have made significant contributions to the nation's history and heritage. Its criteria are designed to guide state and local governments, federal agencies, and others in evaluating potential entries in the NRHP. For a property to be listed in or determined eligible for listing, it must be demonstrated to possess integrity and to meet at least one of the following criteria:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
B. that are associated with the lives of persons significant in our past; or
C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. that have yielded, or may be likely to yield, information important in prehistory or history.

Integrity is defined in NRHP guidance, "How to Apply the National Register Criteria," as "the ability of a property to convey its significance. To be listed in the NRHP, a property must not only be shown to be significant under the NRHP criteria, but it also must have integrity" (NPS 1990). NRHP guidance further asserts that properties be completed at least 50 years ago to be considered for eligibility. Properties completed fewer than 50 years before evaluation must be proven to be "exceptionally important" (criteria consideration to be considered for listing).

1.4.2 State

1.4.2.1 California Register of Historical Resources

In California, the term "historical resource" includes but is not limited to "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (California Public Resources Code Section 5020.1(j)). In 1992, the California legislature established the CRHR "to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (California Public Resources Code Section 5024.1(a)). The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, enumerated below. According to California Public Resources Code Section 5024.1(c)(1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
(2) Is associated with the lives of persons important in our past.
(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
(4) Has yielded, or may be likely to yield, information important in prehistory or history.

In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource less than 50 years old may be considered for listing in the CRHR if it can be demonstrated that sufficient time has passed to understand its historical importance (see 14 CCR 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing in the NRHP are automatically listed in the CRHR, as are the state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

1.4.2.2 California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological, historic, and tribal cultural resources:

- California Public Resources Code Section 21083.2(g) defines "unique archaeological resource."
- California Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5(a) define "historical resources." In addition, CEQA Guidelines Section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource." It also defines the circumstances when a project would materially impair the significance of an historical resource.
- California Public Resources Code Section 21074(a) defines "tribal cultural resources."

- California Public Resources Code Section 5097.98 and CEQA Guidelines Section 15064.5(e) set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated cemetery.
- California Public Resources Code Sections 21083.2(b)-(c) and CEQA Guidelines Section 15126.4 provide information regarding the mitigation framework for archaeological and historic resources, including examples of preservation-in-place mitigation measures; preservation-in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

More specifically, under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(b).) If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources or identified as significant in a historical resources survey (meeting the requirements of California Public Resources Code Section 5024.1(q)), it is a "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historical resource even if it does not fall within this presumption (California Public Resources Code Section 21084.1; CEQA Guidelines Section 15064.5(a)).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1); California Public Resources Code Section 5020.1(q)). In turn, CEQA Guidelines Section 15064.5(b)(2) states the significance of an historical resource is materially impaired when a project:

1. Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

Pursuant to these sections, the CEQA inquiry begins with evaluating whether a project site contains any "historical resources," then evaluates whether that project will cause a substantial adverse change in the significance of a historical resource such that the resource's historical significance is materially impaired.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in

an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (California Public Resources Code Section 21083.2[a], [b], and [c]).

California Public Resources Code Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Impacts to non-unique archaeological resources are generally not considered a significant environmental impact (California Public Resources Code Section 21083.2(a); CEQA Guidelines Section 15064.5(c)(4)). However, if a non-unique archaeological resource qualifies as tribal cultural resource (California Public Resources Code Section 21074(c), 21083.2(h)), further consideration of significant impacts is required. CEQA Guidelines Section 15064.5 assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. As described below, these procedures are detailed in California Public Resources Code Section 5097.98.

1.4.3 Local

1.4.3.1 City of Stockton

City of Stockton Municipal Code

The City of Stockton maintains a formal designation program that promotes the preservation of historic resources and potentially historic structures within the City. The following section summarizes the guidelines for the recognition and treatment of Historic Landmarks, Historic Sites, and Structures of Merit.

Historic Landmarks (16.220.070)

A. Criteria for Designation of Landmarks (220.070). In considering an artifact, natural feature, or structure for designation as a landmark, the Board shall apply any or all of the following criteria:
    1. Archaeological Interest. Its potential for yielding significant information of archaeological interest;
    2. Architectural Craftsmanship. Its embodiment of elements demonstrating outstanding attention to architectural and/or engineering craftsmanship, design, detail, or materials;
    3. Architectural Style. Its exemplification of a particular architectural style or way of life important to the City, the State, or the Nation;
    4. Architectural Type. Its exemplification of the best remaining architectural type in the City;
    5. Historic Event. Its location as a site of a significant historic event;
    6. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;
    7. Visual Feature. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

8. Relationship to Another Landmark. Its relationship to any other landmark, if its preservation is essential to the integrity of that landmark;
9. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation;
10. Work of a Significant Person. Its identification as the creation, design, or work of a person(s) whose effort has significantly influenced the heritage of the City, the State, or the Nation; or
11. Natural Environment. Its integrity as a natural environment that strongly contributes to the well-being of the people of the City, the State, or the Nation.

Historic Sites (16.220.090)

A. Criteria for Designation of Historic Sites. In considering an area, neighborhood, property, or site for designation as a historic site, the Board shall apply any or all of the following criteria:
   1. Archaeological Interest. Its potential for yielding significant information of archaeological interest;
   2. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;
   3. Visual Feature of the City. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;
   4. Way of Life. Its exemplification of a particular way of life important to the City, the State, or the Nation;
   5. Historic Event. Its location as a site of a significant historic event regardless of its current configuration, development, or use;
   6. Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation; or
   7. Significant Person of a Specific National Origin. Its identification with a person(s) representative of a specific national origin who have contributed to the culture and development of the City, the State, or the Nation.

Structures of Merit (16.220.100)

A. Criteria for Designation as a Structure of Merit. The Board may designate any structure not designated as a landmark as a structure of merit if it determines that it is deserving of official recognition as having historic, architectural, archaeological, ecological, cultural, or aesthetic significance based on the following criteria:
   1. Archaeological Interest. Its potential of yielding significant information of archaeological interest;
   2. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;
   3. Visual Feature of the City. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;
   4. Way of Life. Its exemplification of a particular way of life important to the City, the State, or the Nation;
   5. Historic Event. Its location as a site of a significant historic event regardless of its current configuration, development, or use;

6. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation; or
7. Significant Person of a Specific National Origin. Its identification with a person(s) representative of a specific national origin who have contributed to the culture and development of the City, the State, or the Nation.

Envision Stockton 2040 General Plan

Goal Land Use-3: Authentic Neighborhoods of the Stockton 2040 General Plan provides a plan to safeguard the Cultural Resources that are considered integral to the character of the City from destruction and or intrusion from incompatible development.

2 Background Research

2.1 CHRIS Records Search

On March 10, 2020, Dudek completed a search of the CHRIS at the Central California Information Center (CCaIC), located on the campus of California State University, Stanislaus. This search included mapped prehistoric and historic archaeological resources and historic built-environment resources; Department of Parks and Recreation site records; technical reports; archival resources; and ethnographic references. Additional consulted sources included historical maps of the Project site, the NRHP, the CRHR, the Built Environment Resource Directory, the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and the Archaeological Determinations of Eligibility. The records search results are also provided in Confidential Appendix B.

2.1.1 Previously Conducted Cultural Resource Studies

The CCaIC records indicate that 1 previous cultural resources technical investigation has been conducted within the Project site and 17 previous cultural resources technical investigations have been conducted within 0.5 miles of the Project site (Table 3). A brief summary of the single study identified within the Project site is provided following Table 3.

Table 3. Previously Conducted Cultural Resources Studies within 0.5-Mile of the Project Site

Report No.	Authors	Year	Title	Publisher
Studies within the Project Site				
SJ-08749	San Joaquin Historian and Morrison, D., editor	1999	St. Joseph's Medical Center: Caring Hearts and Healing Hands throughout a Century of Healing; San Joaquin Historian, Quarterly Journal of the San Joaquin Historical Society, Volume 13/Number 3, Fall 1999.	San Joaquin Historical Society
Studies within the 0.5-mile Buffer				
SJ-02219	Stockton, City of	1979	Historic Survey Project Agreement, Final Report; Project Period June 1, 1978 to March 31, 1979.	City of Stockton
SJ-02246	Hermenau, H.	1980	Completion Report, Historic Survey Project Agreement No. 36-09-006, Stockton, California; Project Period April 1, 1979 to March 31, 1980.	City of Stockton
SJ-02247	Rapp, L.	1980	Stockton Historic Resource Inventory II: Analysis Report, June 1980.	City of Stockton
SJ-03995	Nelson, W.J.	2000	Cultural Resource Survey for the Level (3) Communications Long Haul Fiber Optics Project; Segment WS04: Sacramento to Bakersfield	Far Western Anthropological Research Group Inc.; for Parsons, Brinckerhoff Network Services

Table 3. Previously Conducted Cultural Resources Studies within 0.5-Mile of the Project Site

Report No.	Authors	Year	Title	Publisher
SJ-04976	Burks, J.L.	1987	The History of Streetcars in Stockton. The San Joaquin Historian, Vol. I (Summer 1987), No. 2:1–11.	Historian
SJ-05198	Marvin, J.	2003	Historical Evaluation for the Pacific Medical Center Project, East Walnut, California, and Chestnut Streets and Wood Lane, Stockton, California.	LSA Associates, Incorporated
SJ-05341	Starr, N.L.	1976	Stockton State Hospital: A Century and a Quarter of Service. San Joaquin Historian Vol. XII, No. 3, pages 115-122.	Historian
SJ-06019	Supernowicz, D.	2006	Collocation ("CO") Submission Packet, FCC Form 621, Sprint-Nextel Mudville, CA-3289A, San Joaquin County, CA	Supernowicz, D.
SJ-06345	SWCA Environmental Consultants	2006	Cultural Resources Final Report of Monitoring and Findings for the QWest Network Construction Project, State of California. SWCA Project No. 10715-180.	SWCA Environmental Consultants, for Qwest Communications
SJ-06740	Jurich, D.	2007	Cultural Resources Survey Report and Unanticipated Discovery Plan for the Proposed Altamont Commuter Express Maintenance Facility, Stockton, California.	PBS & J
SJ-07048	Jurich, D.M., and J. Martinez	2008	Cultural Resources Survey and Subsurface Testing Report: Altamont Commuter Express Maintenance Facility Project West of West Lane, Stockton, California.	PBS & J; for San Joaquin Regional Rail Commission
SJ-07446	Supernowicz, D.	2011	Cultural Resources Study of Waterloo Project, Cingular Wireless Site No. SAC-007A, 1805 North California Street, Stockton, San Joaquin County, CA.	Historic Resource Associates
SJ-07539	Pappas, S., and L. Westwood	2011	Cultural Resources Inventory Report, Stockton "A" Reconductoring Project, San Joaquin County, California; ECORP Project No. 2011-123.	ECORP Consulting, Inc.; for PG&E, Cardno ENTRIX, and Surf to Snow Environmental Resource Management
SJ-08284	AECOM	2011	Cultural Resources Inventory Report for the Central Valley Independent Network Fiber Optic Communications Network Project, California (Calaveras, Merced, San Joaquin, Stanislaus, and Tuolumne Counties in the CCaIC Area of Responsibility).	AECOM; for Central Valley Independent Network
SJ-08782	Marks, B., and B. Brewster	2011	Phase I Cultural Resources Assessment for University Park Alternative - Veterans Affairs Outpatient Clinic Project, San Joaquin County, California.	Environmental Sciences Associates (ESA) for the U.S. Veterans' Affairs (VA)
SJ-08786	Architectural Resources Group	2000	California State University, Stanislaus Stockton Center. Former Site of the Stockton Developmental Center and Insane Asylum of California Stockton, California. Cultural Resources Survey.	Architectural Resources Group Architects, Planners and Conservators, Inc.

Table 3. Previously Conducted Cultural Resources Studies within 0.5-Mile of the Project Site

Report No.	Authors	Year	Title	Publisher
				prepared for the City of Stockton
SJ-08809	Blazenko, S.J.	2016	Positive Train Control Filing Subject to Expedited Treatment Under Program Comment, Union Pacific Railroad - PTC Wayside Poles - Sacramento Subdivision One (1) Excluded PTC Pole (Mile Post 94.94) in San Joaquin County, California - TCNS #141507.	GSS Inc.

SJ-08749

This article was published in the *San Joaquin Historian*, a quarterly journal released by the San Joaquin Historical Society and Museum, in celebration of the 100-year anniversary of St. Joseph's Medical Center Complex. The article gives a brief historical overview of the hospital's founding, the short-lived nursing school, the hospital's role in bringing medical technology to Stockton and responding to epidemics, the volunteer and auxiliary groups, through the most recent additions of a Cancer Center and Heart Center openings. The article makes no determinations of eligibility for the property and was not published in support of any larger CEQA or National Environmental Policy Act projects (San Joaquin Historian 1999).

2.1.2 Previously Recorded Cultural Resources

The CCaIC records search failed to identify any cultural resources within the Project site; however, records indicate that 38 cultural resources have been previously recorded within a 0.5-mile radius of the Project site (Table 4).

Table 4. Previously Recorded Cultural Resources Within a 0.5-Mile Radius of the Project Site

Primary	Trinomial	Resource Name	Resource Type	Age	Attributes	Resource Disclosure
Resource within Project Site						
None						
Resources within 0.5-mile Buffer of Project Site						
P-39-000002	CA-SJO-000250H	Southern Pacific Railroad in San Joaquin County	Structure, Site	Historic	Foundations/ structure pads; privies/dumps/ trash scatters; roads/trails/ railroad grades; walls/fences; engineering structure	Not for publication
P-39-000510		Magnolia Historic Preservation District	District	Historic	Other	Not for publication

Table 4. Previously Recorded Cultural Resources Within a 0.5-Mile Radius of the Project Site

Primary	Trinomial	Resource Name	Resource Type	Age	Attributes	Resource Disclosure
P-39-000541		Stockton Developmental Center (complex)	Building, Site, Other	Historic	Hospital	Unrestricted
P-39-004389		402 Chestnut	Building	Historic	Single-family property	Unrestricted
P-39-004390		404/406 Chestnut Street	Building	Historic	Multiple-family property	Unrestricted
P-39-004391		403 Walnut	Building	Historic	Single-family property	Unrestricted
P-39-004392		407 Walnut	Building	Historic	Single-family property	Unrestricted
P-39-004393		409 Walnut	Building	Historic	Multiple-family property	Unrestricted
P-39-004394		411 Walnut	Building	Historic	Single-family property	Unrestricted
P-39-004395		415 Walnut Street	Building	Historic	Single-family property	Unrestricted
P-39-004396		417 Walnut Street	Building	Historic	Single-family property	Unrestricted
P-39-004457	CA-SJO-000294H	Central California Traction Company Railroad	Structure	Historic	Roads/trails/ railroad grades; Engineering structure	Not for publication
P-39-004543		California State Hospital Elevated Water Tower and Tank	Building	Historic	Engineering structure	Unrestricted
P-39-004863	CA-SJO-000318H	ACE 1H (recorder field number)	Site	Historic	Privies/dumps/ trash scatters	Not for publication
P-39-004965		Stockton Rural Cemetery;	Site	Prehistoric, Historic	Cemetery	Not for publication
P-39-004973		Staten Island School/Stockton High School/Commodore Stockton Skills School	Building	Historic	Educational building	Unrestricted
P-39-005080		George K. Wever Professional Building	Building	Historic	3+ story commercial building	Unrestricted
P-39-005102		North School	Building	Historic	Educational building	Unrestricted
P-39-005276		Stockton Developmental Center-Weber Square-Bldg. 056	Building	Historic	Hospital	Unrestricted

Table 4. Previously Recorded Cultural Resources Within a 0.5-Mile Radius of the Project Site

Primary	Trinomial	Resource Name	Resource Type	Age	Attributes	Resource Disclosure
P-39-005277		Stockton Development Center- Bertha Kowles Auditorium- Building 007	Building	Historic	Hospital	Unrestricted
P-39-005279		Acacia Court; Building 001 Stockton Developmental Center	Building	Historic	Hospital	Unrestricted
P-39-005282		Campbell Achievement Center/ Female Cottage A	Building	Historic	Hospital	Unrestricted
P-39-005284		Men's Occupational Therapy/Industrial Building/Curved Needle	Building	Historic	Hospital	Unrestricted
P-39-005285		Cottage D/Delta Learning Center	Building	Historic	Hospital	Unrestricted
P-39-005286		Nurses Housing/ Foster Grandparents	Building	Historic	Hospital	Unrestricted
P-39-005287		Cottage B/Lots of Tots	Building	Historic	Hospital	Unrestricted
P-39-005299		Male Cottage #2/ Religious Center	Building	Historic	Hospital	Unrestricted
P-39-005300		Santi Rogers Library/Library	Building	Historic	Hospital	Unrestricted
P-39-005301		Vegetable Prep Building/Saw Shop	Building	Historic	Hospital	Unrestricted
P-39-005305		Volunteer Center	Building	Historic	Hospital	Unrestricted
P-39-005306		Vonnie Erb Library /Woman's Occupational Therapy	Building	Historic	Hospital	Unrestricted
P-39-005307		Administration Building	Building	Historic	Hospital	Unrestricted
P-39-005309		Boiler Plant	Building	Historic	Hospital	Unrestricted
P-39-005310		Female Cottage C/ California Conservation Corp.	Building	Historic	Hospital	Unrestricted
P-39-005311		Emergency Generator	Building	Historic	Hospital	Unrestricted
P-39-005312		Laundry	Building	Historic	Hospital	Unrestricted

Table 4. Previously Recorded Cultural Resources Within a 0.5-Mile Radius of the Project Site

Primary	Trinomial	Resource Name	Resource Type	Age	Attributes	Resource Disclosure
P-39-005313		Stockton Developmental Center-Female Cottage E/ Mariposa Place-Bldg. 024	Building	Historic	Hospital	Unrestricted
P-39-005317		Cottage F/Willow Building	Building	Historic	Hospital	Unrestricted

2.2 Building Development and Archival Research

In addition to the results of the CHRIS Records Search described above, background research was conducted on the subject properties in an effort to establish a thorough and accurate historic context for the property significance evaluations, and to confirm the building development history of the Project site and associated parcels.

San Joaquin County Assessor

On March 5, 2020, Dudek visited the San Joaquin County Assessor and requested to view copies of all records on file for properties 1 through 4, as well as parcel maps.

On June 8, 2021, Dudek viewed records available online through the San Joaquin County Assessor pertaining to Property 5.

City of Stockton Permit Center

On March 5, 2020, Dudek visited the City of Stockton Permit Center and submitted a request with Ms. Adrina Cholula to view all permits and plans on file for the Properties 1 through 4.

On June 8, 2021, Dudek submitted a request with Ms. Adrina Cholula to view all permits and plans on file for Property 5.

St. Joseph's Hospital Archive

On March 5, 2020, Dudek staff met with Sister Abbey Newton, who provided a tour of the complex and access to the St. Joseph's Hospital Archives. As part of conducting archival research, Dudek staff viewed historical photographs and aerial photographs of the St. Joseph's Hospital over time.

St. Joseph's Facilities Database

On March 6, 2020, Dudek staff met with Christina Sinclair of the St. Joseph's Medical Center Complex Facilities Management who subsequently provided access to the facilities management database containing original plans and subsequent alteration plans for each building located on the campus.

San Joaquin County Historical County and Museum

On March 6, 2020, Dudek staff reviewed a number of physical and online resources available through the San Joaquin County Historical County and Museum. With help from Archivist Gail Erwin, Dudek staff viewed resources related to local history including academic journals and secondary sources, and historical photograph and scrapbook collections.

University of the Pacific Holt Atherton Special Collections

On March 5, 2020, with the assistance of Archivist Nicole Grady, Dudek staff reviewed a number of archival collections related to the history of Stockton and the history of hospitals in Stockton available through the Holt Atherton Special Collections housed at the University of the Pacific. Dudek staff also reviewed the digital archives collections available online.

California History Room, California State Library

On February 27, 2020, Dudek staff reviewed physical resources pertaining to the history of Stockton and the subject properties available at the California History Room at the California State Library.

Historical Newspaper Search

Dudek reviewed historical newspapers covering the City of Stockton in an effort to understand the development of the subject properties.

Historical Sanborn Fire Insurance Maps

The Historical Sanborn Fire Insurance Maps dating from 1895, 1917, and 1946 (updated through 1950) were available for the City of Stockton. The 1895 edition did not include the subject properties in the mapped areas of the City; however, the 1917 and 1946 Sanborn maps both show the St. Joseph's Hospital and Home for the Aged, detailing individual hospital wards, kitchens, laundry, dining rooms, nurses' quarters (convent), a chapel, and several storage structures (Figure 4). Properties 2, 3, and 4 are depicted in the 1946 version; however, the properties have not yet been developed in their current configurations with the present buildings by this period. Property 5 does not appear in the mapped areas of the City.

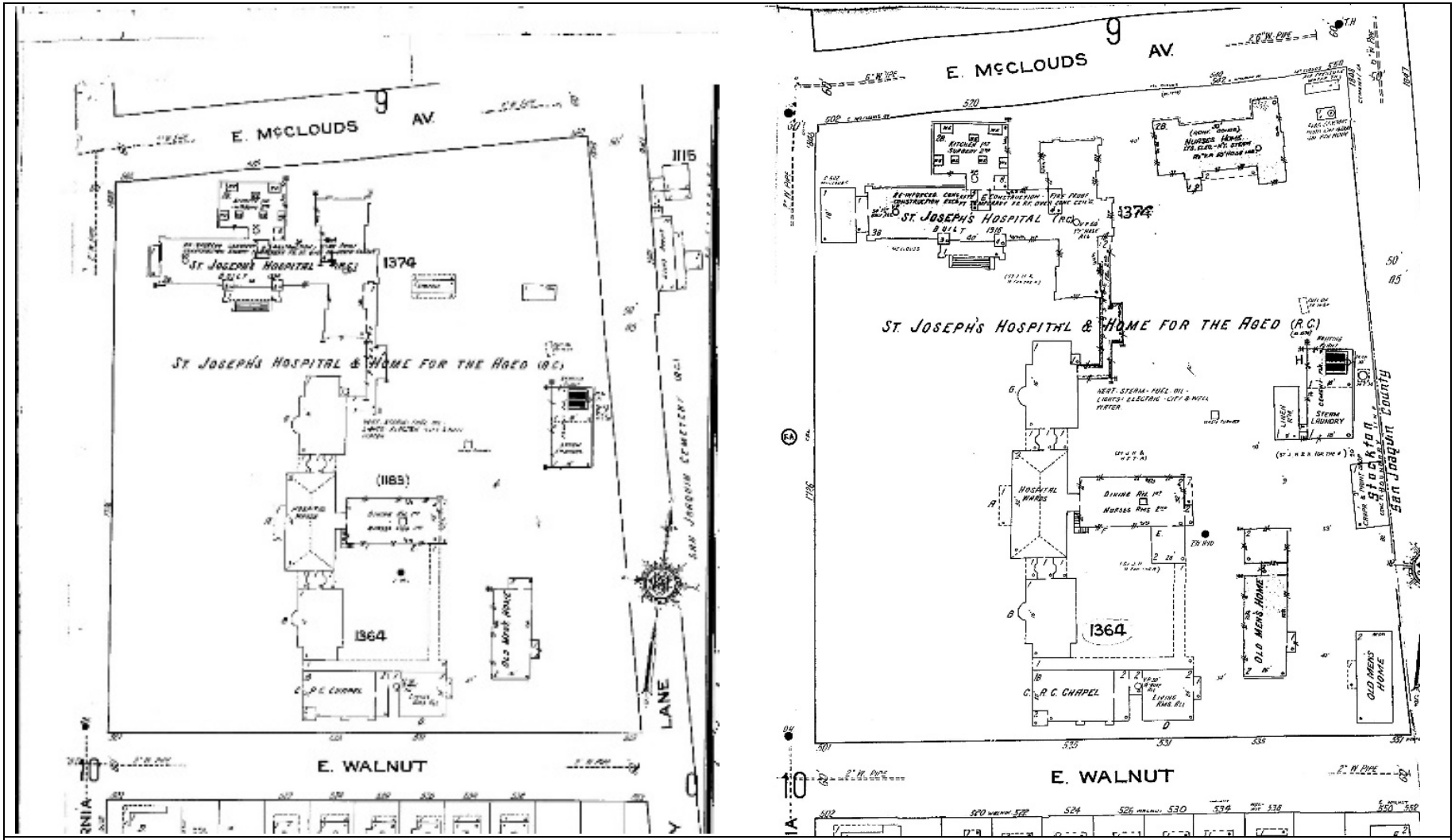


Figure 4. 1917 Sanborn Map of St. Joseph's Hospital (left); and 1946 Sanborn Map of St. Joseph's Hospital (right) (Sanborn Map Collection, Los Angeles Public Library).

Historical Aerial Photographs

Historic aerial photographs of the subject properties were available from Nationwide Environmental Title Research LLC maps for the years 1967, 1982, 1993, 1998, 2002, 2005, 2009, 2010, 2012, 2014, and 2016, and from the University of California, Santa Barbara, FrameFinder Maps for the years 1928, 1949, 1957, 1963, 1970, 1987, 1993, 1998, and 2002 (NETR 2021; UCSB 2021). Table 5 provides a comprehensive breakdown of the aerial photographs reviewed for the purposes of this project. Note that all of the current sections of the St. Joseph's Medical Center Complex are noted below with reference letters from Figure 3.

Table 5. Historical Aerial Photograph Review

Year	Observations and Findings
1928	The St. Joseph's Home and Hospital complex is visible in the 1928 aerial, including the Main Hospital Building, Kitchen and Surgery Wing, three Ward Wings to south, Chapel Wing, Dining Wing, cloistered passages, and Living Room Wing. Also visible is the Laundry and Heating Plant, two Old Men's Home buildings in the southeast corner of the property, and the Nurses' Home/Convent Building (McCloud Building) in the northeast corner of the property. The hospital grounds appear landscaped with lawns, mature trees and walking paths. Circulation access to the hospital is via a semicircular entry drive on the west side of the property along North California Street, which leads to the Main Wing's steps. The hospital complex bound by McCloud Avenue to the north, Cemetery Lane to the east, Walnut Street to the south, and North California Street to the west, and is surrounded by single-family residential neighborhoods, except for the San Joaquin Catholic Cemetery on the east side.
1949	By 1949, one parking lot had been added near the nurses' home (McCloud) building in northeast portion of the hospital property. No other changes were noted. Properties 2, 3, and 4, are occupied by single-family homes during this period. Property 5 is currently a vacant lot.
1957	By 1957, the hospital had demolished one of the three hospital ward wings south of the Main Hospital Wing (A), as well as the Chapel Wing, Dining Wing, cloistered covered passages, and Living Room Wing. Additionally, one of the Old Men's Home buildings in the southeast-most portion of the property appears to have been demolished. A large addition for the "North Wing" was added south of the Main Hospital Wing (A). Finally, a new parking lot appears to have been added to northwest corner of property. Property 5 has been developed by this period and is visible surrounded by a paved lot.
1963	By 1963, all of the original 1899 hospital and Old Men's Home buildings had been removed, leaving only the Main Hospital Wing (A), McCloud Building (C), and the Heating Plant Generator Building (B). The two new wings appear to have replaced the 1899 buildings, named the South and West Wings. The West Wing (E) was built over the curved entry road, creating a porte cochére. A chapel building was added south of the McCloud Building (C).
1967	By 1967, another parking lot was developed south of Walnut Street, demolishing single-family residences on that portion of the block. No other changes to the hospital property were noted. Property 3 is now visible in its current configuration on the site surrounded by a paved lot and other commercial buildings.
1970	By 1970, the East Wing (G) appears to have been added to the property, and the parking lot south of Walnut Street is expanded to East Maple Street. Other changes in the 1970 aerial include an addition to the east side of the McCloud Building (C), over the parking lot.

Table 5. Historical Aerial Photograph Review

Year	Observations and Findings
	Property 2 has been developed by the time of this photograph and is presently surrounded with other single-family residences and commercial buildings.
1982	By 1982, the section of Walnut Street between North California Street and Cemetery Lane has been eliminated, extending the hospital complex all the way south to East Maple Street. All single-family homes that were remaining appear demolished. A new semicircular drive appears on the south portion of the hospital complex, while the semi-circular drive along North California Street is converted to a footpath. A new Hospital Entrance building is added at the south end of the property. The Cafeteria (J) and Administrative Wing (H) appears between the North Wing (D) and West Wing (E) of the existing buildings. Outpatient Surgery (K) Wing and Cancer Center (M) Wing appear in the southwest corner of the property. The majority of the single-family homes and small-scale commercial buildings surrounding Property 2 and Property 3 are no longer present. Property 4 has been developed by this period on the corner of North California Street and East Harding Way and is surrounded by a paved lot. Property 5 has a small addition extending from the west elevation and another on the north elevation.
1987	The 1987 aerial photograph image resolution too low to note changes.
1993	In the 1993 aerial photograph, the Southeast Wing (I) appears to have been added to the southeast portion of the hospital complex and the Heart Center (N) Wing appears to be under construction, Nearby, along East Harding Way and Cemetery Lane, small-scale commercial properties appear on the corner. The majority of the single-family homes surrounding Property 5 have been replaced by this period with a large parking lot, and the buildings currently occupying this area include the Health Care Clinical Laboratory Building, the Engineering Shop, the Cooling Tower, the Utility Plant, and the Water Tank. No changes to Properties 2, 3, or 4 were noted.
1998	By 1998, the Heart Center (N) Wing appears completed. No changes to Properties 2, 3, 4, or 5 were noted.
2002	No changes to the St. Joseph's Medical Center Complex were noted. No changes to Properties 2, 3, 4, or 5 were noted.
2005	No changes to the St. Joseph's Medical Center Complex were noted. No changes to Properties 2, 3, 4, or 5 were noted.
2009	By 2009, the Women and Children's Pavilion (P) wing appears to have been added to the southwest corner of the complex, connected to other buildings by elevated walkway over East Maple Street. No changes to Properties 2, 3, 4, or 5 were noted.
2010	No changes to the St. Joseph's Medical Center Complex were noted in the 2010 photograph, but some of the commercial properties along East Harding Way and Cemetery Lane appear to have been demolished. No changes to Properties 2, 3, 4, or 5 were noted.
2012	No changes to the St. Joseph's Medical Center Complex were noted. No changes to Properties 2, 3, 4, or 5 were noted.
2014	No changes to the St. Joseph's Medical Center Complex were noted. No changes to Properties 2, 3, 4, or 5 were noted.
2016	No changes to the St. Joseph's Medical Center Complex were noted. No changes to Properties 2, 3, 4, or 5 were noted.

3 Historic Context

3.1 Historical Overview of Stockton

The San Joaquin River delta area had been settled since the prehistoric era. The Spanish first explored the San Joaquin valley in 1772; however, Gabriel Moraga named the valley San Joaquin de los Tulares in 1808 after the rushes and wetland plants that grew in the valley. In 1828, Jedediah Smith traveled for the Rocky Mountain Fur Company to Southern California, then to the San Joaquin Valley to trap beaver at the French Camp settlement, just south of present-day Stockton. This was followed by a trapper party led by John Work in 1832 for the Hudson Bay Company. Several party members were infected with a fever illness, which spread to the local Native American population in the San Joaquin Delta when the two groups eventually clashed (Mokelumne and Yokuts). This, as well as years of aggression from the Spanish then Mexican armies, decreased the Native American habitation on the slough as well. Overall, aside from a fur company camp, the area was not well settled prior to the 1840s (ARG 2000; Lewis et al. 1979; Tinkham 1880).

Charles M. Weber and business partner William Gulnac acquired a land grant to the 48,747-acre Rancho Campo de los Franceses in 1843 (Figure 5). Weber, a German immigrant, came to California with the 1841 Bidwell-Bartleson Party, which was one of the earliest settlement parties from the eastern United States to successfully reach California. Weber and his wife Helen settled on the rancho and began planning the City of Stockton. Weber and Gulnac planned to raise livestock in the area, but were particularly interested in the San Joaquin River Delta for its shipping potential and physical outlet into the San Francisco Bay. The river was deep enough to accommodate steamboats and sailing ships alike. However, the Gold Rush altered the economic environment around Stockton after the discovery of gold at Coloma on the American River in 1848. Settlement at the Stockton location began as early as 1847, and in 1849, the Webers hurriedly paid for a survey and plat for the town. The City of Stockton incorporated in 1850. Charles Weber, Gulnac, and a group of early settlers founded the Stockton Mining Company to sell supplies to California Gold Rush miners heading from San Francisco and Sacramento into the Sierra Nevada foothills, east of Stockton. The town's early growth can be attributed to profiteering from the necessary shipping and freighting for the Gold Rush miners (ARG 2000; Kasser 2005; Lewis et al. 1979; Tinkham 1880).

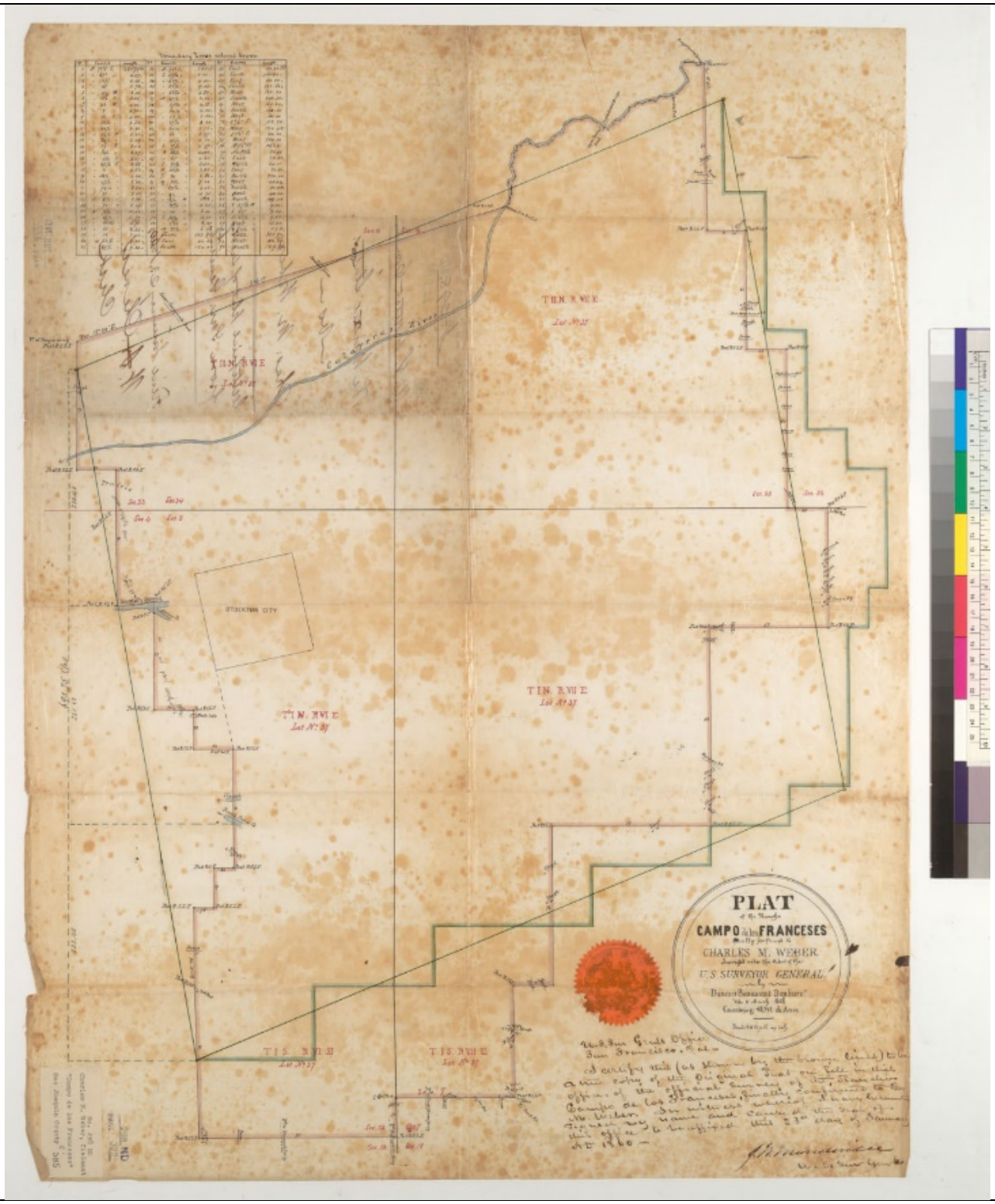


Figure 5. Plat of Rancho Campo de los Franceses awarded to Charles Weber, 1858 (UC Berkeley).

Though well positioned at the head of a navigable waterway to receive passengers and freight, Stockton's location in a delta of the San Joaquin and Calaveras Rivers left it prone to seasonal flooding, and it took nearly 15 years (1850–1865) to build a permanent elevated, dry road out of town to French Camp. In the earliest years, tents, rather than permanent buildings dominated Stockton as the main building type. Nevertheless, Stockton grew quickly. In 1850, the population was marked as 2,500 people, but by 1854, it had grown to 7,000 people, making Stockton the third-largest city in California (Kasser 2005; Lewis et al. 1979).

Though the 1849 Gold Rush ended by 1855, Stockton smoothly transitioned to become an agricultural exporter, sending livestock, dairy, grain, fruits, and vegetables to the major markets in San Francisco and Sacramento. With a harbor as its major asset, the rich agricultural area around Stockton and its mild climate quickly turned the City into a major hub for agricultural products. In an effort to support its new position as a major agricultural exporter, the City quickly gained flourmills, warehouses, food processing and canning plants, and brickyards to support the new building efforts. Several brickyards established in Stockton in the 1850s, providing much needed building materials for the rapidly growing city (ARG 2000; Boynton 1968; Tinkham 1880).

To accommodate the City's growth, delta and swamp environments were reclaimed and backfilled with soil to create land for development. Harbors and channels were deepened to accommodate a formal port that could support larger ships. The City expanded with all the services and large, grand buildings afforded to a large city. Telegraph lines were added in 1854. As the San Joaquin County seat, Stockton gained a courthouse by 1862 and a jail in 1865. Stockton also became the location of a state hospital called Stockton General Hospital in 1851 (renamed Insane Asylum of California at Stockton from 1853 onward). Various rail lines connecting Stockton to agricultural communities to the east and south, as well as north to Sacramento were added between 1865 and 1874. These included the Stockton & Copperopolis Railroad, the Stockton & Visalia Railroad, and Western Pacific Railroad (subsidiary of Central Pacific) (Barth 1940; Letcher 1969; Starr 1976; Tinkham 1880).

The City of Stockton continued to grow, and in 1870, the population surpassed 10,000 persons. Chinese immigrants, restricted by the Chinese Exclusion Act in 1882, made up a significant portion of the population and commercial growth in Stockton in the 1880s. During the 1890s, Stockton's population had grown to over 14,000, and new projects were completed throughout the City. In 1890, a new courthouse was constructed, followed by a red brick jail in 1893. Multistory brick buildings including banks, commercial buildings, schools, and hotels were also erected during the 1890s, leading to the nickname "Brick City" for Stockton (Figure 6). Stockton was also famous for the invention of agricultural machinery such as the Stockton Gang Plow and the Marvin Combined Harvester (commonly called a combine). Other agricultural production companies such as Sperry and Lyon Flour Mills created enormous economic growth for Stockton (Boynton 1968; Clerc 1989).

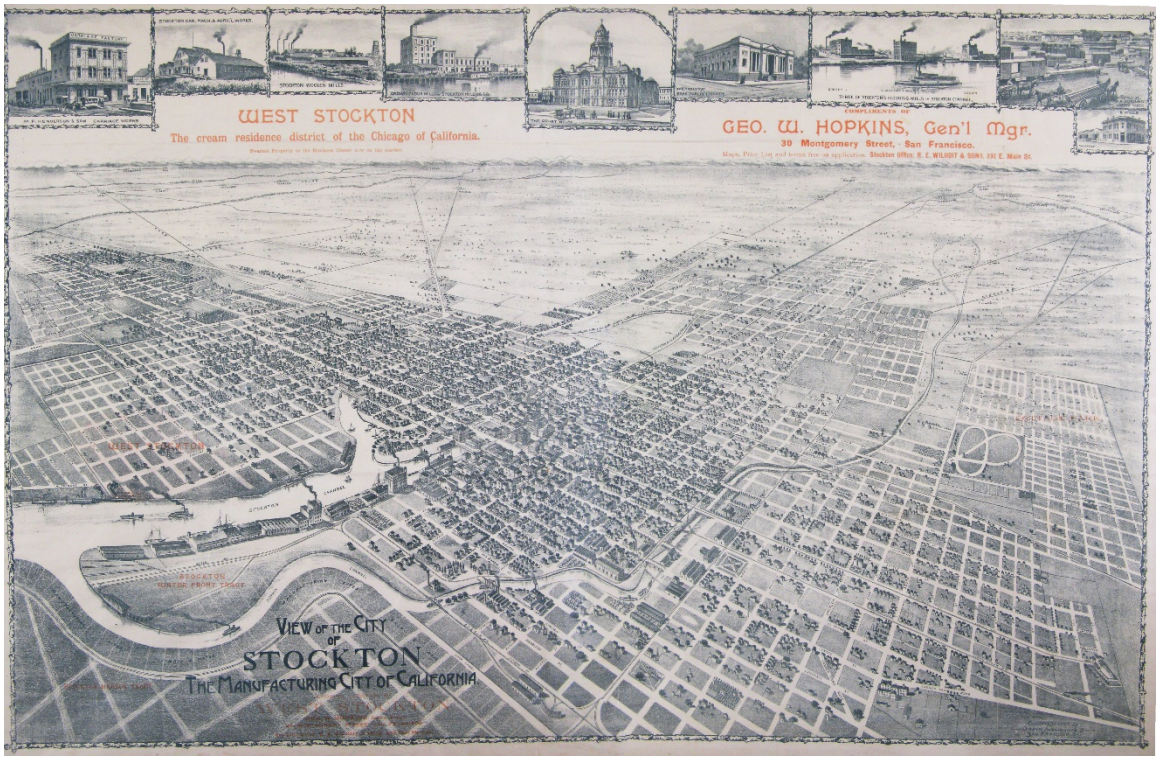


Figure 6. Bird's Eye View of the City of Stockton, Dakin Publishing Co, 1895 (Holt-Atherton Special Collections, University of the Pacific Library).

Stockton remained a center for agriculture, commerce, and manufacturing into the twentieth century. By 1900, Stockton had several hundred manufacturing companies including canneries, ship builders, and farm equipment manufacturers. One of these would become the Holt Manufacturing Company, which created the crawler-type tractor patented as "Caterpillar" in 1911. Another was the Diamond Walnut Company, which had emerged from the Diamond Walnut Growers Association cooperative, founded in 1912. Stockton was not hard-hit by the 1906 San Francisco earthquake, and sent relief supplies and building materials to affected areas, further growing its manufacturing economy. Manufacturing boomed during World War I in Stockton, as companies like Holt were converted to tank manufacturing. However, after World War I, Holt Manufacturing ceased tank production and had to merge with Best Tractor Company, which had produced farm equipment in the gap left by Holt. The resulting merged company moved to Peoria, Illinois, leaving Stockton without a farm machinery manufacturer (ARG 2000; Clerc 1989).

In 1925, Stockton started a bond campaign to improve the San Joaquin channel, with federal assistance provided in 1926. In 1928 and through the earliest years of the Great Depression, the City of Stockton completed the river channel project, known as the Stockton Deepwater Channel. The result was that the channel could accommodate loaded, ocean-faring vessels. During World War II, Stockton was heavily involved in the war effort, serving as a relocation center location for Japanese-Americans who were then sent on to a detention camp in Arkansas, as well as warship building, airplane parts manufacturing, and weapons manufacturing at Stockton's plants (Figure 7). World War II also created issues in the agricultural industry. With no workers to pick crops, farmers had to rely on

federal programs bringing in workers from Mexico via the Bracero Program, which persisted until 1964 and resulted in a large influx of Mexican immigrants settling in Stockton permanently (ARG 2000; Clerc 1989; Lewis et al. 1979).



Figure 7. Stockton Harbor after Deepwater Channel Project looking east to downtown Stockton, circa 1940 (Holt-Atherton Special Collections, University of the Pacific Library)

Though Stockton experienced some mild post-war growth after World War II, most of this was suburban growth. From the 1950s through the 1990s, Urban Blight/Urban Renewal programs significantly affected Stockton's downtown. Many historical buildings and landmarks from the 1860s, such as the County courthouse and City library, were replaced with modern buildings. This resulted in a sharp reduction in low-income housing options for farm laborers and forced an exodus of residential communities from the City center. In the more suburban areas of Stockton, the Stockton Metropolitan Airport and a baseball stadium were added, followed by retail centers like St. Mark's Plaza, Venetian Square, Quail Lakes, and College Square, which were added in the 1970s (ARG 2000; Clerc 1989).

In the 1990s and early 2000s, as Silicon Valley and Bay Area housing prices increased, working-class and middle-class Californians were pushed out of urban centers like San Jose, San Francisco, and Oakland into the Delta, occupying Sacramento, Tracy, and Stockton. Housing prices in the region tripled, and Stockton briefly experienced higher tax revenue. When the housing bubble burst in 2009, Stockton was hit hard by the recession that followed (McGrath 2016).

3.2 The Hospital Industry History in Stockton

In 1851, the State of California passed a bill establishing three state-run hospitals in Sacramento, San Francisco, and Stockton. The Stockton State General Hospital was originally a wood building at the corner of El Dorado Street and Market Street in downtown Stockton. However, another State Bill in 1852 required the separation of physically ill and mentally ill patients, resulting in the renaming of the Stockton General Hospital to the Insane Asylum of California at Stockton. In 1853, the asylum was established in the northeastern edge of Stockton city limits on 100 acres of land donated by Stockton founder Charles Weber. That same year, 124 patients from the other state hospitals were sent to the Insane Asylum of California at Stockton. The new facility was the first publicly supported psychiatric facility in the American West. Though the Insane Asylum first began to treat patients in 1853, the facility was constantly growing and remained under construction until 1874. At the peak of its growth, the asylum had hundreds of beds and separate men and women's wards. Parts of the campus were demolished in 1968, but continued to function until 1997 when it was officially deactivated. Following its deactivation, the remaining buildings and the campus itself were repurposed into the Stockton extension campus for California State University Stanislaus (ARG 2000; Roeser 1990; Starr 1976; Tinkham 1880).

A second hospital, the San Joaquin General Hospital, was established by the San Joaquin County Supervisors in 1857, under the direction of Dr. E.B. Bateman. The hospital also operated as a "pest house" in early years, for those suffering from contagious diseases. It had a significant addition in 1879 to accommodate the County's growth since the 1850s, but the hospital burned down in 1886. San Joaquin County offered a small contract to put up replacement buildings, but this fell through, and in 1892 bonds were sold to build a new County General Hospital at a property in French Camp, the next town south of Stockton. The new County hospital at French Camp was completed in 1895. Due to its remote location outside the City of Stockton, the new hospital was often referred to as the "County Farm" and operated as a poor house. The hospital continued to take in the disease-afflicted including those suffering from Spanish Flu in 1918 and a tuberculosis outbreak in the 1920s. The tuberculosis outbreak was so dire, that a second hospital, called the Bret Harte Hospital was opened by San Joaquin County and Calaveras County jointly in 1928 (Roeser 1990; SJHS n.d.).

Despite having the state-run asylum within reach and the County general hospital several miles outside of town, doctors in Stockton usually practiced at home or in storefront offices in town for most of the nineteenth century. The next hospital to be established in Stockton came nearly 45 years after the establishment of the state asylum. When Father William O'Connor announced plans for a Catholic men's home for elder care in 1898, local physicians in Stockton encouraged O'Connor to plan for the construction of a private hospital as well. The result was the St. Joseph's Home and Hospital (see Section 3.3, Development History of the Built Environment Area of Potential Impacts). During the first few years of operations, many local physicians and surgeons rotated into the St. Joseph's Home and Hospital to take advantage of the facility, which stressed cleanliness, ample staff, and sanitary conditions (Shebl 1984).

Another private hospital would not be established in Stockton until 1912. After years of practicing as a surgeon and physician at the Insane Asylum and in private practice, Dr. John Dameron founded Dameron Hospital in Stockton in 1912. Dameron's hospital had a modest 20-bed capacity, but provided a non-religious hospital setting at a time when there was discrimination against Catholics. Illness eventually prompted Dameron to sell the organization to a group of local doctors, staff, and businesspersons in 1925. This new board of directors expanded the facility in 1927 to 55 beds. The hospital was incorporated as Dameron Hospital Association in 1943, becoming an independent, not-for-profit medical facility governed by a seven-person board of directors (Dameron Hospital 2020).

While Dameron Hospital remains open today, other private hospitals established in the early twentieth century did not. One such private hospital, the Nippon Hospital, was established in 1919. During the 1910s and 1920s, Stockton had a considerable population of Japanese-Americans and one of the largest Japanese communities in the United States at the time. Tokutaro Matsumoto, a wealthy fruit farmer from the area, sponsored the hospital. The Nippon Hospital, located at 25 South Commerce Street, served a population of over 2,000 Japanese-Americans in the 1920s. The hospital became a publicly traded company in 1922 but closed due to financial difficulties in the 1930s. Today it is part of the Steamboat Landing apartment complex (Hillman 1977; SDER 1915a).

In 1923, San Joaquin County established a local health district for the City of Stockton, headquartered in the old Insane Asylum building. With multiple hospital buildings outside the City center, and testing facilities too far away for patients, Stockton's reliance on outside laboratories and hospitals was having a negative effect on health professionals and patients. To combat this, San Joaquin County opened a County Health Clinic in downtown Stockton in 1925 on Market Street. A dedicated medical office building in downtown Stockton was also added, putting Stockton on par with other large urban centers in San Francisco, Oakland, and Sacramento. The Medico-Dental Building was a professional medical office building, built 1927 and was, at 12 stories, Stockton's tallest building. Though not a formal hospital, it was originally dedicated exclusively for medical and dental offices. The first floor had a pharmacy and tenant clubroom, while the only non-medical tenant was the local radio station, which broadcast from the building. Built just before the Great Depression, the building stood mostly vacant until after World War II (Roeser 1990; Smith 2009).

Alternative medicine doctors called osteopaths opened other private hospitals, such as the Vanosse Hospital (c. 1930s) and Oak Park Hospital (1957). These operated relatively well at the private level, but both eventually closed. Oak Park Hospital was purchased by St Joseph's Medical Center in 1980 and converted into a recovery center that offered a chemical dependency program (Shebl 1984).

With the increasing population in the 1950s and 1960s, many of Stockton's surviving hospitals either closed or reorganized and expanded. By 1960, the remaining, operating hospitals consisted of the Insane Asylum, St. Joseph's Hospital, Dameron Hospital, and the San Joaquin General Hospital in French Camp. Other smaller clinics and offices throughout Stockton also grew or closed depending on location. Clinics in downtown Stockton, such as the Medico-Dental Building, suffered from the urban renewal programs and demolition of downtown Stockton, while others, such as San Joaquin General Hospital, St. Joseph's Hospital, and Dameron Hospital, gained new treatment wings and services (Roeser 1990; Shebl 1984; Smith 2009).

3.3 Development History of the Built Environment Area of Potential Impacts

The following section discusses the individual development histories of the properties within the Built Environment API.

3.3.1 Property 1: St. Joseph's Medical Center Complex (1899-present)

St. Joseph's was founded as a care facility for elderly men in 1899 by Father William B. O'Connor. O'Connor immigrated to the United States in 1868 from Ireland and lived in San Francisco briefly before being sent to Stockton to lead St. Mary's Catholic parish in 1872. In 1875, O'Connor invited Dominican-order nuns from San Rafael to establish a convent and school in Stockton, St Agnes' Academy for girls, followed by St. Joseph's School

for girls and St. Mary's School for boys. O'Connor negotiated land for all the schools, convent, and churches with Charles Weber, town founder, who donated the land for the schools from his personal holdings (Dignity Health 2020; Shebl 1984).

In 1884, O'Connor purchased a 9.23-acre parcel from Alonzo McCloud. The tract was just north of City limits, on the electric rail car line, and adjacent to other church properties, including a cemetery. In 1898, O'Connor announced plans for a convalescent home for elderly men, to be built on the McCloud tract. Local Stockton physicians also asked that a hospital with a surgery ward be included in the plans for the home. Until this point, many physicians had been practicing at home or in offices, and surgeries were often performed in unsanitary environments. O'Connor agreed and in February 1899, site preparation began. The St. Joseph's Home and Hospital buildings were designed by local architect W.W. Oates, built by contractors John C. Doyle and Dennis Burns, and officially opened in February 1900 (Figure 8). The home consisted of the main home building and two side cottages. In 1900, a 14-room annex serving as quarters for the men's home was added. Three Dominican sisters staffed the facility for the first year, with a Dr. H.E. Allen as resident physician and Eliza McClain as head nurse. In 1902, a nurse's training program was employed at St. Joseph's to train new medical staff as well as keep the cost of care in the home to a minimum. The cost to enter the home was a flat fee with no increases, so O'Connor cut corners where he could, including not offering compensation to the Dominican sisters who staffed the hospital. In 1905 another new building, a 19-room building separate for the men, was added to the southeast portion of the property (Dignity Health 2020; Shebl 1984; Stockton Evening Mail 1899, 1900).

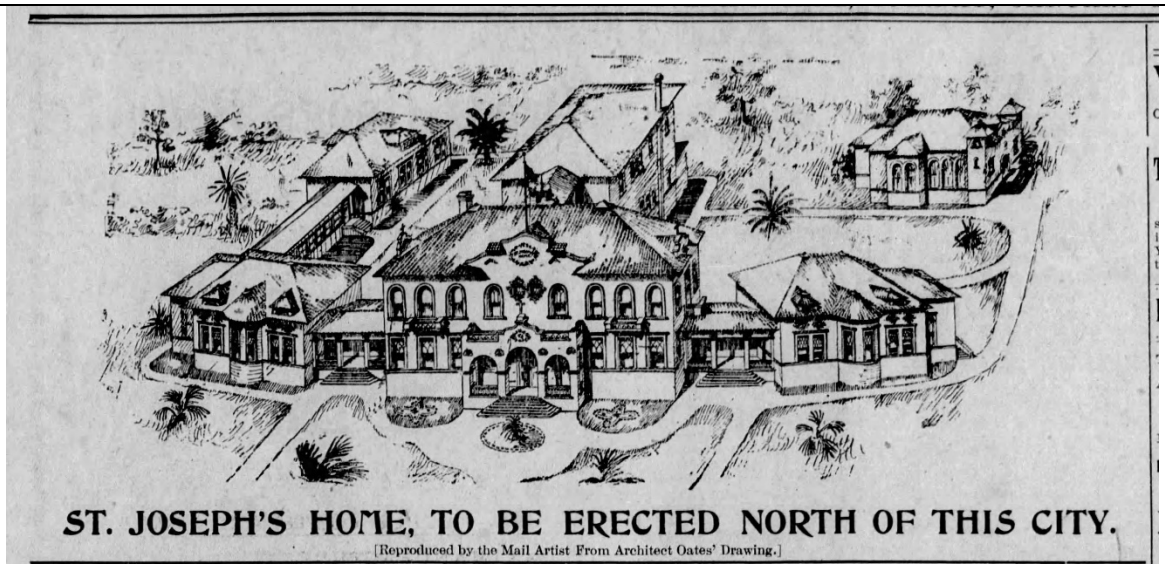


Figure 8. St. Joseph's Home drawing by W.W. Oates, 1899 (Stockton Evening Mail 1899).

In 1909, O'Connor himself entered the home when his health began to fail. He died at the facility just 2 years later in 1911. Before his death, O'Connor asked the Diocese's Archbishop if he would make sure that the staff of nuns could be compensated after his death. Rather than doing so, however, the entire board of commissioners resigned. The Dominican sisters took over the board and Sister Mary Carmelita became superintendent of the Old Men's Home and hospital (Shebl 1984).

Over the next few years, changes to the home and hospital were relatively small. In 1914, the hospital opened an accredited maternity department, conforming to a recent California Board code that the hospital have an official license. In 1916, a new building was added to the northwest corner of the campus, specifically dedicated as a medical facility, instead of a joint facility with the men's home. The new building was a two-story, Mission Revival style hospital, complementing the existing St. Joseph's Home and Hospital buildings. The new building was designed by architect, Walter King and constructed by an unknown contractor. In 1926, a third story was added to this building, increasing the capacity of the hospital overall to 125 beds. By 1927, the hospital consisted of a medical and surgical department, children's ward, obstetrical department, chapel, sisters' home (convent), the Old Men's Home, a laundry, and a dormitory for the nurses' school. Staff included 44 doctors, 10 Dominican sisters conducting hospital business, 9 head nurses, a night superintendent, 3 floor supervisors, a record nurse, a dietician, and an anesthetist. The men's home had 45 full-time patients (Figure 9) (Shebl 1984).



Figure 9. St. Joseph's Home and Hospital, 1899 Men's Home and wards at right, 1916 wing in background left, looking east, c. 1935 (Holt-Atherton Special Collections, University of the Pacific Library).

The hospital was accredited by the American College of Surgeons in 1928, and the same year, a new nurses' home and convent was under construction, now known as the McCloud Building. The nurses' school had grown to 40 nurses-in-training and 30 graduated nurses who staffed the hospital. In 1929, the hospital got its first X-ray machine. In 1938, the St. Joseph's Nursing School was closed due to funding issues. At the end of a long national economic depression, the school's expenses could no longer be afforded, and teachers for the program could not be found (Shebl 1984).

During World War II, national rationing efforts and a shortage of doctors, nurses, and medical staff nearly closed the hospital. The shipbuilding efforts at the Stockton Harbor and the agricultural processing in the City ensured that the City's business continued as usual, so the shortage of medical care was keenly felt. The hospital managed to stay open by relying again on unpaid Dominican nuns and nursing students from the San Joaquin Delta College's nursing program. After the war, the population boom throughout all of California in the 1940s and 1950s quickly overwhelmed St. Joseph's Hospital capacity. In 1952, St. Joseph's began a charity drive to pay for a new hospital wing to add the necessary beds to keep up with Stockton's growing population and meet state standards. The expansion was mostly completed in 1954; however, subsequent updates to this section were not finalized until 1957. As the hospital increased its operations, the Old Men's Home phased out operations in the 1950s. The Old Men's Home closed in 1959, admitting its final group as either St. Joseph's Hospital patients or sending them to other private care facilities (Davis 1984; Shebl 1984).

In 1960, the hospital again needed to expand. No state funding was available in the 1960s, so the new, $2.8 million wing was financed by donations, funding drives, and mortgaging the hospital property. The hospital's West Wing (E) was completed in 1962 (see Figure 3). In 1967, work began on a "coronary care unit," now called the East Wing (G), which was completed in 1970 (see Figure 3). St. Joseph's performed Stockton's first open heart surgery in the 1970s, and to date, has performed well over 13,000 open heart procedures (San Joaquin Magazine 2018; Shebl 1984).

Expansions continued with a $4.2 million, 4-story addition that was completed in fall 1970. The addition included 300 new hospital beds and a new maternity department, and expansions to the Emergency Department, medical library, and medical records department. The following year, the Emergency Department became the first 24-hour, 365-days-a-year emergency department in Stockton. In 1973, St. Joseph's officially changed its corporate name from St. Joseph's Home and Hospital to St. Joseph's Hospital of Stockton. The board of directors, which was entirely composed of Dominican sisters since 1912, was also enlarged during this period to include secular members and medical staff in order to continue the mission of community involvement, as well as open the hospital to new funding sources. Another addition, the $12 million Southeast Wing (I), was started in 1973 and completed in 1978, adding a radiology department, nuclear medicine lab, new surgery facilities, post-surgery recover ward, and an intensive care department (see Figure 3) (Shebl 1984).

St. Joseph's established two new programs in 1974: Behavioral Health Services and Outpatient Surgery. The behavioral health program grew rapidly during the 1980s, needing more space with future opportunity for growth of inpatient and outpatient services. In 1988, St. Joseph's Behavioral Health Center moved operations from the main campus to 2510 North California Street (across the street and north), the former site of Oak Park Hospital, which was acquired by St. Joseph's in 1980. The site was a perfect location for a separate Behavioral Health Center and opened with 35 beds and three units: Adult Intensive Treatment, Chemical Dependency, and Geropsychiatric services. Nearby space was leased adjacent to the hospital to house the Outpatient Services Program in 1991 (Dignity Health 2020; Shebl 1984).

During the 1980s, St. Joseph's Hospital of Stockton began a period of aggressive growth on both the main California Street campus and off-site facilities. In 1980, St. Joseph's acquired the Oak Park Hospital and converted it, with Phoenix recovery centers, to a chemical dependency clinic in 1984. In 1983. St. Joseph's acquired the Stockton Pathology Medical Group Inc. and established a clinical laboratory at six locations in north Stockton. A new facility on March Lane, called the St. Joseph's Immediate Care Clinic, was opened as an urgent care facility. By 1984, St. Joseph's Hospital was the largest medical/surgical hospital between Sacramento and Fresno (San Joaquin Magazine 2018; Shebl 1984).

In 1985, construction began on a large addition on the south part of the hospital, which opened in 1992 as an outpatient surgery wing, a dedicated cancer center, and a new main entrance and intake for the hospital. In 1994 the hospital again began an expansion program that led to the Women and Children's Pavilion (P) on the southern portion of the property (opened 1994) and a new, dedicated Heart Center (N) wing (opened 1997), moving cardiac services of the East Wing (G) (see Figure 3) (San Joaquin Magazine 2018).

With the 1990s, St. Joseph's Hospital began to use an array of new technology, tools, and procedures that included beating-heart open-heart surgery, rotoblation, and the use of carotid stents. In 1994, St. Joseph's opened a new 30,000-square-foot Heart & Vascular Institute that today houses its three cardiac catheterization labs, two open-heart surgery rooms, and a cardiac hybrid suite. From the year 2000 and beyond, St. Joseph's debuted complex aortic surgeries, stent grafting, endoscopic vein harvests, minimally invasive thoracic surgery, and valve surgery, as well as opening the County's first cardiac hybrid suite in 2016 (San Joaquin Magazine 2018).

3.3.2 Property 2: 534 East Maple Street (1968)

The contractors Frahm and Kelly Co. constructed the subject property in 1968 as a medical office for Doctors Roach, Evert, and Hildebrand. The 11,000-square-foot lot included a 2,975-square-foot building and 13 parking spaces at the estimated cost of $62,000. Robert N. Evert, Lawrence D. Hildebrand, and Francis X. Roach were listed in City Directories as the owners and occupants of the building from its construction in 1968 until 1972, all three doctors were urologists. Evert was president of the San Joaquin County Medical Society. After Roach's death in 1974, physician George R. Herron took his place in the office. By 1977, physician Ronald C. Allison replaced Herron. In 1986, the building remained listed under Evert and Hildebrand. In 1996, the building's shake shingle roof was replaced with a heavy shake roof and roof mounts were replaced in 2018 and 2019. The building's current occupant, Dr. Gentry Vu, MD, an obstetrics and gynecology doctor, has occupied the building since 2010. Archival research failed to indicate any additional information pertaining to this property (Stockton City Directories 1968-1986; Sacramento Bee 1973, 1974).

3.3.3 Property 3: 425 East Harding Way (1963)

Contractor Hoffman Construction constructed the subject property in 1963 as an office building for Upjohn National Leasing Company. The building cost approximately $75,000 to build. The building's construction permit was filed on July 23, 1963, and by October 29, 1963, the building's new owner, the National Cash Register Corporation (NCR), filed a sign permit. The NCR Corporation was a communications technology provider that began as a cash register company in the 1800s. By 1981, the building was vacant, and in 1982 the Metropolitan Company Realtors, Dr. Patricia Hatton and Dr. Thabet M. Karabala, occupied the building. In 1984, the office building was remodeled, but the details of this remodel are unknown. In 1987, the building was permitted to have a non-illuminated sign installed. In the early 2000s, San Joaquin County's assistance agency for eligible aged, blind, and disabled individuals, known as In Home Supportive Services, occupied the building. In 2016, the building's current owners, Cunningham Funeral Services, moved into the building after it being vacant from 2012 and 2015. Archival research failed to indicate any additional information pertaining to this property (Stockton City Directories 1965-1986; SFE 1967).

3.3.4 Property 4: 445 East Harding Way (circa 1975)

The subject property was constructed circa 1975. A larger building occupied the property from circa 1949 until circa 1971, leased by a business named Abbie's Beauty Bar. In 1966, a fire damaged the property, and a permit

was issued to repair the damage. In 1975, City Directories listed the property as vacant, and one year later the present building on the site appeared in historic aerials for the first time. In 1976, Valley Optical Fashion Center filed a permit to install an exterior wall sign labeled "Valley Optical Co." By 1979, the property was listed as vacant in City Directories. In 1980, the occupants were listed as Lang and Company Developers. In 1981, Home TV Service moved into the subject property and remained on the property until at least 1986. In the early 2000s, a florist and real estate agency split the building and remain the building's occupants (Stockton City Directories 1972-1986; Sacramento Bee 1970).

3.3.5 Property 5: 564 East Cleveland Street (1951)

The subject property was previously occupied by a series of single-family homes before the current building was constructed on the property in 1951. A 1951 permit for the construction of a concrete block church building indicates that the property was developed by the Stockton, California Congregation of Jehovah's Witnesses Inc. for use as a Jehovah's Witness Kingdom Hall. City Directories indicate the property was in continual use as Jehovah's Witness Kingdom Hall through at least 1982. Permits indicate that a new porch was constructed off the west elevation of the property in 1976. In 1979, a fire caused damage to the building and a permit indicates that it was repaired. Aerial images suggest that another addition was added to the north elevation of the building between 1970 and 1982. By 1996, the property was in use by St. Joseph's Hospital as an auxiliary classroom known as the Cleveland Classroom (Permit numbers BP51-00035, BP76-28140, BP76-37343; Stockton City Directories 1951-1986; Modesto Bee 1996; NETR 2020; UCSB 2020).

3.4 Associated Architects

3.4.1 William W. Oates (1860–1917): 1899 Hospital and Men's Home

William W. Oates was born in 1860 in Wisconsin. He briefly practiced architecture in the Dakota Territory, and then moved to California in 1891 where he took up residence in Stockton. Oates was one of three prominent architects in Stockton from 1890 to 1906, including Charles Beasley and George Rushforth. Oates' role also extended to public official, as he served as the plumbing inspector for the City of Stockton from 1893 to 1897. Oates in particular, specialized in promoting ventilation in public buildings such as schools and hospitals to promote better health. As an architect, Oates's work consisted mostly of commercial and public buildings. In 1897, Oates took on a young Walter King, first as draftsman, then in 1901 as partner to form the Stockton architecture firm Oates & King. King left the firm in 1905 due to legal issues resulting in jail time for Oates. Oates retired after this incident. A sample of Oates' known work is included below (The Evening Mail 1897, 1900, 1901; Oates 1896; Powell 2002; SDER 1905, 1915b; Weitze 1984).

- Fanning and Eldridge block, Stockton (1893)
- Independent Order of Odd Fellows Hall, Tracy (1897)
- Salz-Bours-Hubbard Block, Stockton (1896)
- Grammar School at North School campus, Stockton (1897)
- Residence of the Superintendent, State Asylum, Stockton (1898)
- Central Hotel, Merced (1899)
- St. Joseph's Home and Hospital, Stockton (1899)

- Preston School of Industry, Ione (1899)
- Stockton Mail (newspaper) Building, Stockton (1900)

3.4.2 Walter King (1875–1943): 1916 Hospital Wing

Walter King was born in Illinois sometime around 1875 then immigrated to the Bay Area of California in the mid-1890s. King came to Stockton in 1896 and worked as a draftsman, then as a partner, to W.W. Oates from 1897 to 1905. King continued to practice in the greater Stockton area without Oates, including designing one of the Carnegie Libraries in Lodi in 1910. King broadened his area of work to San Francisco and San Jose beginning in 1920, and he moved his practice to San Jose sometime around 1924. King specialized in commercial blocks, residences, and a few public buildings such as the County jail, library, grammar school, or the St. Joseph's Home and Hospital 1916 addition. A sample of King's known local Stockton work is included below (Architect and Engineer 1908; Gebhard 1984; PCAD 2020a):

- St. John's Episcopal Church: 316 North El Dorado Street, Stockton (1892)
- Lodi High School, Lodi (1906)
- G.F. Hudson residence and H.G. King residences, adjoining lots, Stockton (1906)
- John Brenner Livery Building, Stockton (1907)
- Clairborne Block building, Stockton (1907)
- R.C. Bach residence, Stockton (1907)
- Superintendent's House, Stockton State Hospital: 521 East Acacia Street, Stockton, CA (1908)
- Contagious disease building, San Joaquin General Hospital, French Camp (1908)
- YMCA Building, Stockton (1909)
- First United Presbyterian Church (demolished): 1407 I Street, Modesto (1910)
- Carnegie Library, Lodi (1910)
- Arlington Theater, Tracy (1910)
- C. Rodder residence, Stockton (1911)
- Ripon High School, Ripon (1911)
- Charles Pierce residence, Stockton (no date)
- Simon Building, Stockton (no date)
- Branch Building, Stockton (no date)
- W.F. Sibley residence, Stockton (no date)
- Episcopal Church, Stockton (no date)

3.4.3 Albert M. Cauldwell (1899–1948): McCloud Building

Though there was little archival data available about Albert M. Cauldwell, beyond that he was a San Francisco-based architect who specialized in apartments and dormitory buildings throughout the Bay Area. Cauldwell was officially inducted into the American Institute of Architects San Francisco Chapter in 1920 and began practicing architecture in the city thereafter. Cauldwell was drafted into the military in World War II and died shortly after returning to the

Bay Area. A sample of Cauldwell's known work in California is included below (Ancestry.com 2010; The Building Review 1921):

- Dormitory, Dominican College, San Rafael (1922)
- Two-story basement and attic frame residence, 70 East 40th Avenue, San Francisco (1923)
- Notre Dame College building on East Dolores Street, (1924)
- Nurses' dormitory, McCloud Building, St. Joseph's Home and Hospital, Stockton (1928)
- Studio apartment buildings on Kearny Street, San Francisco (1929)

3.4.4 Alastair Simpson and Associates (1953–1990): 1968 addition

Alastair Simpson (1910–1992) was a born in California and received his architecture degree from University of California Berkeley in 1934. After graduating, he worked for Franklin and Kump, Architects, in Fresno, California, from 1937 to 1941. After working as a draftsman, Simpson moved into a managerial role as Office Manager for Kump and Falk, Architects also in Fresno, from 1941 to 1945. Late in 1945, Simpson partnered with another architect, Charles Franklin, to form their own firm Franklin and Simpson, Architects. They operated under this name until 1953 when Franklin passed away from complications related to amyotrophic lateral sclerosis. Simpson carried on the firm as Alastair Simpson and Associates in Fresno from 1953 onward. Alastair Simpson and Associates seems to have specialized in master-planned campuses, including high schools, colleges, and hospitals, Alastair Simpson and Associates' known work is included below (Fresno Bee 1966; Selma Enterprise 1971; PCAD 2020b; Planning Resource Associates Inc. 2008):

- Fresno Photoengraving, Fresno (1946)
- Lemore High School, Lemore (1956)
- Gottschalk's building, Fulton Mall, Fresno (1960-1962)
- Sierra High School, Fresno County (1958)
- Fresno Community Hospital, Fresno (1959)
- Fresno County Jail, Fresno (1960)
- Fresno Community Hospital, Psychiatric Pavilion, Fresno (1961)
- Wing, Fresno Community Hospital, Fresno (1963)
- Theta Chi House, Fresno State College, Fresno (1963)
- Addition, Saint Joseph's Hospital, Stockton (1963)
- Bank of California, Fresno Branch (1964)
- Municipal parking garage, Fulton Mall, Fresno (1964)
- Wing, Sierra Community Hospital, Fresno (1965)
- Lodi Memorial Hospital, Lodi (1966)
- State Center Junior College District, Fresno Community Colleges master plans, Fresno (1966–1974)
- Addition, Bullard High School, Fresno (1968)

3.5 Associated Architectural Styles

The subject properties contain building constructed in the Mission Revival, Mid-Century Modern, and Spanish Colonial Revival architectural styles. Contexts for these architectural styles are presented in the section below.

3.5.1 Mission Revival (1890–1915)

The California Mission Revival style blends architectural styles of the Mediterranean, Italian, and Spanish traditions with that of the California Missions, established in the eighteenth century in Alta California by Spanish missionaries and the military. The Mission Revival style borrows directly from these traditional religious forms. The style's popularity grew in the early twentieth century in the United States: Southern California, Nevada, New Mexico, and Arizona (McAlester 2013; Gebhard 1985).

Key character-defining features of the Mission Revival style include the following:

- smooth stuccoed exterior cladding, usually painted white to mimic lime coating on adobe
- arched openings, generally with the surface of the building flush with the arch
- low-pitched, red clay tile roofs
- flat roof with distinctive shaped, Mission-like parapet
- scalloped parapet gable ends
- quatrefoil-shaped, or ornamental windows located in parapet gable ends
- pairs of Bell Towers, often fitted with hipped tile roofs
- occasional use of domes

3.5.2 Spanish Colonial Revival (1915–Present)

The Spanish Colonial Revival style has a rich history and popularity in California. The history of the style began with architectural forms originating in Spain that were carried to California during the Spanish Period. The Moors had a truly significant impact on the architectural development and heritage of Spain, which is clearly evident in many Spanish cities like Seville. The Moors brought with them a rich Muslim tradition that was based on the Islamic patterns of architectural development seen throughout the Middle East (NGS 2017). The combination of the Spanish and Moorish influence became known as the Hispano-Moorish (also referred to as Hispano-Moresque) architectural style. The height of Hispano-Moorish architecture in the Iberian Peninsula was from the eighth century to the fifteenth century and there was a significant revival during the nineteenth and early twentieth centuries throughout Europe and the Americas (Curl 2006).

During the Spanish Colonial period in the late 1400s, the architectural traditions known as the Hispano Moorish style were brought to the Americas. The convergence of Christian and Islamic traditions seen in America is most often referred to as Mudèjar. The convergence of religious and architectural traditions during the Spanish Colonial period set the stage for the Spanish Colonial Revival architectural movement that gained great popularity in California following its formal debut at the San Diego Fair in 1915. Californian Architects Bertram G. Goodhue and Carleton M Windslow helped to popularize the style well into the 1920s and 1930s, by which time the style was represented in many coastal cities throughout California. The popularity of the style persisted well into the second

half of the twentieth century, spurring new offshoot styles such as the Monterey Revival and even the California Ranch House. During the 1970s and the 1980s, the style was frequently employed for commercial architecture including shopping malls and retail centers (Khalidi n.d.; Gebhard 1985: 573–4).

The most significant character-defining features of the Spanish Colonial Revival style include the following:

- low pitched roofs with clay tiles
- stucco walls
- simple rectangular or L-shaped plans
- asymmetrical façades
- arched entryways
- irregular, recessed fenestration
- elaborately carved wood entry doors
- wrought-iron balconies
- arcaded walkways
- commercial buildings are organized in vertical bands featuring deep, recessed windows

3.5.3 Mid-Century Modern (1945–1965)

Following World War II, the United States focused on progress and modernity, which prompted bold architectural movements such as Mid-Century Modern. In addition to a focus on new construction techniques pioneered by practitioners of the style, Mid-Century Modern style aesthetics focused on the contemporary, cutting-edge materials that were being developed and mass-produced during the period.

In Northern California, the Mid-Century Modern movement was characterized by simplistic and clear uses of materials and structural components, open interior planning, and large expanses of glass. Mid-Century Modern in Northern California was influenced by the International Style and the Second Bay Tradition while also incorporating a more relaxed style of architecture which reflected post–World War II attitudes. The cost-effective nature of the style and the ability to mass-produce Mid-Century Modern building materials like concrete, wood, steel, and glass made it the perfect style for cities growing at a rapid pace following the end of World War II (SFPD 2010).

Characteristics of the Mid-Century Modern style include the following:

- cantilevered overhangs
- flat, shed or low-pitched gable roof forms
- vaulted roofs and overhangs
- articulated primary facades
- stucco, wood (often vertical), or corrugated siding
- stacked Roman brick or stone often used as accent material
- expressed post and beam construction
- strong right angles and simple cubic forms
- projecting vertical elements

- large steel- or wood-framed windows
- canted windows
- painted finish is often stained, earth tone, or brightly colored
- projecting boxes that frame the upper stories
- atrium or courtyard entryways
- overhanging trellises, sunshades, and pergolas

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4 Field Survey

4.1 Methods

Dudek Architectural Historians Fallin Steffen, MPS, and Sarah Corder, MFA, conducted an intensive level survey of the Built Environment Study Area on March 6, 2020. A second site visit was conducted by Fallin Steffen on August 3, 2021. The survey entailed walking the exteriors of each property and documenting the buildings on each site with detailed notes and photographs, specifically noting character-defining features, spatial relationships, observed alterations, and examining any historic landscape features on the property. Dudek documented the fieldwork using field notes, digital photography, close-scale field maps, and aerial photographs. Photographs of the subject property were taken with a digital camera. All field notes, photographs, and records related to the current study are on file at Dudek's Sacramento, California, office.

4.2 Results

During the course of the survey, Dudek staff identified and recorded the buildings located at 1638 North California Street, 1800 North California Street, 534 East Maple Street, 425 East Harding Way, 445 East Harding Way, and 564 East Cleveland Street. The Significance Evaluation (Section 5) provides a detailed physical description of each property and significance evaluation under all applicable national, state, and local designation criteria. A full Department of Parks and Recreation Series 523 form set (DPR forms) is located in Appendix C.

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5 Significance Evaluation

In order to assess the historical significance and integrity of the buildings identified within the Built Environment API, each property was recorded and evaluated in consideration of NRHP, CRHR, and City of Stockton designation criteria and integrity requirements. A physical description of each property and its development history is provided below. The complete DPR form set for each property is located in Appendix C.

The six parcels that comprise the Built Environment API have been assigned identification numbers that correspond to their location on Figure 3, Buildings and Structures in the Built Environment Area of Potential Impacts. Table 6 summarizes the assigned property number, building name, associated addresses, APNs, and date of construction.

Table 6. Properties Located in the Area of Potential Impacts

Property Number	Building Name/Address	APN	Date(s) of Construction
1	*St. Joseph's Medical Center Complex* • 1638 North California Street • 1800 North California Street & 542 McCloud Avenue	 127-190-32 127-180-44	1899–2009
2	534 East Maple Street	127-190-30	1968
3	425 East Harding Way	127-150-39	1963
4	445 East Harding Way	127-150-51	C.1975
5	564 East Cleveland Street	127-164-06	1951

5.1 Property 1: St. Joseph's Medical Center Complex (127-180-44 and 127-190-32)

5.1.1 Property Description

The St. Joseph's Medical Center Complex (Figure 10) is comprised of a large hospital building containing numerous contiguous wings flanked by a number of stand-alone buildings and landscaped spaces (Figure 3). Additionally, the complex includes a freestanding building, the McCloud building, which is sited at its own address, 542 McCloud Avenue but shares a parcel with 1800 North California Street. The complex was gradually developed over the course of 121 years and displays a wide range of architectural styles and materials. The complex occupies the block bound by McCloud Avenue to North California Street, East Maple Street and Cemetery Lane, as well as also western half of the block immediately south of East Maple Street. The description of the various wings of the complex below is organized to correspond to the chronological development of the St. Joseph's Medical Center presented in Figure 3.



Figure 10. The St. Joseph's Medical Center from across California Street, view looking North (IMG_9821).

Main Hospital Wing (A) (1916)

The Main Hospital Wing (A) (Figure 11) is a three-story Mission Revival-style building constructed in 1916 as an auxiliary wing to the 1899 St Joseph's Home (now demolished). The original T-shaped area of the building has been expanded with a two-story addition on the north elevation (1917) and a one-story addition on the west elevation (c.1949-57) (Figure 12). The exterior of the building has been stuccoed and painted a light beige color, and the mansard parapet roof is clad in red barrel tiles. The foundation of the building is fully obscured by abutting asphalt and landscaping.

The primary elevation faces south towards the center of the complex and features a distinctive Mission-style roof parapet with a square multi lite window at the center (Figure 13). Below, a similar shaped parapet sits above the arched bays of the entrance portico containing the original oak entry door, side panels, and oak-framed transom. The portico floor and the eight steps leading from the courtyard between the Main Hospital Wing (A), the Administrative Wing (H) and the Cafeteria (J) up to the portico feature terrazzo flooring (Figures 14 and 15).

Fenestration across the original section of the building is generally consistent. On the first and second stories, segmented window openings fitted with undersized rectangular, metal casement windows have required the arched sections above the window to be infilled. On the third story, rectangular window openings are fitted with either single, double, or tripartite metal casement windows and feature a filled-in transom above each window (Figure 16). On the eastern side of the building where it meets the North Wing (D), several original square windows remain (Figure 17).

The northern addition features segmented metal casement windows, which have glass fitted in the arched section of the windows on the first story. On the second story, large square multi-lite windows overlook the parking lot (See Figure 12 and 16). The west addition features multi-lite casement windows and a ribbon of metal casement windows with wide transoms that wrap around the southwestern corner of the building (See Figure 11).



Figure 11. Main Hospital Wing (A): Partial west and south (main) elevations, view looking northeast (DSCN5183)



Figure 12. Main Hospital Wing (A): Partial north (rear) elevation showing the 1917 Kitchen and Surgery addition at left and the c.1949–1957 addition at right, view looking southeast (DSCN5207)



Figure 13. Main Hospital Wing (A): West and south (main) elevations, view looking northeast (IMG_9994).



Figure 14. Main Hospital Wing (A): Courtyard between south (main) and west elevations. Stairs to the Administrative Wing (H) at right, view looking northeast (IMG_0001).



Figure 15. Main Hospital Wing (A): Primary entrance door located on south (main) elevation showing the modified section of the portico at left, view looking North (IMG_0015).



Figure 16. Main Hospital Wing (A): Partial north (rear) elevation showing 1917 addition at right and an original wing projecting from the building at left, view looking South (DSCN5217).



Figure 17. Main Hospital Wing (A): Partial view of west elevation (right) showing the connection to the North Wing (D) (left), view looking southwest (DSCN5285).

Identified Alterations to Main Hospital Wing (A)

- North Addition (1917)
- Third story added to the building (1926)
- West addition (1939)
- Wood casement windows replaced with tripartite metal casement windows across the whole wing
- Original segmented (first and second stories) and rectilinear (third story) transoms infilled
- Metal emergency exit stairwells added to the north elevation
- Two outer-most bays of the entrance portico infilled and fitted with windows.
- Original decorative belfries flanking the central parapet of the entry portico removed
- "St. Joseph's Hospital" signage and statue of St. Joseph installed in small arched opening at the center of the entry portico parapet
- Red tile caps removed from pillars flanking the third-story parapet

Heating Plant Generator Building (B) (1917)

The Heating Plant Generator Building (B) is a modest, rectilinear masonry building located on the northeastern section of the medical campus (Figure 18) which appears to date to 1917, although it shows signs of major alterations over time. The building features a parapet roof, replaced stucco siding, and multiple bays that have been modified and/or infilled. Fenestration is limited to a roll-up utility door and two metal doors on the western elevation.



Figure 18. Heating Plant Generator Building (B): view looking northwest (DSCN5278).

Identified Alterations to Heating Plant Generator Building (B)

- Exterior stuccoed
- Addition of new roll-up doors and metal entry doors
- Infill of existing openings

McCloud Building (C) (1928)

The Spanish Revival-style McCloud Building (C) was constructed on the St. Joseph's medical campus in 1928 to function as a convent for the nuns who manage the hospital, as well as a residence for pupils of the Nursing school (Figure 19). While the building is not connected physically to the St. Joseph's Medical Center, the McCloud Building (C) was developed in conjunction with the St. Joseph's Medical Complex and shares a corresponding history. The McCloud Building (C) is located on the same parcel as the St. Joseph's Medical Center; however, the building is identified with an independent address from the remainder of the medical complex, 542 McCloud Avenue. The U-shaped building is three stories tall and faces north onto McCloud Avenue and is completely disconnected from the remaining hospital buildings. The building was originally designed in the Spanish Colonial Revival style; however, an intensive renovation that resulted in the removal of the original roof and addition of a third story has since removed almost all major elements of the original design. It features a parapet roof topped by inconspicuous metal coping above the stuccoed elevations of the building. The building features a partial basement level, and the foundation type is unknown.

The primary entrance to the building is located beneath a recessed entry bay on the north (main) elevation which is framed by a pair of arched pilasters leading to a replaced wood paneled entry door (Figure 20). The west and south (rear) elevations contain replaced entry doors, all of which are protected by covered walkways (Figure 21). The original fenestration has been replaced with aluminum-framed casement windows across the whole of the building, ranging from narrow rectangular single-lite windows to wide, tripartite examples. The windows do not feature any kind of window surround or trim, apart from a pair of windows located on the left-hand side of the north elevation. The ground-level window here features a decorative raised surround supported by two corbels (Figure 22).

Landscaping surrounding the building consists of modest shrubs and trees along the north (main) and west elevations. The south (rear) elevation faces out onto a sizable, landscaped area called "Schroder Park" that is encompassed by tall metal fence (Figure 23). Schroder Park was originally established in this area behind the McCloud Building (C), c.1990, with the modern appearance of the park including hardscaping, an artistic awning structure, benches, tables, and landscaping installed between 2015 and 2016.

There are also several support buildings located to the east of the McCloud Building including a concrete masonry unit (CMU) laundry building with a flat roof (Figure 24), a small portable building with wood panel siding, and a metal shipping container.



Figure 19. McCloud Building (C): North (main) elevation, view looking South (DSCN5225).



Figure 20. McCloud Building (C): Primary entry porch detail on north (main) elevation, view looking South (DSCN5240).



Figure 21. McCloud Building (C): West and south (rear) elevations showing two alternate entry areas protected by covered walkways, view looking northeast (DSCN5245).



Figure 22. McCloud Building (C): East and north (main) elevation showing only pair of windows featuring a raised surround, view looking southwest (DSCN5232).



Figure 23. McCloud Building (C): South (rear) elevation showing a portion of Schroder Park, view looking northeast (DSCN5248).



Figure 24. McCloud Building (C): Laundry support building, view looking southeast (DSCN9221).

Identified Alterations to McCloud Building (C)

- Third story addition replacing the original pitched, tile-clad roof with a flat parapet roof
- Replacement of all original windows
- Reconfiguration of window openings and locations and removal of the majority of original window surrounds
- Replacement of original doors
- Replaced stucco siding
- Addition of elevator shaft on south (rear) elevation
- Overall, removal of all character-defining features related to the original design

North Wing (D) (1957)

The North Wing (D) is a Mid-Century Modern-style addition with one-story and four-story components that was completed in 1957 (Figure 25). It is presently connected with the Main Hospital Wing (A) to the north, the Cafeteria (J) to the west and the West Wing (E) and the East Wing (G) to the south. The building is constructed from concrete masonry units with a flat roof featuring wide eaves on the one-story section, and a parapet roof on the four-story section. The east and west elevations of the four-story section feature cantilevered overhangs that delineate each story, while the one-story area contains a wide loading dock on the north elevation. Fenestration across the North Wing (D) is varied and includes fixed windows, tripartite casement windows, stacked hopper windows, horizontal pivot windows, half-lite and solid metal doors (Figure 26).



Figure 25. North Wing (D): North loading dock elevation of one-story section with east-facing, four-story elevation at center-right, view looking southwest (DSCN5287).



Figure 26. North Wing (D): East and north (main) elevation showing only pair of windows featuring a raised surround, view looking southwest (IMG_0085).

Identified Alterations to North Wing (D)

- Fourth story added to the multistory section
- Addition to the east elevation
- Oxygen enclosure added to south elevation
- Replaced windows

West Wing (E) (1962)

The Mid-Century Modern-style West Wing (E) (Figure 27) was added onto the existing hospital as part of the major hospital expansion completed in 1962 and is presently connected with the North Wing (D) and Administrative Wing (H) to the north, the East Wing (G) to the east, and the South Wing (F) and Cancer Center (M) to the south.

The four-story wing is constructed of concrete and features a predominately flat, multi-level roof with several sections of parapet-type roof obscuring the flat roof behind in those sections. The prominent west (main) elevation faces North California Street with a protruding central bay clad in stone tile and affixed with the original 1962 cross and "St. Joseph's Medical Center" signage. The central bay is flanked by columns of decorative breezeway block and a wide span of flat, concrete wall above each of the two entries to the first story main entrance portico (Figure 28). Inside the shaded portico, a dual, automatic sliding door provides access to the interior of the building.

The north and south elevations of the West Wing (E) feature flat, cantilevered overhangs that delineate each level of the building. Fenestration across the building has been replaced and the original openings appear to have been infilled to accommodate the new metal-frame, single-lite, paired single-lite with transom, or dual-lite with transom windows.



Figure 27. West Wing (E): West (main) and south elevations, view looking northeast (IMG_9916).



Figure 28. West Wing (E): Entry Portico beneath west (main) elevation, view looking northwest (IMG_9928).

Identified Alterations to West Wing (E)

- Replaced windows
- Replaced entry door with modern automatic sliding doors

South Wing (F) (1962)

The two-story South Wing (F) was completed during the 1962 expansion period and is now fully surrounded by the West Wing (E) to the north, the Cancer Center (M) to the west and south, and the Southeast Wing (I) to the east (Figure 29). As such, the only visible area of the South Wing (F) is the west elevation where the second story slightly projects above the Cancer Center (M). It appears to share the same Mid-Century Modern stylings featured on the West Wing (E) including flat, cantilevered overhangs above the window and broad, flat, unadorned surfaces with metal-frame windows.



Figure 29. South Wing (F): West elevation projecting above Cancer Center (M), view looking east (IMG_9902).

Identified Alterations to South Wing (F)

- Replaced windows
- Obscured by construction of the Canter Center (M) in 1988

East Wing (G) (1970)

The four-story East Wing (G) was completed in 1970 and is situated between North Wing (D) to the north, West Wing (E) to the west, and Southeast Wing (I) to the south (Figure 30). The East Wing (G) was designed in the Mid-Century Modern style and overall appears to closely resemble the West and South Wings. The resemblances include concrete construction, delineating cantilevered overhangs between levels, a broad short end (in this case containing a set of stairs and multiple balconies) and corresponding fenestration (Figure 31).



Figure 30. East Wing (G): South and east elevations, view looking northwest (DCSN5120).



Figure 31. East Wing (G): North elevation, view looking southwest (DCSN5269).

Identified Alterations to East Wing (G)

- South elevation obscured by construction of the Southeast Wing (I) in 1978

Administrative Wing (H) (1972)

The Administrative Wing (H) was completed in 1972 during a busy period of hospital expansion (Figure 32). The functional, utilitarian-style building features muted New Formalist stylings including heavy brick veneer, over-built roof eaves and heavy, protruding roof-support beams. It meets the West Wing (E) to the south and the Cafeteria (J) on the west and faces the entrance portico of the Main Hospital Wing (A). The Administrative Wing (H) comprised from a combination of pigmented, flat, concrete masonry units and formed concrete. Fenestration is limited to metal sash fixed, double-lite windows with transoms, and full-lite single shop doors.



Figure 32. Administrative Wing (H): North and partial west (main) elevations, view looking southeast (IMG_9972).

Identified Alterations to Administrative Wing (H)

- Extension of roofline to accommodate Cafeteria (J) (1982)

Southeast Wing (I) (1978)

The Southeast Wing (I) is located on the eastern side of the complex between the East Wing (G) to the north and the Heart Center (N) to the south and was completed in 1978 (Figure 33). The utilitarian building presents with Post-modern flourishes such as an articulated, boxy massing clad in rough, scored stucco, and features both vertical and horizontal ribbons of windows fitted with dark tempered glass.



Figure 33. Southeast Wing (I): East (main) elevation facing Cemetery Lane, view looking west (IMG_0109).

Cafeteria (J) (1982)

The Cafeteria (J) is sandwiched between the Administrative Wing (H) to the west and the North Wing (D) to the east and was completed during the 1982 expansion period (Figure 34). It shares its north elevation with the Administrative Wing (H) and is demarcated by the north patio and the floor to ceiling front windows.



Figure 34. Cafeteria (J): North (main) elevation, view looking west (IMG_0038).

Outpatient Surgery (K) (1987)

The Outpatient Surgery (K) (Figure 35) was completed in 1987 and faces out onto North California Street. The utilitarian building featured muted Post Modern-style elements including a circular cut-out window, an articulated elevation, stucco siding, a complex roof structure, and integrated tiered landscaping.



Figure 35. Outpatient Surgery (K): West (main) elevation facing North California Avenue, view looking northeast (IMG_9846).

Hospital Main Entrance (L) (1987)

The Hospital Entrance (L) (Figure 36) was completed in 1987 and is situated strategically between multiple wings constructed between 1982 and 2009: Cancer Center (M) to the north, Outpatient Surgery (K) and the Pedestrian Corridor (O) to the south, and the Heart Center (N) to the east. The building is utilitarian in design but does exhibit some Post-Modern stylings. The building was developed in conjunction with the semi-circular patient drop off and pick-up drive facing East Maple Street completed in 1995; however, the addition of the Pedestrian Corridor (O) has largely obscured the stucco and concrete Main Entrance building. The building is accessed via an automatic, full-lite sliding glass door located on the south (Main) elevation and via a long, covered walkway from North California Street leading to another sliding glass door on the west elevation.



Figure 36. Hospital Main Entrance (L): South (main) elevation facing East Maple Street, view looking northwest (IMG_0054).

Cancer Center (M) (1988)

The Cancer Center (M) was completed in 1988 (Figure 37) and is Utilitarian in design. The one-story building faces out onto North California Avenue and features a scored stucco and concrete exterior. The limited square fixed and dual-lite fixed windows across the building are framed by flush stucco frames.



Figure 37. Cancer Center (M): West (main) elevation facing North California Street, view looking southeast (IMG_9887).

Heart Center (N) (1994–1995)

The Heart Center (N) is a utilitarian building is located on the corner of Cemetery Lane and East Maple Street and was completed between 1994 and 1995 (Figure 38). The L-shaped building was recently constructed and features a scored stucco finish, and minimal rectangular windows fitted with dark, tempered glass.



Figure 38. Heart Center (N): South and east (main) elevations, view looking northwest (DCSN5346).

Pedestrian Corridor (O) (2009)

The curvilinear Pedestrian Corridor is located at the south end of the St. Joseph's complex and was completed in 2009 (Figure 39). The elevated walkway connects the Outpatient Surgery (L), Heart Center (N) with the Women and Children's Pavilion (P) located on the south side of East Maple Street. The predominant materials include steel, stone tile, and blue tempered glass.



Figure 39. Pedestrian Corridor (O): East and south (main) elevations, view looking west (DCSN5340).

Women and Children's Pavilion (P) (2009)

The Women and Children's Pavilion (P) was completed in 2009 and it is the only complex building located on the block south of East Maple Street on a different parcel (Figure 40). As such, it features a different address from that associated with the remainder of the Complex, but remains connected to the overall Complex via the Pedestrian Corridor (O) that extend across East Maple Street. The recently constructed building featured a curved southwest corner and a second story connection to the Pedestrian Corridor (O). The predominant materials include steel, stone tile, stucco, and blue tempered glass.



Figure 40. Women and Children's Pavilion (P): North (main) elevation, view looking southwest (DCSN5340).

Generator Enclosure (Q) (2009)

The Generator Enclosure (Q) is located on the east edge of the Heart Center (N) parking lot and consists of a three-sided concrete masonry unit structure with no roof secured with a metal gate across the south side (Figure 41).



Figure 41. Generator Enclosure (Q): view looking North (DCSN5349).

5.1.2 NRHP Statement of Significance

The St. Joseph's Medical Center Complex does not meet any of the criteria for listing in the NRHP or CRHR, either individually or as part of an existing or potential historic district, based on the following significance evaluation.

Criterion A/1: That are associated with events that have made a significant contribution to the broad patterns of our history.

The St. Joseph's Medical Center was founded in 1899 as the St. Joseph's Home and Hospital, by a Catholic priest and staffed by nuns of the Dominican order. The hospital began as a complex dedicated to elder care for men, originally consisting of the main Men's Home building with hospital and cafeteria wings, and two side cottages. Prior to the establishment of St. Joseph's Home and Hospital, hospitals in Stockton consisted only of the State Asylum and the San Joaquin General Hospital, which had burned down in 1886 and began at a new location outside of Stockton in 1895. At the time of St. Joseph's founding in 1899, there was a demonstrable need for additional hospital beds in the City of Stockton. Pioneering then-new technology such as a sanitation department, ventilation systems, fireproof buildings, and dedicated surgery and maternity wards, St. Joseph's was exceptionally modern

when compared to the State Asylum, or even the relatively new San Joaquin General Hospital located outside Stockton in nearby French Camp. Though it was Stockton's first private hospital, St. Joseph's filled a vital role, as it was open to non-Catholics with its any-race, any-creed doctrine, essentially filling the City's need for a full-service medical center after San Joaquin General Hospital vacated the city.

St. Joseph's received additions to accommodate growth as early as 1900, adding annexes to the men's dormitories and hospital wings as needed throughout its lifespan. Additions to the property in the first few decades included additions in 1902, 1909, 1914, and 1916, and included gaining an accredited maternity department and nursing school. A nurse's dormitory was added in 1928, the last addition that did not significantly detract or demolish portions of the campus. These early additions expanded the 1899 hospital and Old Men's Home but did not significantly alter them or their original mission.

The original hospital, Old Men's Home, and hospital campus layout remained preserved until the 1950s, when population pressures prompted a series of expansion projects beginning in 1954, including the closure of the Men's Home in 1959 and demolition of the original 1899-1916 buildings. This resulted in the complete loss of the original hospital buildings designed by local Stockton architect W.W. Oates and a loss of association with the original hospital mission: the long-term end-of-life care of elderly men.

While the St. Joseph's Medical Center Complex can certainly be credited with having made a significant contribution to the City of Stockton for being the first private hospital in the City, the fact that nothing of the original 1899 hospital remains prevents the complex from conveying these important contributions through its physical features. The oldest remaining building on the campus is the 1916 hospital and surgery wing addition, designed by Walter King. The original setting of the building on a relatively open campus with landscaped lawns, fountains, and gardens and larger, local setting in suburban Stockton situated between single-family homes and the large open spaces of a nearby cemetery have been lost with the expansion of the hospital. In aerial photographs, the setting surrounding the hospital changed from single-family residences to large-scale commercial blocks and office parks by the late 1980s on North California Street. The decades of demolition and expansion beginning in the 1950s has remade St. Joseph's such that it would be unrecognizable to any person from the pre-1950 period. While the hospital had several additions prior to 1950, the original hospital and men's home buildings from 1899 were largely still intact until their demolition in 1959. Entire residential blocks were demolished and absorbed by the growth of the hospital campus to the south, and nearly all original green spaces for the elderly boarders at St. Joseph's were removed and built over by modern additions. Moreover, all 1899 buildings and many early twentieth century annexes and wings were demolished, leaving only the altered 1916 wing and the 1928 McCloud Building, which were not original to the hospital's design.

Despite the contributions St. Joseph's Medical Center Complex has made to Stockton's history, the hospital can no longer convey its historical association due to a complete loss of the original 1899-1900 hospital buildings and insufficient integrity of the later buildings up to 1928. For all of these reasons, St. Joseph's Medical Center Complex does not appear eligible under Criterion A of the NRHP or Criterion 1 of the CRHR.

Criterion B/2: That are associated with the lives of persons significant in our past.

To be found eligible under Criterion B/2 the property has to be directly tied to an important person and the place where that individual conducted or produced the work for which he or she is known. Archival research indicated that Father William O'Connor, a Catholic priest and church leader in Stockton, founded the St. Joseph Home and Hospital in 1899. Though O'Connor is responsible for convincing local leaders and the founder of Stockton to donate

land and money for Catholic schools, the hospital and a cemetery, these actions do not elevate O'Connor to the level of historically significant figures at the national, state, or local level. Archival research did not indicate any other previous property owners, medical professionals, leaseholders, or board members who were known to be historically significant figures at the national, state, or local level. As such, this property is not known to have any historical associations with people important to the nation's or state's past. Therefore, the St. Joseph's Medical Center Complex does not appear eligible for the NRHP under Criterion B or CRHR under Criterion 2.

Criterion C/3: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

The St. Joseph's Medical Center Complex is a multi-component hospital building containing numerous contiguous wings, and has been continuously added on to, partially demolished, and updated since it was first constructed in 1899. Today it displays as a medical complex with a wide range of architectural styles and materials. The hospital and men's home were originally designed as a Mediterranean Revival Style building with sprawling buildings, gardens, and a courtyard. All subsequent additions are, for the most part, modestly executed examples of popular architecture trends of the given wing's construction period. The next few additions were the 1916 Mission Revival Main Hospital Wing (A) and the separate, 1928 Spanish Colonial Revival McCloud Building. The 1950s and 1960s additions including the North Wing (D) (circa 1957), West Wing (E) (1962), South Wing (F) (1962), and East Wing (G) (1970), are all Mid-Century Modern-style buildings. The Administrative Wing (H) (1972) is a utilitarian building with restrained New Formalist details, and the Hospital Main Entrance (L) (1987), Cancer Center (M) (1988) Outpatient Surgery (K) wing (circa 1982) are all utilitarian buildings with Post-Modern details. Other connective buildings such as the Cafeteria (J) or non-street-facing wings such as the Heart Center (N) (circa 1993-1998), Generator Enclosure (Q) (circa 2009), or Heating Plant Generator Building (B) (1917) lack cohesive, identifiable styles or have been altered beyond recognition. None of the hospital wings stand out as particularly representative or particularly classic expressions of any of the accounted styles.

Notwithstanding the multitude of additions and wings, an important observance to make is that St. Joseph's Medical Center Complex is a large and predominately connected medical complex with a few small, separate outbuildings, such as the 1928 McCloud building and the 1917 heating plant. The medical center has no distinctive characteristics of any one type, period or method of construction. NRHP Criterion C allows an eligible building to represent multiple architectural styles or methods of construction only if it illustrates the transition of architectural design and the transition itself is considered an important architectural development. The combination of styles and periods of construction leave St. Joseph's Medical Center Complex unable to communicate a distinctive architectural type, style, or period. Moreover, all of the original 1899 Mediterranean Revival style hospital and Men's Home buildings have been demolished. Furthermore, all landscape elements and site design features from the original period of construction are also missing. The progressive additions to the hospital, the majority of which took place after 1950, rendered the medical campus unrecognizable to its original construction period. The separate buildings including the McCloud Building (C), Heating Plant Generator Building (B) have all be altered beyond recognition by numerous exterior material changes, or in the case of the McCloud Building (C), altered by both material changes and additions. Therefore, these building are also not good examples of a particular style, construction type, or period.

The original St. Joseph's Medical Center Complex buildings were the design of locally important architect W.W. Oates, who might be considered a master architect for being a prolific designer and responsible for the designs of several important commercial block, civic, and public use buildings throughout Stockton in the late nineteenth and

early twentieth century. Few examples of Oates' work remain, however his designs at the St. Joseph's Medical Center Complex were demolished in the 1950s and 1960s to make way for the multitude of wings on the southern portion of the hospital campus. In addition to Oates, Walter King, another local important architect to Stockton, might be considered a master architect for being a prolific designer and responsible several important commercial blocks, schools, and public use buildings throughout Stockton. However, King's design for the 1916 Main Hospital Wing (A) has been altered beyond recognition by the addition of a third floor, alteration to the original roof design, removal of the prominent Mission-style parapet in places, removal of the "bell tower" style decorations, and making several modernist, 1- and 2-story additions to the building. In short, despite King's importance as a designer and architect, nearly all components of his original design have been lost. Other architects associated with St. Joseph's Medical Center Complex include Albert M. Cauldwell who designed the McCloud Building (C) in 1928 and Alastair Simpson and Associates who designed the 1970 East Wing (G). Archival research found that neither rise to the level of "master architect."

According to NRHP Bulletin 15: "High artistic values may be expressed in many ways, including areas as diverse as community design or planning, engineering, and sculpture. A property is eligible for its high artistic values if it so fully articulates a particular concept of design that it expresses an aesthetic ideal. (Andrus and Shrimpton 2002:20)." The original aesthetic was that of a Mediterranean Revival hospital and convalescent home, which turned inward towards a central lawn and garden. This Mediterranean Revival design was highly ornate for a hospital, which would have been an excellent expression of the Mediterranean Revival design. However, subsequent additions and demolitions render the hospital complex unable to express this particular ideal. The earliest additions, including the 1916 Main Hospital Wing (A), emulated the original style, but all wing additions in the 1950s forward, demolitions and alterations to these buildings diluted the original artistic intent. All original 1899 buildings have been demolished and their design aesthetic is no longer represented at the hospital complex. Later additions are also not good expressions of original artistic intent. For example, the 1928 McCloud Building (C) and the 1916 Main Hospital Wing (A) have had decorative elements removed, such as decorative parapets, bells towers, exterior decoration, original doors, entry spaces, and windows. Other wings did not rise to the level of having artistic value as they did not express particular aesthetic ideals or design concepts more fully than other properties of this type.

The St. Joseph's Medical Center Complex is not representative of a significant and distinguishable entity whose components may lack individual distinction. While there are no extant, comparable hospital properties in Stockton from 1899, the St. Joseph's Medical Center Complex is itself, is not an intact or representative example of a turn-of-the-century hospital or elder care facility. Other comparable examples of hospitals in Stockton, such as Dameron Hospital, have similar integrity of design issue, diminished by numerous modern additions that insensitively add on to, conceal, or demolish portions of the original hospital building. Therefore, there is no possibility of St. Joseph's Medical Center Complex belonging to a district of historical hospitals in Stockton or the greater region.

Finally, in addition to deficient architectural merit, the St. Joseph's Medical Center Complex lacks many of the most basic components of integrity to convey significance under Criterion C. The numerous and incompatible alterations to the original 1899 design, destruction of the original setting, and loss of original materials and workmanship leave St. Joseph's Medical Center Complex without the requisite level of integrity to convey significance. For these reasons, the St. Joseph's Medical Center Complex does not appear eligible for listing in the NRHP under Criterion C or CRHR under Criterion 3.

Criterion D/4: That have yielded, or may be likely to yield, information important in prehistory or history

The St. Joseph's Medical Center Complex is not significant under Criterion D of the NRHP or Criterion 4 of the CRHR as a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies.

5.1.3 City of Stockton Statement of Significance

Landmarks

The St. Joseph's Medical Center Complex does not appear to meet any of the criteria for listing as a City of Stockton Landmark, based on the following significance evaluation.

1. *Archaeological Interest. Its potential for yielding significant information of archaeological interest;*

As stated above in NRHP/CRHR Criterion D/4, the St. Joseph's Medical Center Complex is not a source, or likely source, of important archaeological information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, the St. Joseph's Medical Center Complex is not of archaeological interest and does not appear eligible under City of Stockton Landmark Criterion 1.

2. *Architectural Craftsmanship. Its embodiment of elements demonstrating outstanding attention to architectural and/or engineering craftsmanship, design, detail, or materials;*

As stated above in NRHP/CRHR Criterion C/3 and below in the integrity discussion, the St. Joseph's Medical Center Complex was originally designed as a Mediterranean Revival Hospital, but has since had several alterations and additions, and does not embody any single element demonstrating outstanding attention to architectural or engineering detail. Moreover, the demolition of original buildings and architectural details as well as the introduction of modern materials has significantly compromised and in some situations destroyed the overall architectural craftsmanship of the medical complex and no longer conveys significance. Therefore, the St. Joseph's Medical Center Complex is not of an outstanding example of architectural craftsmanship, design, details, or materials and does not appear eligible under City of Stockton Landmark Criterion 2.

3. *Architectural Style. Its exemplification of a particular architectural style or way of life important to the City, the State, or the Nation;*

As stated above in NRHP/CRHR Criterion C/3, the St. Joseph's Medical Center Complex is not exemplary or demonstrative of any singular, coherent architectural style. Multiple, highly altered representations of popular architectural styles are present at St. Joseph's Medical Center Complex, but no particular architectural style is represented. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Landmark Criterion 3.

4. *Architectural Type. Its exemplification of the best remaining architectural type in the City;*

The St. Joseph's Medical Center Complex is a heavily altered combination of many architectural styles and does not particularly represent any of the styles well. Better representations of all styles are available elsewhere in the City

of Stockton. As such, the St. Joseph's Medical Center Complex cannot be considered the best remaining architectural type in the city and does not appear eligible under City of Stockton Landmark Criterion 4.

5. Historic Event. Its location as a site of a significant historic event;

As stated above in NRHP/CRHR Criterion A/1, the St. Joseph's Medical Center Complex is not associated with a significant historic event, and its founding is not a significant historic event. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 5.

6. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

As stated above in NRHP/CRHR Criterion A/1, the St. Joseph's Medical Center Complex's historical associations are notable, but the hospital can no longer convey its historical association due to a complete loss of the original 1899-1900 hospital buildings and insufficient integrity of the later buildings up to 1928. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 6.

7. Visual Feature. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

The St. Joseph's Medical Center Complex ranges between two- and four-story buildings and does rise above the surrounding buildings in its northern Stockton neighborhood. However, the building does not have a unique location, and looks no different from other modest office parks or other buildings of this scale in Stockton. While the hospital complex is likely a familiar visual feature for some, it has continuously grown and changed in appearance, and there is no fixed visual feature that can be specifically called out within the complex. Therefore, subject property does not appear eligible under City of Stockton Landmark Criterion 7.

8. Relationship to Another Landmark. Its relationship to any other landmark, if its preservation is essential to the integrity of that landmark;

The St. Joseph's Medical Center Complex is not related to another City of Stockton Landmark, nor is its preservation essential to any Landmark. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 8.

9. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation;

As stated above in NRHP/CRHR Criterion B/2, the St. Joseph's Medical Center Complex is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Criterion 9.

10. Work of a Significant Person. Its identification as the creation, design, or work of a person(s) whose effort has significantly influenced the heritage of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion C/3, the St. Joseph's Medical Center Complex is associated with two potential architects who have made substantial contributions to architecture in Stockton: W. W. Oates and Walter King. However, due to the demolition of all original 1899 buildings designed by Oates and substantial alterations

to the 1916 Main Hospital Wing (A) designed by King, the St. Joseph's Medical Center Complex buildings can no longer be identifiable as the work of either architect. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 10.

11. Natural Environment. Its integrity as a natural environment that strongly contributes to the well-being of the people of the City, the State, or the Nation.

The setting of the St. Joseph's Medical Center Complex is a fully developed urban lot with a small lawn and garden area in the northeast portion of the hospital parcel. This area is gated off for private hospital use and is not available for the well-being of the people of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 11.

Structure of Merit

The City of Stockton Cultural Heritage Board may consider buildings that do not rise to the level of significance needed to be a landmark as a structure of merit if it determines that it is deserving of official recognition as having historic, architectural, archaeological, ecological, cultural, or aesthetic significance. However, the St. Joseph's Medical Center Complex also does not appear to meet any of the criteria for listing as a City of Stockton Structure of Merit, based on the following significance evaluation:

1. Archaeological Interest. Its potential of yielding significant information of archaeological interest;

As stated above in NRHP/CRHR Criterion D/4 and Landmark Criterion 1, the St. Joseph's Medical Center Complex is not a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Structure of Merit Criterion 1.

2. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

As stated above in Landmark Criterion 6, the St. Joseph's Medical Center Complex is not associated with the City's heritage and does not possess character, interest or value as part of the City's heritage. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Structure of Merit Criterion 2.

3. Visual Feature of the City. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

As stated above in Landmark Criterion 7, the: St. Joseph's Medical Center Complex is relatively tall compared with surrounding buildings, but the sprawling nature of the property, restrained expression of architectural style, and lack of any visually interesting features fail to set it apart as a potential visual feature or attraction. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Structure of Merit Criterion 3.

4. Way of Life. Its exemplification of a particular way of life important to the City, the State, or the Nation;

The St. Joseph's Medical Center Complex is a typical private religious hospital and does not represent or exemplify a particular life way important or otherwise unique to the City, State, or Nation. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Structure of Merit Criterion 4.

5. Historic Event. Its location as a site of a significant historic event regardless of its current configuration, development, or use;

As stated above in NRHP/CRHR Criterion A/1 and Landmark Criterion 5, the St. Joseph's Medical Center Complex is not associated with any significant historical event. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Structure of Merit Criterion 5.

6. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion B/2 and Landmark Criterion 9, the St. Joseph's Medical Center Complex is not associated with any person who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Structure of Merit Criterion 6.

7. Significant Person of a Specific National Origin. Its identification with a person(s) representative of a specific national origin who have contributed to the culture and development of the City, the State, or the Nation.

The St. Joseph's Medical Center Complex is not associated with any significant person of specific national origin who have contributed to the culture and development of the City. Similar to NRHP/CRHR Criterion B/2 and Landmark Criterion 9, and Structure of Merit Criterion 6, no significant persons are associated with the St. Joseph's Medical Center Complex. Therefore, the subject property does not appear eligible City of Stockton Structure of Merit Criterion 7.

5.1.4 Integrity Discussion

In addition to meeting one or more of the above criteria, an eligible resource must retain integrity, which is expressed in seven aspects: location, design, setting, workmanship, materials, feeling, and association. All properties change over the course of time. Consequently, it is not necessary for a property to retain all its historic physical features or characteristics. The property must retain, however, the essential physical features that enable it to convey its historic identity. The essential physical features are those features that define both why a property is significant and when it was significant. The following sections discuss the integrity of the buildings over 45 years old (A through H) located within the St. Joseph's Medical Center Complex.

Main Hospital Wing (A) (1916)

Location: The building remains in its original location facing the center of the complex of buildings and therefore retains integrity of location.

Design, Materials, and Workmanship: Due to extensive alterations over time, numerous character-defining features of the building have been altered resulting in an overall loss of the integrity of design, materials and workmanship. Architect Walter King's original design for the two-story building displayed multiple character- defining features that are archetypally associated with the Mission Revival Style (Figure 42). King's design included a smooth, white stuccoed exterior; arched openings on the entry portico and window frames; visible wooden rafters in the eaves of a pent roof below a simple parapet roofline; distinctive mission-shaped parapets on both the first and second stories; ornamental openings located in each parapet; and two pairs of domed faux bell towers astride the primary entrance.



Figure 42. Main Hospital Wing (A) as designed by King and prior to third story addition, c.1916–1926. Note the domed faux bell towers and the broad expanses of stucco (St. Joseph's Archives).

Alterations to the building began in 1917 with the construction of a northern addition containing a new kitchen and surgery ward; however, this mostly detached wing was largely inconspicuous due to its detached location in the rear of the building and overall design continuity. In 1926, a third story addition was added to the entire building (Figure 43). While the design of this addition was generally Mission Revival in style, it fundamentally altered the profile and massing of the building as the dissimilar third story now towers over the original areas of the building. The third story also eliminated the wide eaves of the original pent roof by enclosing it directly into the elevations of the building to appear as a decorative belt course, and instead replaced it with a tile covered parapet roof with no visible eaves. The addition also resulted in the replacement of the second story domed faux bell towers located astride the entry portico with simple hipped tile roofs as the entire parapet was raised to the third story position. The rectangular fenestration of the new story was also inconsistent with the arched openings of the original design, and the placement of six windows in the new third story parapet is discordant with the broad expanses of stucco typically featured in a Mission Revival building.



Figure 43. Main Hospital Wing (A) in 1949 with showing the results of the third story addition including the rafter tails of original roofline enclosed into the building, the hipped roofs replacing the original faux bell towers and the inconsistent fenestration of the new construction (St. Joseph's Archives)

Further alterations to the building over time have resulted in subsequent losses of integrity of design, materials and workmanship. In 1939, a stylistically inconsistent Art Deco addition was added to the western-most leg of the building for use as an X-ray and maternity ward. Historical photographs suggest that the original wooden dual casement windows were replaced by 1964 with incompatible, tri-partite metal casement windows and the transoms above each window infilled (Figure 44). The two outermost arches of the main entry portico were infilled and fitted with the same replacement windows during this time, and the remaining original faux bell towers astride the portico were removed and capped.



Figure 44. Main Hospital Wing (A) showing replaced fenestration, infilled transoms, the outer arches of the main entry portico now fitted with metal casement windows and the square-capped columns where the remaining faux bell towers once stood, March 2020 (St. Joseph's Archives).

In conclusion, the many changes enacted to the Main Hospital Wing (A) over time have resulted in a loss of the essential physical characteristics that enable the building to convey its historic identity as a Mission Revival-style medical facility dating to 1916. For the reasons discussed above, the Main Hospital Wing (A) no longer retains integrity of design, materials or workmanship.

Setting, Feeling, and Association: Demolition and a host of new construction projects within the St. Joseph's Medical Center Complex have fundamentally altered the intended circulation and use patterns of the complex over time. These changes have had a particularly acute effect on the Main Hospital Wing (A), which has resulted in a loss of integrity in the areas of setting, feeling, and association.

The anomalous orientation of the Main Hospital Wing (A) building with its main elevation facing south appears abnormal in its present setting surrounded closely by mid to late 20th century buildings. When the building was completed in 1916 however, the orientation of the building was intended to interact with the placement of the original 1899 St. Joseph's Home and Hospital building that faced out onto North California Street. A prominent, open, landscaped area with a semi-circular drive filled the space framed by the two buildings until the 1959 when the 1899 building was demolished (Figures 45 and 46).

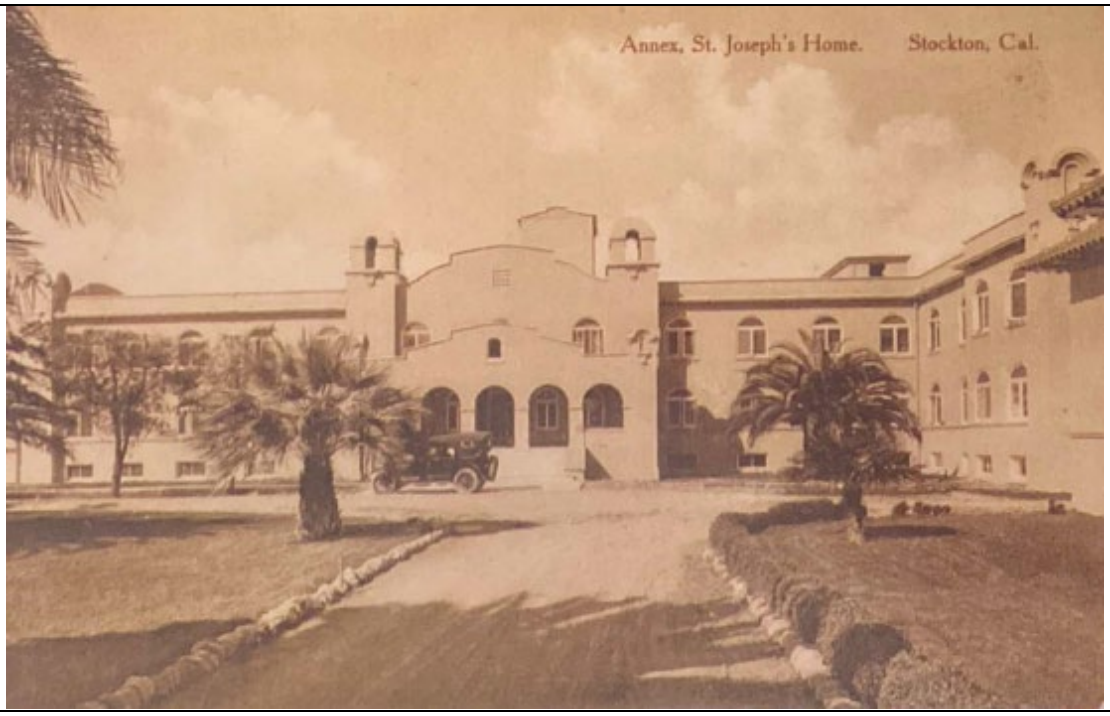


Figure 45. Prominent entry space located in front of Main Hospital Wing (A), c. 1916–1926 (St. Joseph's Archives).



Figure 46. Prominent entry space in front of Main Hospital Wing (A) now paved, c. 1930s (St. Joseph's Archives).

Following the demolition of the original 1899 building in 1959, a number of new hospital facilities gradually infilled the once open promenade space, most notably including the West Wing (E) in 1962, the Administrative Wing (H) in 1972, and the Cafeteria (J) in 1982 (Figure 47). This eventually resulted in a stark reorientation of the complex toward the south with the completion of a new Hospital Main Entrance (L) building completed in 1987.

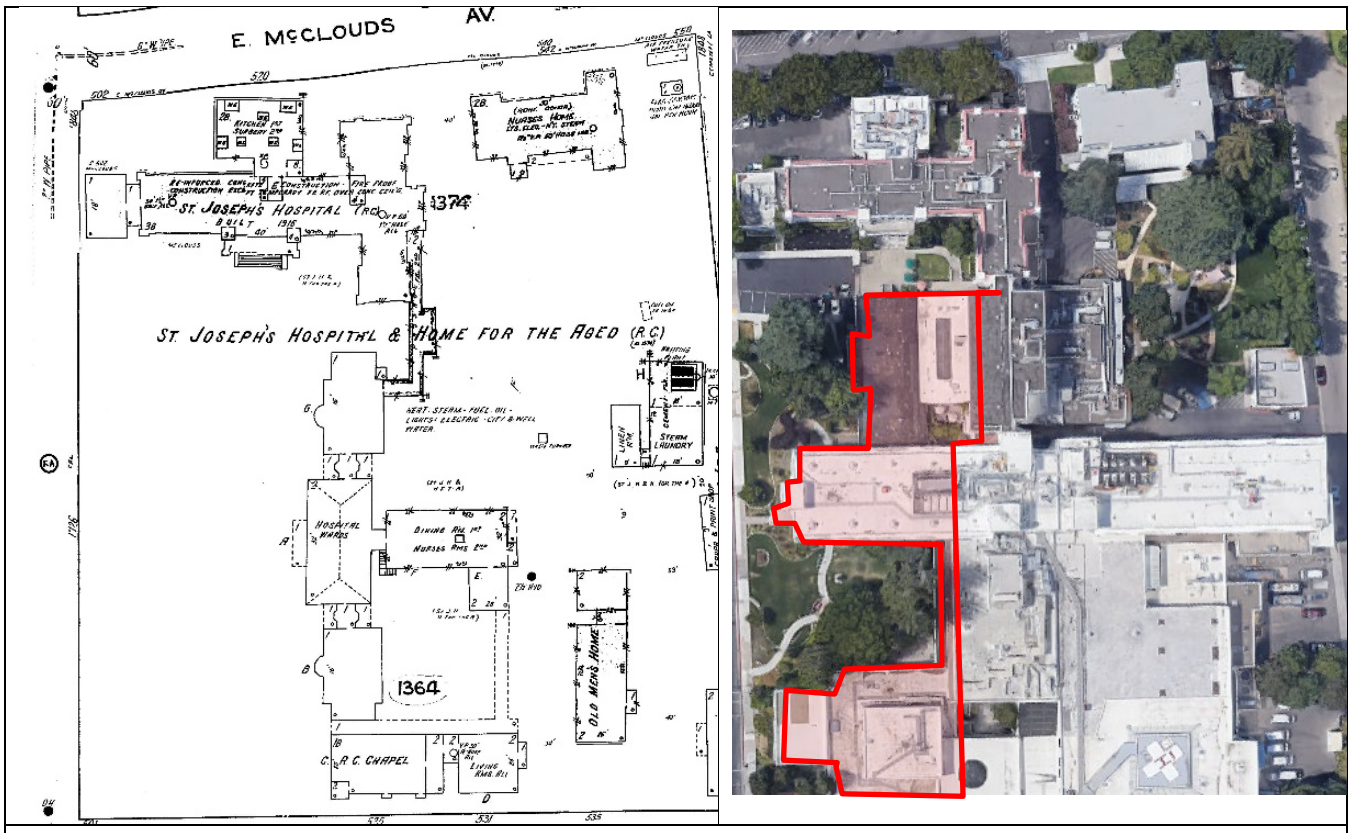


Figure 47. Comparison of 1946 Sanborn (left) and present-day aerial (right) demonstrating the extent of new construction infill in the once open area (outlined in red), c. 1930s (Sanborn 1946; St. Joseph's Archives).

In conclusion, the demolition of the original 1899 building and the infill of the original entrance drive and landscape areas has caused the building to lose integrity of setting. Because of these changes, in conjunction with the design changes discussed above, the building no longer retains the integrity of feeling that enable the building to convey its 1916 historic identity. Finally, while the building retains a continued working connection to the history of St. Joseph's Home and Hospital, the alterations of the circulation patterns and infill construction from a much later time period has caused the building to be incapable of displaying this historical association.

Heating Plant Generator Building (B) (1917)

The Heating Plant Generator Building (B) maintains integrity of location, as it has maintained its position on the campus since the 1917 edition of the Sanborn Map. Alterations to the building including new exterior stucco siding and reconfiguration of the fenestration openings, have resulted in a loss of integrity in the areas of design, materials, and workmanship. The addition of large, mid-century construction in the complex has cause the diminishment of integrity in the areas of feeling, setting and association. In conclusion, the Heating Plant Generator

Building (B) maintains integrity of location, diminished integrity in the areas of feeling, setting and association, and a loss altogether of integrity in the areas of design, materials, and workmanship.

McCloud Building (C) (1928)

Location: The McCloud Building maintains its original location and orientation facing McCloud Avenue on the northeast corner of the complex, and therefore maintains integrity of location.

Design, Materials, Workmanship: The McCloud Building (C) was designed by architect Albert Cauldwell and completed in 1928, at which time the building displayed obvious Spanish Colonial Revival stylings (Figure 48, top).

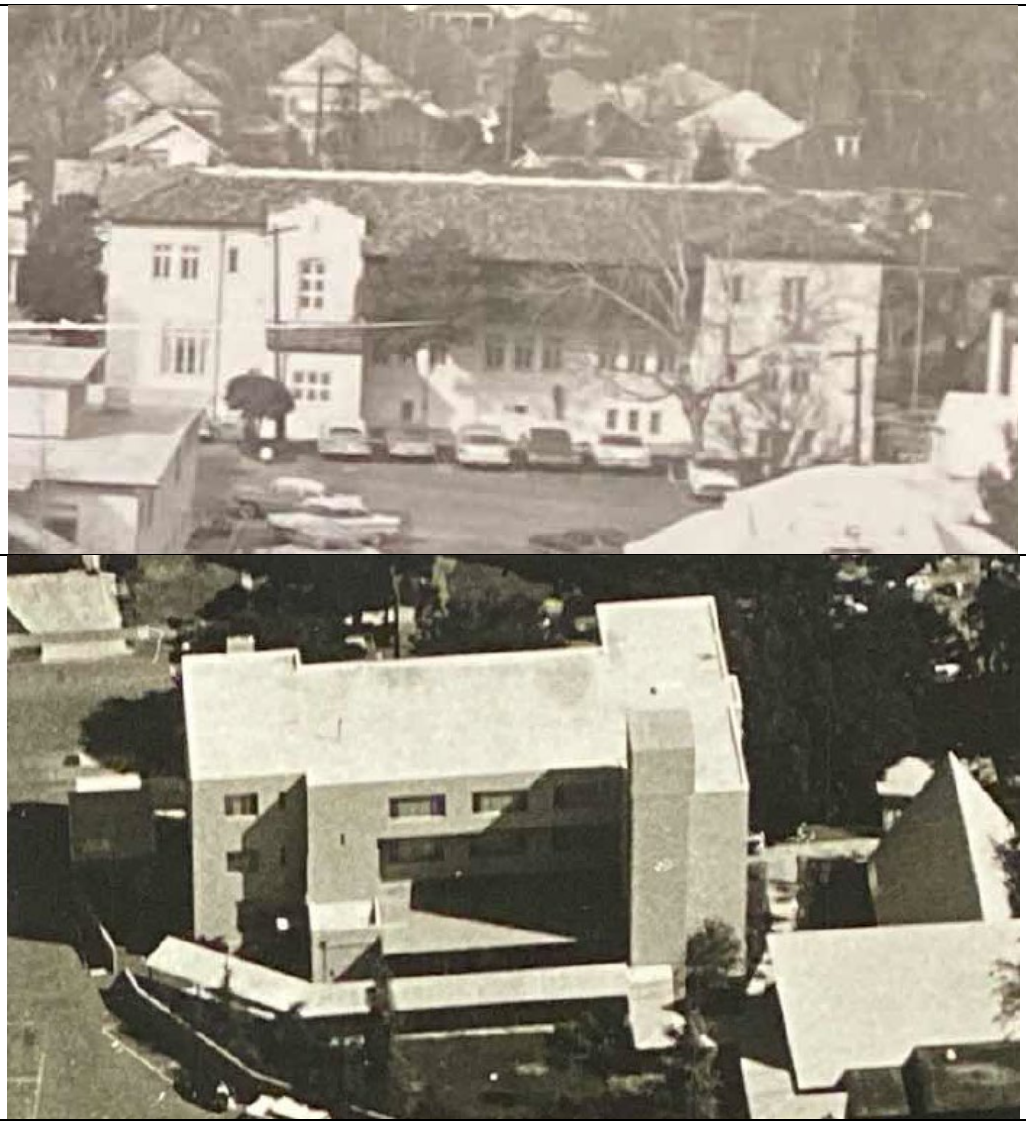


Figure 48. Comparative views of the McCloud Building (C) in 1964 (top) and in 1970 (bottom) after extensive alterations including a third-floor addition that removed the original hipped roofline and the replacement of all original fenestration (St. Joseph's Archives).

Between 1964 and 1970, the McCloud Building underwent and extensive alteration campaign that added a third story to the building, replacing the hipped, tile roof with a flat, parapet roofline (see Figure 48, bottom). The alterations during this phase also removed all indications of Spanish Colonial Revival style, including the replacement of all the original fenestration and modification of the size and placement of fenestration openings. A large overhang was added to shade the area at the rear of the building, as well as a covered walkway leading to the eastern side of the Main Hospital Wing (A). These extensive changes have caused the building to lose all integrity in the areas of design, materials and workmanship, as the building is no longer remotely representative of the original 1928 design.

Setting, Feeling, and Association: Demolition and a host of new construction projects within the St. Joseph's Medical Center Complex have fundamentally altered the intended circulation and use patterns of the complex over time. Additionally, the once extensive residential development on the northern side of McCloud Avenue has been largely replaced by parking lots. These surrounding changes have caused the McCloud Building (C) to lose integrity in the areas of setting, feeling, and maintain only diminished integrity of association.

North Wing (D)

The North Wing (D) building maintains integrity of location, as it has maintained its position on the campus since its completion in 1957. Alterations to the building include the addition of a fourth story added to the multi-story section at an unknown date, a small ground floor addition on the east elevation, an oxygen tank enclosure added to south elevation, replaced windows throughout, and finally the construction of the East Wing (G) in 1970 effectively enclosing the south elevation. These alterations have caused the North Wing (D) to lose integrity of design, materials and workmanship. The addition of multiple large additions surrounding the North Wing (D) has caused diminished integrity in the areas of feeling, setting and association. In conclusion, the North Wing (D) maintains integrity of location, diminished integrity in the areas of feeling, setting and association, and a loss altogether of integrity in the areas of design, materials, and workmanship.

West Wing (E)

The West Wing (E) building maintains integrity of location, as it has maintained its position on the campus since its completion in 1962. Alterations to the Mid-Century Modern exterior of the building are limited to the replacement of original windows and a replacement of the entry door with modern automatic sliding equivalents, and the building appears to maintain a high degree of integrity in the areas of design, materials, workmanship and association. The addition of multiple large wings surrounding the West Wing (E) on the north, and east has caused the West Wing (E) integrity in the areas of setting and feeling to diminish. In conclusion, the West Wing (E) maintains integrity of location, design, materials, workmanship, and association diminished integrity in the areas of feeling and setting.

South Wing (F)

The South Wing (F) was completed in 1962 during the same expansion period as the West Wing (E), and while it maintains integrity of location, the integrity of setting, feeling, and association has been lost due to the close proximity of subsequent development in the complex. The Mid-Century Modern design of the building has been almost completely obscured by the encroaching development, causing a loss of integrity in the areas of design, workmanship and materials. In conclusion, the West Wing (E) maintains integrity of location, but no longer maintains integrity in the areas of design, materials workmanship, setting, feeling, or association.

East Wing (G)

The East Wing (G) was completed in 1970 and maintains integrity of location, and it has maintained its position on the campus since its completion in 1970. Alterations to the Mid-Century Modern exterior of the building are limited and the building appears to maintain a high degree of integrity in the areas of design, materials, workmanship and association. The addition of the large Southeast Wing (I) to the south has caused the East Wing (G) to maintain only diminished integrity of setting and feeling. In conclusion, the East Wing (G) maintains integrity of location, design, materials, workmanship, and association diminished integrity in the areas of feeling and setting.

Administrative Wing (H)

The Administrative Wing (H) was completed in 1972 and maintains integrity of location, as it has remained in its position on the campus since completion. The addition of the contiguous cafeteria building in 1982 however, has negatively affected the integrity of design, materials and workmanship. Otherwise, the building appears to maintain integrity of setting, feeling and association. In conclusion, the Administrative Wing (H) maintains integrity, of location, setting, feeling and association and a loss altogether of integrity in the areas of design, materials, and workmanship.

St. Joseph's Medical Center Complex Integrity Summary

In conclusion, the St. Joseph's Medical Center Complex as a whole does not appear to retain adequate integrity in the areas of design, materials, workmanship, setting, feeing and association to accurately convey the significance of the property.

5.2 Property 2: 534 East Maple Street (127-190-30)

5.2.1 Property Description

The subject property was constructed in 1968, and is one-story in height and rectangular in plan, located midblock on the southern side of East Maple Street between North California Street and Cemetery Lane. The modest brick commercial building displays a hipped roof sheathed in composition shingles and exterior walls clad in brick veneer. The building's main entry faces north and displays a pair of fixed windows with painted inset metal panels below each, a pair of metal entry doors, and five fixed lite windows with metal panels below the last two windows displaying as a pair (Figure 49). The west elevation displays a single lite, fixed window with an inset metal panel below, an inset panel, a single leaf metal entry door, and a single lite, fixed window with an inset metal panel below. The south elevation's fenestration displays as a single leaf entry door, three fixed windows with metal inset panels below, a single leaf entry door, and a fixed window with a metal inset panel below. The east elevation displays a pair of fixed windows with inset metal panels below.



Figure 49. Property 2: North (main) elevation, view looking south (DSCN5135).

Identified Alterations

Dudek attained all available permits pertaining to the subject property (APN 127-190-300) through the City of Stockton Permit Center on April 1, 2020. The permits date from 1968 through 2019 (permit numbers are provided in parentheses).

- 1968. Construct a medical office for Doctors. Roach, Evert, and Hildebrand by Frahm and Kelly Co. (BP69-57606)
- 1996. Tear off existing shake shingle to deck furnish and apply heavy shake roof (96-00004329)
- 2003. Install air conditioning unit at computer room (BP03-00002713)
- 2008. Temporary power for construction (BP08-00002298)
- 2018. Change-out roof mount to a new roof mount (BP18-03529)
- 2019. Change-out roof mount to a new roof mount (BP19-05776)

5.2.2 NRHP Statement of Significance

Property 2 located at 534 East Maple Street does not meet any of the criteria for listing in the NRHP or CRHR, either individually or as part of an existing or potential historic district, based on the following significance evaluation.

Criteria A/1: That are associated with events that have made a significant contribution to the broad patterns of our history.

The subject property was constructed in 1968 operated as a medical office three local, practicing urologists: Robert N. Evert, Lawrence D. Hildebrand, and Francis X. Roach. The building remained an unaffiliated urology clinic until 2010, when it became an obstetrics/gynecology clinic operated by Dr. Gentry Vu. Both medical practices were

privately owned. Archival research failed to indicate associations with historic events, nor have they contributed to the broad patterns of history. Therefore, the subject property does not appear eligible under Criterion A of the NRHP or Criterion 1 of the CRHR.

Criteria B/2: That are associated with the lives of persons significant in our past.

To be found eligible under Criteria B/2 the property has to be directly tied to an important person and the place where that individual conducted or produced the work for which he or she is known. Archival research did not indicate that any previous property owners or leaseholders were known to be historically significant figures at the national, state, or local level. As such, this property is not known to have any historical associations with people important to the nation's or state's past. Therefore, the subject property does not appear eligible for the NRHP under Criterion B or CRHR under Criterion 2.

Criteria C/3: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

The subject property is a modest brick commercial building constructed in 1968. The building retains its original scale and massing and there do not appear to have been any additions to the building since its construction. The only notable alteration was the replacement of the original shake roof with modern composition shingles. The building presents as a modest and simple commercial building that does not embody the characteristics of a specific type or period and is not readily identifiable as a distinctive style. Archival research failed to indicate an architect for the building but did identify a contracting company: Frahm and Kelly Co. Based in Stockton, Frahm and Kelly Co. was one of many contracting firms working in the city during this period and do not appear to be master builders. The building does not possess high artistic value and is not representative of a significant and distinguishable entity whose components may lack individual distinction. For these reasons, the subject property does not appear eligible for listing in the NRHP under Criterion C or CRHR under Criterion 3.

Criteria D/4: That have yielded, or may be likely to yield, information important in prehistory or history

The subject property is not significant under Criterion D of the NRHP or Criterion 4 of the CRHR as a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies.

5.2.3 City of Stockton Statement of Significance

Landmarks

The subject property does not meet any of the criteria for listing as a City of Stockton Landmark, based on the following significance evaluation.

1. Archaeological Interest. Its potential for yielding significant information of archaeological interest;

As stated above in NRHP/CRHR Criteria D/4, the subject property is not a source, or likely source, of important historical or archaeological information nor does it appear likely to yield important information about historic

construction methods, materials or technologies. Therefore, the subject property is not of archaeological interest and does not appear eligible under City of Stockton Landmark Criterion 1.

2. Architectural Craftsmanship. Its embodiment of elements demonstrating outstanding attention to architectural and/or engineering craftsmanship, design, detail, or materials;

As stated above in NRHP/CRHR Criteria C/3, the subject property is a modest, commercial brick building built in 1968. The building is constructed from mass-produced materials commonly used during the period of its construction and are not notable. There is no visible exterior decoration on the building demonstrating architectural or engineering craftsmanship. Due to alterations, most notably a change in original materials to the roof, the building no longer retains requisite integrity to convey material craftsmanship. Therefore, the subject property is not of an outstanding example of architectural craftsmanship, design, details, or materials and does not appear eligible under City of Stockton Landmark Criterion 2.

3. Architectural Style. Its exemplification of a particular architectural style or way of life important to the City, the State, or the Nation;

As stated above in NRHP/CRHR Criteria C/3, the subject property is a modest and unremarkable brick commercial building built in 1968. Given its simplistic nature and lack of architectural features, the building fails to represent a specific architectural style. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 3.

4. Architectural Type. Its exemplification of the best remaining architectural type in the City;

The subject property is a modest commercial building built in 1968 but is not a particularly outstanding example of a commercial building. Therefore, the subject property cannot be considered the best remaining architectural type in the city and does not appear eligible under City of Stockton Landmark Criterion 4.

5. Historic Event. Its location as a site of a significant historic event;

As stated above in NRHP/CRHR Criteria A/1, the subject property is not associated with a significant historic event. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 5.

6. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

The subject property is an unremarkable building both architecturally and historically. The building's relatively modernity and lack of relationship with any of the formative events of Stockton, or specific heritage groups render its character, interest, or value as not significant to the heritage of the City of Stockton, the state or the nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 6.

7. Visual Feature. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

The subject property is a one story, low profile building built in 1968. The building does not have a unique location or visually interesting physical characteristic that sets it apart from other buildings in its general vicinity or among

other buildings of this type. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 7.

8. Relationship to Another Landmark. Its relationship to any other landmark, if its preservation is essential to the integrity of that landmark;

The subject property is not related to another City of Stockton Landmark, nor is its preservation essential to any Landmark. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 8.

9. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation;

As stated above in NRHP/CRHR Criteria B/2, the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Criterion 9.

10. Work of a Significant Person. Its identification as the creation, design, or work of a person(s) whose effort has significantly influenced the heritage of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion C/3, the subject property is not associated with a significant person as their creation or design. The building is a modest brick commercial building constructed by local contracting firm Frahm and Kelly Co. Frahm and Kelly Co. does not appear to reach the level of significance necessary to be considered a "master" builder or significantly influenced the heritage of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 10.

11. Natural Environment. Its integrity as a natural environment that strongly contributes to the well-being of the people of the City, the State, or the Nation.

The setting of the subject property is on a fully developed urban lot with no apparent natural environment that might strongly contribute to the well-being of the people of the City, the State, or the Nation. Therefore, the subject property is not eligible under City of Stockton Landmark Criterion 11.

Structure of Merit

The subject property does not appear to meet any of the criteria for listing as a City of Stockton Structure of Merit, based on the following significance evaluation:

1. Archaeological Interest. Its potential of yielding significant information of archaeological interest;

As stated above in NRHP/CRHR Criteria D/4 and Landmark Criterion 1, the subject property is not a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 1.

2. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

As stated above in Landmark Criterion 6, the subject property is an unremarkable building both architecturally and historically. It is not associated with the City's heritage and does not possess character, interest or value as part of the City's heritage. Therefore, is the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 2.

3. Visual Feature of the City. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

As stated above in Landmark Criterion 7, the subject property is a one-story, low profile building built in a nondescript style. The building does not have a unique location or visually interesting physical characteristics that set it apart from other buildings in its general vicinity. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 3.

4. Way of Life. Its exemplification of a particular way of life important to the City, the State, or the Nation;

The subject property was designed as a medical office building and has had various leaseholders and owners, which, of itself does not represent or exemplify a particular life way important or otherwise unique to the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 4.

5. Historic Event. Its location as a site of a significant historic event regardless of its current configuration, development, or use;

As stated above in NRHP/CRHR Criteria A/1 and Landmark Criterion 5, the subject property is not associated with any significant historical event. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 5.

6. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criteria B/2 and Landmark Criterion 9, is the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 6.

7. Significant Person of a Specific National Origin. Its identification with a person(s) representative of a specific national origin who have contributed to the culture and development of the City, the State, or the Nation.

The subject property is currently and has been historically operated as a medical office building and is not associated with any person representative of a specific national origin or cultural group who has contributed to the

culture and development of the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 7.

5.2.4 Integrity Discussion

As stated above, the subject property does not appear significant under any of the national, state, or local designation criteria. The building retains some aspects of integrity, including location, setting, and feeling, but does have a diminished integrity of design, materials or workmanship due to alterations. The building can still convey the feeling of being a private medical clinic. Given the lack of historical associations, there is no integrity of association for the subject property. Regardless of the integrity of the subject property, its lack of architectural significance and lack of historical associations prevents it from rising to the level of significance required for listing with the NRHP, CRHR, and the City of Stockton designation program.

5.3 Property 3: 425 East Harding Way (127-150-39)

5.3.1 Property Description

The subject property was constructed between 1963 and 1967 and is one story in height and square in plan, located mid-block on the northern side of East Harding Way between North Wood Land and North California Street. The Mid-Century Modern building displays a flat roof sheathed in rolled composition roofing and exterior walls clad in textured concrete, CMUs, vertical board siding, and wooden shingles. The building's main (south) elevation displays as three sections (Figure 50). The left section is distinguished by painted vertical board siding. The middle section is inset approximately three feet with a planter box and two concrete entry steps. This section's fenestration includes a band of fixed windows and a single leaf entry door with a security gate in front. The right section is distinguished by a checkered patterned stamped concrete pattern. The east elevation displays as two sections: the left is distinguished by a checkered patterned stamped concrete pattern, and the right is inset approximately 4 feet and displays two single entry doors. The building's north elevation could not be viewed from the public right-of-way. The west elevation displays as two sections, the left contains no fenestration, exterior walls clad in painted wooden shingles that distinguish the right section.



Figure 50. Property 3: South (main) elevation, view looking north (Google Street View).

Identified Alterations

Dudek attained all available permits pertaining to the subject property (APN 127-150-390) through the City of Stockton Permit Center on April 1, 2020. The permits date from 1963 through 2009 (permit numbers are provided in parentheses).

- 1963. Construction of an office building for the Upjohn National Leasing Co. by Hoffman Construction (BP63-32859)
- 1963. Erect exterior sign (BP63-34336)
- 1984. Remodel office building (BP84-57492)
- 1987. Install non-illuminated exterior lettering (BP87-68199)
- 1990. Install drop ceiling with drop in low energy lighting (BP91-8096)
- 1992. Add plumbing lines (BP92-00004192)
- 2003. Add new women and men handicap restrooms (BP03-00003117)
- 2009. Replace HVAC package unit on roof (BP09-00000923)

5.3.2 NRHP/CRHR Statement of Significance

Property 3 located at 425 East Harding Way does not meet any of the criteria for listing in the NRHP or CRHR, either individually or as part of an existing or potential historic district, based on the following significance evaluation.

Criterion A/1: That are associated with events that have made a significant contribution to the broad patterns of our history.

The subject property was constructed in 1963 operated as an office space for the National Cash Register Company from 1963-1981. Following the occupation of the building by the National Cash Register Company the building was

vacant for a few years and was then remodeled and served as a doctor's office, before finally becoming a funeral services office in 2015. The building appears to have operated as an office for either commercial or health-related industries for the majority of its history, likely because of its close proximity to St. Joseph's Medical Center. The building was built for the National Cash Register Company in 1963, when Stockton was experiencing suburban growth and had multiple urban renewal programs reshaping the downtown Stockton area. The building's construction does not appear to be related to the themes of suburban growth of urban renewal in Stockton. National Cash Register Company, founded in Illinois in 1884, was transitioning to a general business computer industry in the 1960s, creating the first computer with CRAM storage in 1962. Company offices were already established in Walnut, Sacramento and other Northern California cities, but the office in Stockton does not appear to have be associated with the invention or manufacture of these computer systems, only their sale. The building transitioned to a medical office in the 1980s. The office transitioned to aged and disabled home services company In Home Support Services in the early 2000s before another period of vacancy and finally becoming a funeral home in 2015. The construction of the 425 East Harding Way and all of the subsequent tenants and events-on-premises did not have any influence or association with historic events, nor have they made contributions to the broad patterns of history. Therefore, the subject property does not appear eligible for the NRHP under Criterion A or CRHR under Criterion 1.

Criterion B/2: That are associated with the lives of persons significant in our past.

To be found eligible under Criterion B/2 the property has to be directly tied to an important person and the place where that individual conducted or produced the work for which he or she is known. Archival research did not indicate that any previous property owners or leaseholders were known to be historically significant figures at the national, state, or local level. As such, this property is not known to have any historical associations with people important to the nation's or state's past. Therefore, the subject property does not appear eligible for the NRHP under Criterion B or CRHR under Criterion 2.

Criterion C/3: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

The subject property is a simple Mid-Century Modern style office building, constructed in 1963. The building does not seem to have received any alterations or additions since its construction and still successfully conveys some of the more modest character-defining features of the Mid-Century Modern architectural style: one-story in height; horizontality stressed; blocky, modular appearance; constructed of mass-produced materials; glass and steel storefront windows; and a decorative textured concrete wall. The only major exterior alterations appear to be changes to the sign band and rooftop HVAC additions. However, while the building has few exterior alterations, its simple appearance cannot be said to "embody the distinctive characteristics" of its period of construction nor the Mid-Century Modern architectural style. Archival research did not uncover an architect, only the contractor company: Hoffman Construction. They appear to have been one of many local, small-scale contracting firms doing work in Stockton during this period and do not appear to be master builders. The building does not possess high artistic value and is not representative of a significant and distinguishable entity whose components may lack individual distinction. For these reasons, the subject property does not appear eligible for listing in the NRHP under Criterion C or CRHR under Criterion 3.

Criterion D/4: That have yielded, or may be likely to yield, information important in prehistory or history

The subject property is not significant under Criterion D of the NRHP or Criterion 4 of the CRHR as a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies.

5.3.3 City of Stockton Statement of Significance

Landmarks

Property 3 is located at 425 East Harding Way and does not meet any of the criteria for listing as a City of Stockton Landmark, based on the following significance evaluation.

1. *Archaeological Interest. Its potential for yielding significant information of archaeological interest;*

As stated above in NRHP/CRHR Criterion D/4, the subject property is not a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, the subject property is not of archaeological interest and does not appear eligible under City of Stockton Landmark Criterion 1.

2. *Architectural Craftsmanship. Its embodiment of elements demonstrating outstanding attention to architectural and/or engineering craftsmanship, design, detail, or materials;*

As stated above in NRHP/CRHR Criterion C/3, the subject property is a modest and unremarkable Mid-century Modern office built in 1963. While it does retain many of its original features, it is constructed from mass produced materials commonly used during the period of its construction. Therefore, the subject property is not of an outstanding example of architectural craftsmanship, design, details, or materials and does not appear eligible under City of Stockton Landmark Criterion 2.

3. *Architectural Style. Its exemplification of a particular architectural style or way of life important to the City, the State, or the Nation;*

As stated above in NRHP/CRHR Criterion C/3, the subject property is a modest and unremarkable Mid-century Modern office built in 1963. However, due to the ubiquity of this style and the lack of outstanding design or craftsmanship components, the building cannot be said to exemplify the Mid-Century Modern architectural style. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 3.

4. *Architectural Type. Its exemplification of the best remaining architectural type in the City;*

The subject property is a modest and unremarkable Mid-century Modern office built in 1963 but is one of many such buildings constructed outside of the Stockton city center during the 1960s. Better representations of this style are available elsewhere in the City of Stockton, to the point that this architectural type can be considered ubiquitous in the City. As such, the subject property cannot be considered the best remaining architectural type in the city and does not appear eligible under City of Stockton Landmark Criterion 4.

5. Historic Event. Its location as a site of a significant historic event;

As stated above in NRHP/CRHR Criterion A/1, the subject property is not associated with a significant historic event. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 5.

6. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

The subject property is an unremarkable building both architecturally and historically. Its character, interest, or value are not significant to the heritage of the City of Stockton, the state or the nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 6.

7. Visual Feature. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

The subject property is, by design, a one story, low profile building built in a common, popular style ubiquitous throughout Stockton in the 1950s and 1960s. The building does not have a unique location or visually interesting physical characteristic, which sets it apart from other buildings in its general vicinity or among other buildings of this type or style. Therefore, the subject property is not eligible under City of Stockton Landmark Criterion 7.

8. Relationship to Another Landmark. Its relationship to any other landmark, if its preservation is essential to the integrity of that landmark;

The subject property is not related to another City of Stockton Landmark, nor is its preservation essential to any Landmark. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 8.

9. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation;

As stated above in NRHP/CRHR Criterion B/2, the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Criterion 9.

10. Work of a Significant Person. Its identification as the creation, design, or work of a person(s) whose effort has significantly influenced the heritage of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion C/3, the subject property is not associated with a significant person as their creation or design. The building is a modest and ubiquitous Mid-Century Modern office building constructed by local contracting firm Hoffman Construction. Hoffman Construction does not appear to reach the level of significance necessary to be considered a "master" builder. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 10.

11. Natural Environment. Its integrity as a natural environment that strongly contributes to the well-being of the people of the City, the State, or the Nation.

The setting of the subject property is on a fully developed urban lot with no apparent natural environment that might strongly contribute to the well-being of the people of the City, the State, or the Nation. Therefore, subject property does not appear eligible under City of Stockton Landmark Criterion 11.

Structure of Merit

The subject property also does not appear to meet any of the criteria for listing as a City of Stockton Structure of Merit, based on the following significance evaluation:

1. *Archaeological Interest. Its potential of yielding significant information of archaeological interest;*

As stated above in NRHP/CRHR Criterion D/4 and Landmark Criterion 1, the subject property is not a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, is the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 1.

2. *Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;*

As stated above in Landmark Criterion 6, the subject property is an unremarkable building both architecturally and historically. It is not associated with the City's heritage and does not possess character, interest or value as part of the City's heritage. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 2.

3. *Visual Feature of the City. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;*

As stated above in Landmark Criterion 7, the subject property is a one story, low profile building built in a common, popular style ubiquitous throughout Stockton in the 1950s and 1960s. The building does not have a unique location or visually interesting physical characteristics, which set it apart from other buildings in its general vicinity. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 3.

4. *Way of Life. Its exemplification of a particular way of life important to the City, the State, or the Nation;*

The subject property was designed as an office building and has had various leaseholders and owners, which, of itself does not represent or exemplify a particular life way important or otherwise unique to the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 4.

5. *Historic Event. Its location as a site of a significant historic event regardless of its current configuration, development, or use;*

As stated above in NRHP/CRHR Criterion A/1 and Landmark Criterion 5, the subject property is not associated with any significant historical event. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 5.

6. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion B/2 and Landmark Criterion 9, Property 3: 425 East Harding Way is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property is not eligible under City of Stockton Structure of Merit Criterion 6.

7. Significant Person of a Specific National Origin. Its identification with a person(s) representative of a specific national origin who have contributed to the culture and development of the City, the State, or the Nation.

The subject property operated as an office building and was not associated with any person representative of a specific national origin or cultural group who has contributed to the culture and development of the City, State, or Nation. Therefore, the subject does not appear eligible under City of Stockton Structure of Merit Criterion 7.

5.3.4 Integrity Discussion

As stated above, the subject property, does not appear significant under any of the national, state, or local criteria. However, the building has not had visible exterior alterations and appears to retain many aspects of integrity including location, design, materials, workmanship, and feeling. The only element of integrity that has been significantly compromised is the integrity of setting because of the major additions and wings for St. Joseph's Hospital and the loss of the original residential neighborhood setting. There were also no identified historical associations, so there is no integrity of association for the property. Despite the overall level of integrity of the subject property, its lack of architectural significance and lack of historical associations prevents it from rising to the level of significance required for listing with the NRHP, CRHR, and the City of Stockton designation program. There were also no identified historical associations, so there is no integrity of association for the property. Despite the integrity of the subject property, its lack of architectural significance and lack of historical associations prevents it from rising to the level of significance required for listing with the NRHP, CRHR, and the City of Stockton designation program.

5.4 Property 4: 445 East Harding Way (127-150-51)

5.4.1 Property Description

The subject property was constructed circa 1975, is one story in height, and is square in plan, located on the northwest corner of East Harding Way and North California Street. The modest commercial building features a flat roof obscured by Neo-Mansard roof detailing. The exterior walls are clad in a variety of materials including CMUs, brick veneer, and horizontal board siding. The building's main (south) elevation displays as two sections (Figure 51). Stacked bond soldier brick veneers distinguish the left section. The right section displays a faux mansard roof with wooden shingles and a full lite single leaf entry door flanked by two pairs of fixed windows with painted inset panels above and below. The east elevation displays as two sections. The left section's fenestration displays two fixed windows with painted inset panels above and below, a full lite single leaf entry door, and three fixed windows with painted inset panels above and below. The right contains a single left entry door. The north elevation displays as three sections. The left section projects from the main building approximately seven feet, the middle displays two single leaf security doors, and the right projects from the main building approximately seven feet. The west elevation displays no fenestration.



Figure 51. Property 4: South (main) and East elevation, view looking northwest (Google Street View).

Identified Alterations

Dudek attained all available permits pertaining to the subject property (APN 127-150-510) through the City of Stockton Permit Center on April 1, 2020. There are no original building permits for this building. The permits date from 1961 through 1976 (permit numbers are provided in parentheses).

- 1961. Sign installation (BP61-22999)
- 1966. Repair fire damage (BP66-51460)
- 1976. Install wall sign "Valley Optical Co." (BP76-16228)

5.4.2 NRHP/CRHR Statement of Significance

Property 4 located at 445 East Harding Way does not meet any of the criteria for listing in the NRHP or CRHR, either individually or as part of an existing historic district, based on the following significance evaluation.

Criterion A/1: That are associated with events that have made a significant contribution to the broad patterns of our history.

The subject property was constructed circa 1975 and operated as a commercial storefront property for much of this time. Little other information could be uncovered about the property through archival research. The property replaced another commercial property that burned down in 1966. The current building appears to have operated first as a beauty parlor, then an appliance repair shop, and finally as a florist. Its construction is not associated with any significant themes or patterns related to the history of Stockton, the State or the Nation nor has it made a significant contribution to the broad patterns of our history. Therefore, the subject property does not appear eligible for the NRHP under Criterion A or CRHR under Criterion 1.

Criterion B/2: That are associated with the lives of persons significant in our past.

To be found eligible under Criterion B/2 the property has to be directly tied to an important person and the place where that individual conducted or produced the work for which he or she is known. Archival research did not indicate that any previous property owners or leaseholders were known to be historically significant figures at the national, state, or local level. As such, this property is not known to have any historical associations with people important to the nation's or state's past. Therefore, the subject property does not appear eligible for the NRHP under Criterion B or CRHR under Criterion 2.

Criterion C/3: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

The subject property is a modest commercial storefront building, constructed circa 1975. While the building does have Neo-Mansard elements at the roofline, it is not an exceptional example of the style of architecture. The building has had modest alterations including installations of new signs on the Mansard roof section, replacement windows, and security bars on the windows. Given its modest nature and lack of decorative details, the subject property cannot be said to "embody the distinctive characteristics" of its period of construction or a specific architectural style. Archival research failed to indicate an architect or contractor associated with the property. The building does

not possess high artistic value and is not representative of a significant and distinguishable entity whose components may lack individual distinction. For these reasons, the subject property does not appear eligible for listing in the NRHP under Criterion C or CRHR under Criterion 3.

Criterion D/4: That have yielded, or may be likely to yield, information important in prehistory or history

The subject property is not significant under Criterion D of the NRHP or Criterion 4 of the CRHR as a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies.

5.4.3 City of Stockton Statement of Significance

Landmarks

Property 4 located at 445 East Harding Way does not meet any of the criteria for listing as a City of Stockton Landmark, based on the following significance evaluation.

1. *Archaeological Interest. Its potential for yielding significant information of archaeological interest;*

As stated above in NRHP/CRHR Criterion D/4, the subject property is not a source, or likely source, of important archaeological or historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, the subject property is not of archaeological interest and does not appear eligible under City of Stockton Landmark Criterion 1.

2. *Architectural Craftsmanship. Its embodiment of elements demonstrating outstanding attention to architectural and/or engineering craftsmanship, design, detail, or materials;*

As stated above in NRHP/CRHR Criterion C/3, the subject property is a modest and unremarkable commercial storefront built circa 1975. Given its modest nature and lack of decorative details the subject does not possess high artistic value and is not representative of significant architectural craftsmanship. In summary, the subject property is not of an outstanding example of architectural craftsmanship, design, details, or materials and does not appear eligible under City of Stockton Landmark Criterion 2.

3. *Architectural Style. Its exemplification of a particular architectural style or way of life important to the City, the State, or the Nation;*

As stated above in NRHP/CRHR Criterion C/3, the subject property is a modest and unremarkable commercial storefront built in the 1970s. However, due to the ubiquity of this style and the lack of outstanding design or craftsmanship components, the building cannot be said to exemplify a particular architectural style. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 3.

4. *Architectural Type. Its exemplification of the best remaining architectural type in the City;*

The subject property is a modest and unremarkable commercial storefront but is one of many such buildings constructed throughout California in the 1970s. Better representations of this building typology are also available elsewhere in the City of Stockton. As such, the subject property cannot be considered the best remaining architectural type in the city and does not appear eligible under City of Stockton Landmark Criterion 4.

5. Historic Event. Its location as a site of a significant historic event;

As stated above in NRHP/CRHR Criterion A/1, the subject property is not associated with a significant historic event. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 5.

6. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

The subject property is an unremarkable building both architecturally and historically. Its character, interest, or value are not significant to the heritage of the City of Stockton, the state or the nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 6.

7. Visual Feature. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

The subject property is a one story, low profile building built in in the 1970s. The building does not have a unique location or visually interesting physical characteristic that sets it apart from other buildings in its general vicinity or among other buildings of this type or style. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 7.

8. Relationship to Another Landmark. Its relationship to any other landmark, if its preservation is essential to the integrity of that landmark;

The subject property is not related to another City of Stockton Landmark, nor is its preservation essential to any Landmark. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 8.

9. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation;

As stated above in NRHP/CRHR Criterion B/2, the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Criterion 9.

10. Work of a Significant Person. Its identification as the creation, design, or work of a person(s) whose effort has significantly influenced the heritage of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion C/3, the subject property is not associated with a significant person as their creation or design. The building is a modest and ubiquitous Mansard-style commercial storefront building. Its architect, engineer, or builder is unknown, but the quality of construction and craftsmanship do not appear to reach the level of significance necessary to be considered a "master" builder. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 10.

11. Natural Environment. Its integrity as a natural environment that strongly contributes to the well-being of the people of the City, the State, or the Nation.

The setting of the subject property is a fully developed urban lot with no apparent natural environment that might strongly contribute to the well-being of the people of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 11.

Structure of Merit

The subject property also does not meet any of the criteria for listing as a City of Stockton Structure of Merit, based on the following significance evaluation:

1. Archaeological Interest. Its potential of yielding significant information of archaeological interest;

As stated above in NRHP/CRHR Criterion D/4 and Landmark Criterion 1, the subject property is not a source, or likely source, of important archaeological or historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 1.

2. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

As stated above in Landmark Criterion 6, the subject property is an unremarkable building both architecturally and historically. It is not associated with the City's heritage and does not possess character, interest or value as part of the City's heritage. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 2.

3. Visual Feature of the City. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

As stated above in Landmark Criterion 7, the subject property is a one story, low profile building form built throughout Stockton in the 1970s. The building does not have a unique location or visually interesting physical characteristics that set it apart from other buildings in its general vicinity. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 3.

4. Way of Life. Its exemplification of a particular way of life important to the City, the State, or the Nation;

The subject property was designed as a commercial storefront and has had various leaseholders and owners, which, of itself does not represent or exemplify a particular life way important or otherwise unique to the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 4.

5. Historic Event. Its location as a site of a significant historic event regardless of its current configuration, development, or use;

As stated above in NRHP/CRHR Criterion A/1 and Landmark Criterion 5, the subject property is not associated with any significant historical event. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 5.

6. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion B/2 and Landmark Criterion 9, the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 6.

7. Significant Person of a Specific National Origin. Its identification with a person(s) representative of a specific national origin who have contributed to the culture and development of the City, the State, or the Nation.

The subject property operated as a commercial storefront and archival research did not indicate that the property was associated with any person representative of a specific national origin or cultural group who has contributed to the culture and development of the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 7.

5.4.4 Integrity Discussion

As stated above, Property 4 does not appear significant under any of the national, state, or local criteria. The building retains some of the aspects of integrity, including location, setting, and feeling. However, alterations to the building have diminished the integrity of the design, materials and workmanship. The only element of integrity that has been significantly compromised is the integrity of setting because of the major additions and wings for St. Joseph's Hospital and the loss of the original residential neighborhood setting. There were also no identified historical associations, so there is no integrity of association for the property. Despite the overall level of integrity of the subject property, its lack of architectural significance and lack of historical associations prevents it from rising to the level of significance required for listing with the NRHP, CRHR, and the City of Stockton designation program.

5.5 Property 5: 564 East Cleveland Street (127-164-06)

5.5.1 Property Description

The subject property was constructed 1951 and is located on the southwest corner of East Cleveland Street and Cemetery Lane. The modest one-story building is constructed of CMUs and is roughly T-shaped in plan (Figure 52). The building features a cross gable roof clad in composition shingles and metal gutters. The majority of the building consists of exposed, painted CMUs except for the north elevation which features board-and-batten siding, and the gable ends throughout the building, which are fitted with painted plywood siding. The main entrance to the building is located below a central gable extending from the west (main) elevation of the building and consists of a wide metal door. Fenestration across the building consists of single-lite, plate glass windows with wooden sills and wooden surrounds. The majority of the windows have been covered with plywood.



Figure 52. Property 5: West (main) elevation, view looking southeast (DSCN9140).

Identified Alterations

Dudek attained all available permits pertaining to the subject property (APN 127-164-06) through the City of Stockton Permit Center on July 21, 2021. The permits date from 1951 through 1979 (permit numbers are provided in parentheses).

- 1951. Construction of concrete block church building (BP51-35003)
- 1976. New bathroom, porch and inside remodel (BP76-28140)
- 1979. Repair fire damage (BP76-37343)
- 1970-1982. Addition to north elevation (no associated permit)

5.5.2 NRHP/CRHR Statement of Significance

Property 5 located at 564 East Cleveland Street does not meet any of the criteria for listing in the NRHP or CRHR, either individually or as part of an existing historic district, based on the following significance evaluation.

Criterion A/1: That are associated with events that have made a significant contribution to the broad patterns of our history.

The subject property was constructed in 1951 and operated as a Jehovah's Witness Kingdom Hall until approximately 1996 when it was purchased by St. Joseph's Hospital and converted for use as an auxiliary classroom space. Archival research failed to indicate any significant contributions to the development and rise of the Jehovah's Witness faith on the local, state, or national level. Additionally, there is no strong connection to the larger hospital

complex, as this property was acquired within recent years and is not reflective of a development pattern for the hospital. In summary, the building's construction is not associated with any significant themes or patterns related to the history of Stockton, the State or the Nation nor has it made a significant contribution to the broad patterns of our history. Therefore, the subject property does not appear eligible for the NRHP under Criterion A or CRHR under Criterion 1.

Criterion B/2: That are associated with the lives of persons significant in our past.

To be found eligible under Criterion B/2 the property has to be directly tied to an important person and the place where that individual conducted or produced the work for which he or she is known. Archival research did not indicate that any previous property owners or leaseholders were known to be historically significant figures at the national, state, or local level. As such, this property is not known to have any historical associations with people important to the nation's or state's past. Therefore, the subject property does not appear eligible for the NRHP under Criterion B or CRHR under Criterion 2.

Criterion C/3: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

The subject property is a modest liturgical building, constructed in 1951. The building presents as a simple building that does not embody the characteristics of a specific type or period and is not readily identifiable as a distinctive style. Additionally, the building has also gone several alterations including additions on the north and west elevations. Archival research failed to indicate an architect or contractor associated with the property. The building does not possess high artistic value and is not representative of a significant and distinguishable entity whose components may lack individual distinction. For these reasons, the subject property does not appear eligible for listing in the NRHP under Criterion C or CRHR under Criterion 3.

Criterion D/4: That have yielded, or may be likely to yield, information important in prehistory or history

The subject property is not significant under Criterion D of the NRHP or Criterion 4 of the CRHR as a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials, or technologies.

5.5.3 City of Stockton Statement of Significance

Landmarks

Property 5 located at 564 East Cleveland Street does not meet any of the criteria for listing as a City of Stockton Landmark, based on the following significance evaluation.

1. Archaeological Interest. Its potential for yielding significant information of archaeological interest;

As stated above in NRHP/CRHR Criterion D/4, the subject property is not a source, or likely source, of important archaeological or historical information nor does it appear likely to yield important information about historic construction methods, materials, or technologies. Therefore, the subject property is not of archeological interest and does not appear eligible under City of Stockton Landmark Criterion 1.

2. Architectural Craftsmanship. Its embodiment of elements demonstrating outstanding attention to architectural and/or engineering craftsmanship, design, detail, or materials;

As stated above in NRHP/CRHR Criteria C/3, the subject property is a modest, liturgical CMU building built in 1951. The building is constructed from mass-produced materials commonly used during the period of its construction which are not notable. There is no visible exterior decoration on the building demonstrating architectural or engineering craftsmanship. Therefore, the subject property is not of an outstanding example of architectural craftsmanship, design, details, or materials and does not appear eligible under City of Stockton Landmark Criterion 2.

3. Architectural Style. Its exemplification of a particular architectural style or way of life important to the City, the State, or the Nation;

As stated above in NRHP/CRHR Criteria C/3, the subject property is a modest and unremarkable CMU liturgical building constructed in 1951. Given its simplistic nature and lack of architectural features, the building fails to represent a specific architectural style. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 3.

4. Architectural Type. Its exemplification of the best remaining architectural type in the City;

The subject property is a modest and unremarkable CMU liturgical building and is one of many such buildings constructed throughout California in the 1950s. Better representations of this building typology are also available elsewhere in the City of Stockton. As such, the subject property cannot be considered the best remaining architectural type in the city and does not appear eligible under City of Stockton Landmark Criterion 4.

5. Historic Event. Its location as a site of a significant historic event;

As stated above in NRHP/CRHR Criterion A/1, the subject property is not associated with a significant historic event. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 5.

6. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

The subject property is an unremarkable building both architecturally and historically. Its character, interest, or value are not significant to the heritage of the City of Stockton, the state or the nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 6.

7. Visual Feature. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

The subject property is a one story, low profile, CMU building built in in the 1950s. The building does not have a unique location or visually interesting physical characteristic that sets it apart from other buildings in its general vicinity or among other buildings of this type or style. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 7.

8. Relationship to Another Landmark. Its relationship to any other landmark, if its preservation is essential to the integrity of that landmark;

The subject property is not related to another City of Stockton Landmark, nor is its preservation essential to any Landmark. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 8.

9. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation;

As stated above in NRHP/CRHR Criterion B/2, the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Criterion 9.

10. Work of a Significant Person. Its identification as the creation, design, or work of a person(s) whose effort has significantly influenced the heritage of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion C/3, the subject property is not associated with a significant person as their creation or design. The building is a modest CMU liturgical building. Its architect, engineer, or builder is unknown, but the quality of construction and craftsmanship does not appear to reach the level of significance necessary to be considered a "master" builder. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 10.

11. Natural Environment. Its integrity as a natural environment that strongly contributes to the well-being of the people of the City, the State, or the Nation.

The setting of the subject property is a fully developed urban lot with no apparent natural environment that might strongly contribute to the well-being of the people of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 11.

Structure of Merit

The subject property also does not meet any of the criteria for listing as a City of Stockton Structure of Merit, based on the following significance evaluation:

1. Archaeological Interest. Its potential of yielding significant information of archaeological interest;

As stated above in NRHP/CRHR Criterion D/4 and Landmark Criterion 1, the subject property is not a source, or likely source, of important archaeological or historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 1.

2. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

As stated above in Landmark Criterion 6, the subject property is an unremarkable building both architecturally and historically. It is not associated with the City's heritage and does not possess character, interest or value as part of the City's heritage. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 2.

3. Visual Feature of the City. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

As stated above in Landmark Criterion 7, the subject property is a one story, low profile, CMU building built in throughout Stockton in the 1950s. The building does not have a unique location or visually interesting physical characteristics that set it apart from other buildings in its general vicinity. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 3.

4. Way of Life. Its exemplification of a particular way of life important to the City, the State, or the Nation;

The subject property was designed as a Jehovah's Witness Kingdom Hall, which, of itself does not represent or exemplify a particular life way important or otherwise unique to the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 4.

5. Historic Event. Its location as a site of a significant historic event regardless of its current configuration, development, or use;

As stated above in NRHP/CRHR Criterion A/1 and Landmark Criterion 5, the subject property is not associated with any significant historical event. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 5.

6. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion B/2 and Landmark Criterion 9, the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 6.

7. Significant Person of a Specific National Origin. Its identification with a person(s) representative of a specific national origin who have contributed to the culture and development of the City, the State, or the Nation.

The subject property operated as a liturgical building and archival research did not indicate that the property was associated with any person representative of a specific national origin or cultural group who has contributed to the culture and development of the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 7.

5.5.4 Integrity Discussion

As stated above, the subject property does not appear significant under any of the national, state, or local designation criteria. The building retains some aspects of integrity, including location, setting, and feeling, but does have a diminished integrity of design, materials, or workmanship due to alterations. The building can no longer convey the feeling of being a private religious meeting hall. Given the lack of historical associations, there is no integrity of association for the subject property. Regardless of the integrity of the subject property, its lack of architectural significance and lack of historical associations prevents it from rising to the level of significance required for listing with the NRHP, CRHR, and the City of Stockton designation program.

5.6 Summary of Evaluation Findings

In conclusion, Property 1: St. Joseph's Medical Center Complex (1638 North California Street and 1800 North California Street/542 McCloud Avenue), Property 2: 534 East Maple Street, Property 3: 425 East Harding Way, Property 4: 445 East Harding Way, and Property 5: 564 East Cleveland Street do not appear eligible for listing in the NRHP, the CRHR, as Stockton Landmarks, or as Stockton Structures of Merit due to a lack of historical associations, architectural merit, and compromised integrity. As such, these properties do not appear to be historical resources for the purposes of CEQA.

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6 Findings and Conclusions

6.1 Summary of Findings

As a result of Dudek's extensive archival research, field survey, and property significance evaluation, Property 1: St. Joseph's Medical Center Complex (1638 North California Street and 1800 North California Street/542 McCloud Avenue); Property 2: 534 East Maple Street; Property 3: 425 East Harding Way; Property 4: 445 East Harding Way; and Property 5: 564 East Cleveland Street do not appear eligible for listing in the NRHP, the CRHR, as Stockton Landmarks, or as Stockton Structures of Merit due to a lack of historical associations, architectural merit, and compromised integrity. A summary of the significance evaluation findings is provided in Table 7. As such, these properties do not appear to be a historical resource for the purposes of CEQA and they have been assigned a California Historical Resource Status Code of 6Z (found ineligible for the NRHP, CRHR, or local designation through survey evaluation). No management recommendations are required for these resources.

Table 7. Summary of Significance Evaluation Findings

Property Number	Building Name/Address	APN	NRHP/CRHR	Stockton Landmark	Stockton Structure of Merit
1	St. Joseph's Medical Center Complex 1638 North California Street 1800 North California Street 542 McCloud Avenue	127-180-44 and 127-190-32	Not Eligible	Not eligible	Not eligible
2	534 East Maple Street	127-190-30	Not eligible	Not eligible	Not eligible
3	425 East Harding Way	127-150-39	Not eligible	Not eligible	Not eligible
4	445 East Harding Way	127-150-51	Not eligible	Not eligible	Not eligible
5	564 East Cleveland Street	127-164-06	Not eligible	Not eligible	Not eligible

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Appendix A

Preparer's Qualifications

Sarah Corder, MFA

Senior Architectural Historian

Ms. Corder is an architectural historian with 13 years' professional experience in in all elements of cultural resources management, including project management, intensive-level field investigations, architectural history studies, and historical significance evaluations in consideration of the California Register of Historical Resources (CRHR) Register, and the National Register of Historic Places (NRHP), and local-level evaluation criteria. Ms. Corder has conducted numerous historical resource evaluations and developed detailed historic context statements for a multitude of property types and architectural styles, including private residential, commercial, industrial, educational, and agricultural properties. She has also provided expertise on numerous projects requiring conformance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

Education

Savannah College of Art and Design
MFA, Historic Preservation, 2004
Bridgewater College
BA, History, 2002

Professional Affiliations

California Preservation Foundation
National Trust for Historic Preservation
Los Angeles Conservancy
Society for Architectural Historians

Ms. Corder meets the Secretary of the Interior's Professional Qualification Standards for both Architectural History and History. She has experience preparing environmental compliance documentation in support of projects that fall under the California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA), and Sections 106 and 110 of the National Historic Preservation Act (NHPA).

Relevant Project Experience

San Francisco State University Master Plan EIR (Ongoing).
Dudek was retained to evaluate all buildings and structures on campus over 45 years old that were proposed for demolition or substantial alteration as part of the proposed Master Plan Program. The study entailed conducting archival and building development research, a records search, detailed impacts assessment, and development of mitigation measures for project conformance with the Secretary of the Interior's Standards for Rehabilitation. Ms. Corder is in charge of the campus field survey and archival research tasks for the project, as well as, co-authoring the technical report.

CSU Chico Master Plan EIR (Ongoing). Dudek was retained to evaluate all buildings and structures on campus over 45 years old that were proposed for demolition or substantial alteration as part of the proposed Master Plan Program. The study entailed conducting archival and building development research, a records search, detailed impacts assessment, and development of mitigation measures for project conformance with the Secretary of the Interior's Standards for Rehabilitation. Ms. Corder is in charge of the campus field survey and archival research tasks for the project, as well as, co-authoring the technical report.

Gilroy Citywide Historic Resources Inventory and Historic Context Statement, City of Gilroy, Gilroy, California (May 2018 – present). Dudek is currently working with the City of Gilroy to prepare a citywide historic context statement and update its 1986 historic resource inventory. As survey lead, Ms. Corder has already successfully completed reconnaissance-level survey of over 3,400 properties on time and within budget, submitted a draft historic

context statement to the city, and has hosted a public kick-off meeting/outreach session that was well received by the community. Dudek has developed highly detailed and efficient iPad field forms that allow surveyors to record a property in less than 5 minutes and provide the City with real-time survey data.

Blue Diamond Growers A Street Annex Project, City of Sacramento, Sacramento County, California (2018).
Dudek was retained by Dreyfuss and Blackford Architecture to prepare a cultural resources evaluation for the proposed demolition of the A Street Annex building constructed in 1926 and currently located on the Blue Diamond Growers Complex in Sacramento. Ms. Corder's responsibilities for the project included the following: architectural history field survey, building permit research, background research, preparation of DPR forms for the evaluation of built resources, and co-authoring the cultural resources report.

The 1431 El Camino Real Project, City of Burlingame, San Mateo County, California (2017).
The City of Burlingame proposes to demolish an existing four-unit (two-story) apartment building along with the detached five-car garage structure at the rear and construct a new six-unit (three-story) townhouse complex. The property at 1431-1433 El Camino Real was constructed in 1947 and required evaluation for historical significance. Further, because the property requires a Caltrans encroachment permit, a Caltrans-compliant Historical Resources Compliance Report (HRCR) was prepared. In addition to evaluating the building at 1431 El Camino, Dudek also had to address impacts to an NRHP-listed tree row within the project area. Ms. Corder's responsibilities on the project included the following: background research, building permit research, co-authoring the final cultural report, and preparation of State of California Department of Parks and Recreation Series 523 Forms (DPR Forms) for the evaluation of built resources.

Castilleja School Project, City of Palo Alto, Santa Clara County, California (2017). Dudek was retained by the City of Palo Alto to conduct a cultural resources study for the Castilleja Master Plan and Conditional Use Permit project. The study included a historical significance evaluation of the campus and related buildings and structures. Ms. Corder's responsibilities for the project included the following: architectural history field survey, background research, preparation of DPR forms for the evaluation of built resources, and co-authoring the cultural resources report.

CSU Chico Siskiyou Hall Project, Butte County, California (2017).
Dudek was retained by California State University (CSU), Chico to complete a historic resources technical report for Siskiyou Hall. The purpose of this technical report is to evaluate the built environment resources located on the parcel for the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and California Historical Landmarks (CHL) to satisfy requirements of the California Environmental Quality Act and California Public Resources Code 5024 and 5024.5 for state-owned properties. Ms. Corder's responsibilities for the project included the following: architectural history field survey and archival research.

CSU Chico College Park Demolition Project, Butte County, California (2017).
Dudek was retained by California State University (CSU), Chico to complete a cultural resources study for a project that proposes demolition of 10 single-family residences near the CSU Chico campus in the City of Chico, Butte County, California. The study involved completion of a California Historical Information System (CHRIS) records search, outreach with the Native American Heritage Commission (NAHC) and local tribes/groups, a pedestrian survey of the project area for built-environment resources, and recordation and evaluation of 10 properties for historical significance. All properties were recorded and evaluated on DPR Forms for historical significance in consideration of NRHP designation criteria and integrity requirements. Ms. Corder's responsibilities for the project included the following: architectural history field survey, building permit research, background research, preparation of DPR forms for the evaluation of built resources, and co-authoring the cultural resources report.

Historical Resources Assessment for the SFO Residential Sound Insulation Program, Cities of San Bruno and Millbrae, San Mateo County, California (2017).
Dudek was retained by San Francisco International Airport (SFO) to evaluate 28 residential properties constructed 50 years ago or more within the cities of San Bruno and Millbrae, in San Mateo County, California. These properties are proposed to receive installation of sound insulation materials as part of SFO's Residential Sound Insulation Program. All 28 properties were recorded and evaluated on State of DPR Forms for historical significance in consideration of NRHP designation criteria and integrity requirements. Ms. Corder's responsibilities for the project included the following: architectural history field survey, background research, preparation of DPR forms for the evaluation of built resources, and co-authoring the cultural resources report.

Yosemite Avenue-Gardner Avenue to Hatch Road Annexation Project, City of Merced, Merced County, California (2017). Dudek was retained to prepare a cultural resources evaluation for a project that proposes to annex 70 acres from Merced County to the City of Merced and to construct and operate the University Village Merced Student Housing and Commercial component on an approximately 30-acre portion of the project site. The evaluation included a single-family residence/agricultural property located within the project site. Ms. Corder's responsibilities for the project included the following: background research, preparation of DPR forms for the evaluation of built resources, and co-authoring the cultural resources report.

Specialized Training

- A Commissioner and Planner's Primer to the California Environmental Quality Act, CPF, 2018
- Innovative Approaches to Section 106 Mitigation, ACRA, 2018
- Crowdfunding Historic Preservation: Direct Public Offerings and Other Ways to Raise Funds, CPF, 2018
- From Nuclear Waste to Manholes – the What, Why and How of Surveys, CPF, 2018
- Historic Districts: New Processes, SOI Standards for Districts, Infill Construction, Additions & ADU's, CPF, 2017
- Focus on Modernism: Design, Materials Conservation & Review, CPF, 2017
- Certified Historic Preservation Consulting Commonwealth of Virginia, 2004

Kate Kaiser, MSHP

Architectural Historian

Kate Kaiser is an architectural historian with 8 years' professional experience as a cultural resource manager specializing in California Environmental Quality Act (CEQA) compliance, National Historic Preservation Act Section 106 compliance, reconnaissance and intensive level surveys, archival research, cultural landscapes, and GIS. Ms. Kaiser meets the Secretary of the Interior's Professional Qualification Standards for architectural history and archaeology.

Education

University of Oregon
MS, Historic Preservation, 2017
Boston University
BA, Archaeology, 2009

Professional Affiliations

Association for Preservation Technology – Southwest
California Preservation Foundation
Vernacular Architecture Forum
Society for California Archaeology

Relevant Dudek Project Experience

Gilroy City-wide Historic Resource Inventory, City of Gilroy, Santa Clara County, California. Served as architectural historian and co-author for the citywide historic context statement. Preparation of the historical context statement involved extensive archival research, coordination with the City of Gilroy and archival repositories, and developing the historical narrative and themes for the City. The project also involved creation and editing of a GIS database of over 3,400 properties in order to create the building records and State of California Department of Parks and Recreation Series 523 forms (DPR forms) for each property surveyed. Ms. Kaiser assisted in the creation, editing, and data management of the DPR forms produced for each building as well as historic districts.

Olympic Well Field Restoration and Arcadia Water Treatment Plant Expansion Project, City of Santa Monica, Los Angeles County, California. Served as architectural historian and author of the Historic Resources Technical Report. The report evaluated the Arcadia Water Treatment Plant and a well along Olympic Boulevard. The project proposed to demolish several underutilized buildings and structures as part of a multi-component project to add new wells to the Olympic Well Field, construct a new 16-inch pipeline connecting the Olympic Well Field to a new Olympic Advanced Water Treatment Facility, and expand the Arcadia water Treatment.

Modelo Project Environmental Impact Report, City of Commerce, Los Angeles County, California. Served as architectural historian and co-authorfor the Cultural Resources Technical Report and EIR cultural resources chapter. The report evaluated the Veterans Memorial Park located within the proposed Project area. The project proposed to demolish and redevelop the Project site to accommodate a mixed-use development and park.

Arroyo Seco Canyon Project, City of Pasadena, Los Angeles County, California. Served as architectural historian and co-author for the Cultural Resources Technical Report. The report evaluated six historic-aged engineering buildings and infrastructure systems within the proposed project area. Dudek recommended that all buildings and structures were ineligible for listing in the NRHP or CRHR with the exception of the Behner Water Treatment Plant, and provided impacts analysis for City of Pasadena Arroyo Seco Stone Wall design elements present in the proposed Project Area.

Silent Ranch Hillside Subdivision Project, City of Glendora, Los Angeles County, California. Served as architectural historian and author of the Historic Resources Technical Report. The report evaluated Charles Silent's Rancho Los Alisos property, Girl Scout Camp Aventura, Forest Service flood control dams, and a segment of the MWD Upper Feeder Pipeline. The project proposed indirect impacts to the setting of the pipeline and provided for protection against damage or overloading as the pipeline is an MWD public utility.

City of Irwindale Speculative Concrete Tilt-Up Building Project. Irwindale, Los Angeles County, California. Kaiser served as architectural historian and author of the Cultural Resources Technical Report. The report evaluated a hollow-core concrete panel manufacturing plant in southeast Irwindale. The project proposed to demolish all buildings and structures in the project site and construct a 528 710 s.f., tilt-up concrete warehouse on the parcel.

LADWP Valley Generating Station Project, Los Angeles Department of Water and Power, California. Served as architectural historian and author of the Cultural Resources Technical Report for the Valley Generating Station Project. The report evaluated the historical significance for each building and structure in the study area. The project proposed to remove the 1953 steam generating plant, as well as the four stacks, SPRR rail spur, and underground fuel tanks.

Judicial Council of California Historical Resource Evaluation Report for the Stanley Mosk Courthouse, City of Los Angeles, Los Angeles County, California. Served as architectural historian and author of the Historical Resource Evaluation Report. Dudek was retained by the Judicial Council of California (JCC) to prepare an evaluation of the Stanley Mosk Los Angeles County Courthouse building, located at 111 N. Hill Street in the City of Los Angeles, California, in order to comply with Public Resources Code Section 5024(b). The report concluded the Stanley Mosk Courthouse was eligible for designation as a historic property in the NRHP, CHL, CRHR, and Los Angeles Historic Cultural Monument list under Criterion A/1 and C/3.

Phillips 66 and Kinder Morgan Relocation Project, Berths 150-151, Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS), Port of Los Angeles, California. Served as architectural historian and co-author of the Updated Historical Resources Evaluation. Preparation of the report involved reviewing previous evaluations for Union Oil Terminal Berths 150-151 and writing an updated significance evaluation. The project proposed to remove and replace the original wharfs with new concrete loading platform, mooring and breasting dolphins, access ramps, catwalks, and an underwater bulkhead.

Globemaster Corridor Specific Plan, City of Long Beach, Los Angeles County, California. Served as architectural historian and author of the Draft EIR-EIS Cultural Resources Chapter. The project includes rezoning portions of the GCSP area, and a mobility plan that implements new streets and pedestrian connectors. Since the GCSP does not directly propose changes to the buildings or structures in the Plan area, the cultural resources report takes a programmatic overview and offers potential impacts analysis and mitigation measures for future development.

LADWP De Soto Tanks Project, Los Angeles Department of Water and Power, California. Served as architectural historian and author of the Historic Properties Identification Report. The report evaluated a 1941 reservoir and associated buildings. The project proposed to replace them with modern underground storage tanks, as well as connections to other trunk lines. The project also analyzed the potential project impacts to the Chatsworth Momonga/Mission Trail, a City of Los Angeles Historic-Cultural Monument (HCM) adjacent to the Project area.

Campus-wide Historic Context Statement for California State University Long Beach, City of Long Beach, Los Angeles County, California. Served as architectural historian and co-author of the historic context statement analyzing the effect of master architect Edward Killingsworth on the development of the campus. Preparation of the historic context statement involved extensive archival research, in-person interviews of architects who worked on-campus, review of CSU Long Beach building and landscape records, and coordination with local heritage groups.

Kaiser Permanente Los Angeles Medical Center Project, Los Angeles, Los Angeles County, California. Served as architectural historian and co-author of the Draft EIR Cultural Resources Chapter and the author of the cultural resources technical report. The report evaluated six buildings greater than 45 years in age that are proposed for demolition as part of the multiphase project. The DEIR chapter also analyzed potential indirect impacts on two other National Register listed or eligible sites: the Aline Barnsdall Complex and the Hollywood Presbyterian Medical Center.

Fallin Elizabeth Steffen, MPS

Architectural Historian

Fallin Steffen is an Architectural Historian with 3 years' experience in historic preservation, architectural conservation, and cultural resource management in the Monterey Bay Area and northern California. Ms. Steffen's professional experience encompasses a variety of projects for local agencies, private developers, and homeowners in both highly urbanized and rural areas, including reconnaissance- and intensive-level surveys, preparation of resource-appropriate and city-wide historic contexts, and historical significance evaluations in consideration of the NRHP, CRHR, and local designation criteria. Additionally, Ms. Steffen was appointed as a Commissioner to the Santa Cruz City Historic Preservation Commission assisting City Staff with design review and conformance with the Secretary of the Interior Standards for proposed residential, commercial and municipal projects involving historic properties.

Education

Tulane University, New Orleans, LA
Masters of Preservation Studies, 2015

University of California, Santa Cruz, CA
B.A. History of Art & Visual Culture, Emphasis in Religion, 2010

Professional Affiliations

California Preservation Foundation

Ms. Steffen meets the Secretary of the Interior's Professional Qualification Standards for Architectural History. She is experienced with interdisciplinary projects spanning private and public development, transportation, and water infrastructure, and maintains experience forming educational sessions about the identification of and best practices for the preservation of historic resources.

Relevant Dudek Project Experience (2018-present)

Development

The Santa Fe Springs Transitional Living Center, Santa Fe Springs, California. April 2019.
Dudek was retained to prepare a historical resources evaluation report for the Santa Fe Springs Transitional Living Center project, which proposed the alteration of a mixed-use property within the project area limits, located at 12000 Washington Boulevard. Ms. Steffen served as architectural historian for the project and co-authored the historical resources evaluation report. Preparation of the report entailed extensive archival research, the composition of an appropriate historic context focused on the history of Santa Fe Springs, evaluation of the built features of the property within the framework of NRHP, CRHP, and local designation requirements, and the preparation of accompanying DPR forms.

50-56 Seaport Drive, Vallejo, California. November 2018.
Dudek was retained by the U.S. Coast Guard to complete a cultural resources evaluation of a property. Ms. Steffen served as architectural historian and co-authored the historical resource significance evaluation. Preparation of the report entailed archival research in local Vallejo repositories pertaining to Coast guard history, exterior survey fieldwork of the resource, historical significance evaluations for the resource in consideration of NRHP, CRHP, and local designation requirements, and the preparation of accompanying DPR forms.

Municipal

The Vintage Park Project, Sonoma, California. April 2019 – ongoing
The City of Sonoma retained Dudek to prepare a historical resources evaluation report for the proposed Vintage Park project, which proposes the demolition of a two residential and one combination residential/commercial properties within the project area limits, located at 230 (226) and 254 First Street East. Ms. Steffen served as architectural historian for the project and co-authored the historical resources evaluation report. Preparation of the report entailed

review of existing reports and responses, extensive archival research, the composition of an appropriate historic context focused on the history of Sonoma, evaluation of the built features of the properties within the framework of NRHP, CRHP, and local designation requirements, and the preparation of accompanying DPR forms.

The Keiser Avenue Reconstruction Project, Rohnert Park, California. March 2019.
The City of Rohnert Park retained Dudek to prepare a historical resources evaluation report for the proposed Keiser Avenue Reconstruction project, which proposed the demolition of a residential property within the project area limits, located at 5040 Snyder Lane. Ms. Steffen served as architectural historian for the project and co-authored the historical resources evaluation report. Preparation of the report entailed extensive archival research, the composition of an appropriate historic context focused on the history of Rohnert Park, evaluation of the built features of the property within the framework of NRHP, CRHP, and local designation requirements, and the preparation of accompanying DPR forms.

Gilroy City-wide Historic Resource Inventory. City of Gilroy, California. 2018 - ongoing
Ms. Steffen served architectural historian and co-author for the City-wide historic context statement prepared for the City of Gilroy. Preparation of the historical context statement involved extensive archival research, coordination with the City of Gilroy and archival repositories, chronological period and theme identification, and developing the historical narrative for the City. As assistant field manager, Ms. Steffen participated in a City-wide architectural survey of over 3,400 buildings in Gilroy as part of the update the existing 1986 Historic Resources Inventory.

North 16th Street Streetscape Project, Sacramento, California. 2018.
Ms. Steffen served as architectural historian and prepared the historical resources evaluation report. Preparation of the report entailed exterior survey of 32 buildings along an approximately 1.0-mile stretch of 16th Street in Sacramento, development of appropriate historical contexts, and historical significance evaluation of buildings in the California Department of Transportation format in consideration of and in compliance with NEPA, Section 106 of the NHPA, CEQA, and local designation requirements.

Newel Creek Dam Inlet/Outlet Replacement Project, City of Santa Cruz, California. July 2018.
The City of Santa Cruz Water Department retained Dudek to prepare a historical resources evaluation report. Ms. Steffen served as architectural historian for the project and co-authored the historical resources evaluation report. Preparation of the report entailed extensive archival research, the composition of an appropriate historic context focused on the history of Santa Cruz's water supply, evaluation of the built features of both the Dam, associated features and the recreation area site within the framework of NRHP, CRHP, and local designation requirements, and the preparation of accompanying DPR forms. The project proposed the replacement of the inlet/outlet components of the Dam and the installation of an aerator.

Education

San Francisco State University Major Master Plan Revision Project, San Francisco, California. 2019.
Ms. Steffen served as architectural historian and co-author of the cultural resources study. Her role in the preparation of the study included required exterior survey, and in some cases, interior survey fieldwork involving all buildings and structures on campus over 45 years of age scheduled for demolition and/or substantial alteration as part of the proposed Master Plan Revision project, and extensive archival and building development research at both campus archives and other local repositories.

Healthcare

970-992 17th Avenue, Santa Cruz, California. September 2018.
Ms. Steffen served as architectural historian and author of the architectural component of the historic resources evaluation report. Preparation of the report entailed archival research, exterior survey fieldwork of a multi-building industrial complex, historical context development for the Live Oak area on Santa Cruz County, historical significance evaluations for each resource in consideration of NRHP, CRHP, and local designation requirements, and the preparation of accompanying DPR forms. The proposed project involved the rezoning of two adjacent parcels totalling approximately 5-acres for the construction of a Kaiser Medical Facility.

Nicole Frank, MSHP

Architectural Historian

Nicole Frank is an architectural historian with 3 years' professional experience as an architectural historian conducting historic research, writing landmark designations, performing conditions assessments and working hands-on in building restoration projects throughout the United States. Ms. Frank also has governmental experience with the City of San Francisco's Planning Department and the City of Chicago's Landmark Designations Department. She meets the Secretary of the Interior's Professional Qualification Standards for Architectural History.

Education

The School of the Art Institute of Chicago, MS
Historic Preservation, 2018

The College of Charleston, BA, Historic Preservation and Art History, 2016

Dudek Project Experience

Municipal

As Needed Historic Research Consulting Services, City of Coronado, Coronado, California (In Progress). Acting as architectural historian, Ms. Frank was the primary writer of the historical resource evaluation reports for 936 J Avenue, 310 2nd Street, 718 B Avenue, 1027-1029 Orange Avenue, 735 Margarita Avenue, 519 Ocean Boulevard, 1901 Monterey Avenue, 269 Palm Avenue, 1113 Adella Avenue, 1519 4th Street, and 745 A Avenue. Each evaluation involved creation of an occupancy timeline, supplemental research on occupants, architect/builder, and property, building development research, a pedestrian survey of the project area, a description of the surveyed resource, and completion of a historical significance evaluation report in consideration of designation criteria and integrity requirements.

City of Gilroy Historic Resource Inventory Update. Gilroy, California, 2019-2020. Ms. Frank participated in a City-wide architectural survey of over 3,400 buildings in Gilroy, California. Acting as surveyor, Ms. Frank utilized Dudek's architectural survey application on an iPad and recorded the features, alterations and photographs of historic-era buildings throughout the city. Additionally Ms. Frank also assisted in the data management and cleanup of the majority of the DPR forms produced for each of the surveyed buildings. This process included assigning status codes, editing descriptions, choosing an accurate photograph, and adding the proper significance narrative.

Development

Historical Resources Evaluation Report for the 740-790 East Green Street Mixed-Use Project, Pasadena, California, 2019.
Dudek was retained by the City of Pasadena to complete a historical significance evaluation report for five commercial buildings located in the City of Pasadena, California (AINs 5734-025-014, 024, 026, 029, 027). The study included a pedestrian survey of the proposed project area, building development and archival research, development of an appropriate historic context for the property, and recordation and evaluation of the property for historical significance and integrity in consideration of National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and local eligibility requirements. Ms. Frank acting as architectural

historian updated the Pasadena historic context, conducted archival research, and wrote the significance evaluations for the five buildings over 45 years old.

Cultural Resources Technical Report for 8850 Sunset Boulevard Project, West Hollywood, California, 2019. Dudek was retained by the City of West Hollywood (City) to complete a Cultural Resources Technical Report for the 8850 Sunset Boulevard Project (Project). The proposed project consists of the demolition of existing buildings and the construction and operation of a new mixed-use hotel and residential building on a property along the south side of Sunset Boulevard, extending the full city block between Larrabee Street and San Vicente Boulevard, in the City of West Hollywood (project site). Acting as architectural historian Ms. Frank assisted in the completion of the technical report as the primary writer.

Cultural Resources Report for the Palmetto Avenue Warehouse Project, City of Rialto, San Bernardino County, California, 2019. Dudek was retained by Patriot Development Partners to conduct a cultural resources inventory in support of the proposed Palmetto Avenue Warehouse Project (proposed Project). The Project proposes to demolish buildings on six (6) parcels in the City of Rialto, and construct an industrial/warehouse building on an approximately 4.24-acre property located at the northeast corner of Palmetto Avenue and Baseline Road. Ms. Frank acted as evaluator for three of the six properties, which were 45 years or older for historical significance.

Historical Resources Evaluation Report for 14545 Lanark Street Project, Panorama City, California, 2019. Dudek was retained by Clifford Beers Housing, Inc. to complete a historical significance evaluation report for a property located at 14545 Lanark Street in the City of Los Angeles, California (APN: 2210-011-900). Ms. Frank served as architectural historian and authored the historical resources evaluation report for the subject property, a Public Social Services Department building constructed in 1967.

Historical Resources Technical Report for Jacumba Valley Ranch Solar Energy Park, Jacumba, California. 2019. Dudek was retained by BayWa to complete a historical resources technical report for a project that proposes to develop a solar energy project consisting of up to 90 megawatts (MW) of alternating current (ac) and a 20 MW energy storage facility that can supply electricity to indirectly reduce the need to emit greenhouse gases (GHGs). Acting as architectural historian, Ms. Frank authored a cultural resources technical report evaluating a complex of twenty dairy buildings, the Mountain Meadow Dairy and Creamery's Sunshine Ranch Complex for historical significance.

1605 Industrial Avenue Warehouse Project. Cultural Resources Technical Report. San José, California. 2018. Acting as architectural historian, Ms. Frank co-authored the cultural resources technical report for the 1605 Industrial Avenue Warehouse project for the construction of an approximately 186,000-square foot industrial/warehouse building on an approximately 10.96-gross-acre property located in the northern part of the City. Preparation of the historical context statement involved archival research, building descriptions, historic context development, and historical significance evaluations.

Jefferson La Mesa Project, La Mesa, CA. 2018. Ms. Frank served as architectural historian and co-author of the historical resources evaluation report for the Jefferson La Mesa Project. Ms. Frank contributed archival research and historical context development for three automotive buildings. The project proposed to demolish three industrial automotive buildings in order to redevelop the property.

Water/Wastewater

City of San Diego Public Utility Department, Historical Context Report for the Dulzura Conduit, Upper Otay Dam, Murray Dam, Sutherland Dam, and Miramar Dam. City of San Diego, San Diego County, California (In Progress). Ms. Frank served as architectural historian and author of the cultural resources report for the City of San Diego Public Utility Department. Preparation of the historical context statement involved archival research, historic context development, engineering feature development descriptions, and historical significance evaluations. Ms.

Frank evaluated five resources including the Dulzura Conduit, Upper Otay Dam, Murray Dam, Sutherland Dam, and Miramar Dam.

Historical Resources Impact Assessment for Maintenance on the Morena Dam Spillway, City of San Diego, California, 2019. Ms. Frank acted as the primary author for an impacts assessment of proposed project activities including maintenance to the Morena Dam, which is considered an historical resource under CEQA and an historic property under Section 106 of the NHPA.

Transportation

Caltrans, Keller Road/I-215 Interchange Project, Murrieta and Menifee California, 2018. Ms. Frank acted as architectural historian, co-authoring historic resource report for the Keller Road/I-215 Interchange project for Caltrans. Preparation of the historic resource report included a site visit, archival research, historic context development of Murrieta and Menifee, building feature descriptions of six historic-era resources, and historical significance evaluations. The project proposed to construct a new full interchange and auxiliary lanes at I-215 and Keller Road in Riverside County, California.

Education

California State University, San Francisco Master Plan Update EIR, San Francisco, California. 2019. Acting as architectural historian, Ms. Frank participated in a survey of CSU San Francisco's Phycology and Ethnic Studies Building and conducted archival research in order to prepare an appropriate historic context for San Francisco, CSU San Francisco and the Psychology and Ethnic Studies Building. Ms. Frank conducted research on 18 buildings located on the SFSU campus, and wrote historic contexts, descriptions and lists of alterations for each.

California State University, Fresno, New Student Union, Fresno, California. 2018. As architectural historian, Ms. Frank authored the description of the Amphitheatre on the CSU Fresno campus for the historic resource evaluation report. Ms. Frank also prepared DPRs for the two buildings.

California State University, Chico, Cultural Resources Report for the College Park Demolition Project, Chico, CA, 2018. As architectural historian, Ms. Frank co-authored cultural resources report for the California State University, Chico, writing ten building feature descriptions. The project proposed to demolish ten-detached single-family residences on land owned by the University.

Publications

Frank, Nicole. 2018. "Mid-Century Glass Block: The Colored Patterned and Textured Era." Graduate Thesis. September 2018.

Presentations

"Mid-Century Glass Block: The Colored Patterned and Textured Era." 2018. Presented at the Association for Preservation Technology (APT) Annual Conference. Buffalo, New York

"Mid-Century Glass Block." 2018. Presented at the APT Western Great Lakes Chapter and DOCOMOMO US/Chicago 2018 Symposium: Preservation Challenges of Modernist Structures. Chicago, Illinois

William Burns, RPA

Project Archaeologist

William Burns is an archaeologist with over 15 years' experience in cultural resource management. He is highly knowledgeable about the California Environmental Quality Act, the National Environmental Policy Act, the Native American Graves Protection and Repatriation Act, and the National Historic Preservation Act, particularly the Section 106 process. Mr. Burns evaluates buildings and districts for archaeological sensitivity and possible inclusion on the National Register of Historic Places. He assesses project and building plans for archaeological sensitivity and reviews archaeological reports on the state government regulatory end of the process.

Mr. Burns possesses expertise about Pre-contact archaeological sites, paleocoastline reconstruction, and artifact identification and analysis. He applies this expertise to archaeological report writing and editing for Section 106 projects. He also serves on field crews and as a supervisor on archaeological projects, overseeing surveys, site examinations, data recoveries, and artifact database creation and maintenance. For precise site mapping, Mr. Burns uses GPS devices, primarily Trimble GEO XH, ArcGIS, and Maptitude.

Education

MSc, Coastal and Marine Archaeology, 2010, University of York, Department of Archaeology, York, United Kingdom

BA, Anthropology, Minor in Mathematics, 2004, University of Massachusetts at Amherst, Massachusetts

Certifications

Register of Professional Archaeologists (RPA)

Divemaster (National Association of Underwater Instructors)

OSHA HAZWOPER (40-hour)

Basic First Aid/BBP (American Heart

Relevant Project Experience

California High-Speed Rail Project, Construction Package 2-3, Fresno to Bakersfield, Dragados / Flatiron Joint Venture, Fresno, Kings, Counties of Tulare and Kern, California. Conducted field survey, organize and manage cultural, tribal, and paleontological monitors, prepared cultural resources survey reports and monthly summaries. Organized field efforts and compliance with environmental measures.

Alamo Mixed-Use Project, Vacaville, CA. Conducted tribal consultation, performed extended Phase I testing, and prepared cultural resources report for residential development project.

Heartland Solar Project, Mendota, CA. Conducted records search, performed cultural survey, and prepared cultural resources report for solar project.

Cascade Battery Energy Storage Project, Stockton, CA. Conducted records search, performed cultural survey, and prepared cultural resources report for school project.

Alameda County Water District Advance Metering Infrastructure Project, Alameda County, CA. Conducted records search, and prepared cultural resources inventory, monitoring plan, sensitivity study report for utilities project.

Spectrum Charter Communications Alturas Project, Modoc County, CA. Conducted records search, performed survey, and prepared cultural resources report for utilities project.

San Geronimo Treatment Plant Emergency Generator Project, Woodacre, CA. Performed cultural survey, conducted records search and prepared cultural resources report for treatment plant improvements project.

Palm Villas Senior Center, Saratoga, CA. Performed cultural and paleontological survey, conducted records search and prepared cultural resources report for senior care facility.

CSU Maritime Academy Dining Center Patio Project, Vallejo, CA. Conducted records search, preformed pedestrian survey, and prepared cultural resources report for university upgrades project.

Centennial Flats Solar Project, La Paz County, AZ. Organized crew to perform pedestrian survey, and prepared cultural resources report for large solar farm project.

Roblar Road Quarry, Sonoma County, CA. Performed cultural and paleontological survey, performed extended Phase I testing, performed tribal outreach, and prepared cultural resources report for quarry project.

Fresno State Student Union, Fresno, CA. Conducted records search, preformed pedestrian survey, and prepared cultural resources report for university project.

Hunter Subdivision Project, St Helena, CA. Conducted records search, preformed pedestrian survey and extended Phase 1 testing, and prepared cultural resources report for residential subdivision project.

Daylight Solar Project, Kings County, CA. Conducted records search, preformed pedestrian survey, and prepared cultural resources report for solar farm project.

Tres Amigos Solar Project, Los Banos, CA. Conducted records search, preformed pedestrian survey, and prepared cultural resources report for solar farm project.

Wheeler North Reef Restoration Project, San Clemente, CA. Performed cultural survey, conducted records search and prepared tribal cultural resources report for underwater reef restoration project.

University of California, Davis Emerson Hall Replacement Project, Davis, CA. Conducted records search for university development project.

Gonzaga Ridge Wind Farm, Merced County, CA. Conducted records search, performed survey, and prepared cultural resources report for wind farm project.

Auburn Riparian Vegetation Management Project, Auburn Area Recreation and Parks District, City of Auburn, California. Conducted field survey, prepared site forms, prepared cultural resources report for vegetation management recreation areas.

University Village Housing Project, City of Merced, Merced, California. Conducted field survey, prepared cultural resources report for housing development.

Yokohl Ranch Housing Development Project, The Yokohl Ranch Company LLC, Tulare County, California. Conducted field survey, performed site evaluation for large housing development.

Aera Energy Cultural Resources Inventory, Aera Energy LLC, Kern County, California. Conducted field survey, performed site evaluation, prepared cultural resources report for inventory existing cultural.

Appendix B

Confidential Records Search Results

Appendix C

DPR Form Sets

State of California ♁ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

Page 1 **of** 47 ***Resource Name or #:** (Assigned by recorder) St. Joseph's Medical Center Complex
P1. Other Identifier: St. Joseph's Hospital

*P2. **Location:** ☐ **Not for Publication** ■ **Unrestricted**
*a. **County** San Joaquin **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
*b. **USGS 7.5' Quad** Stockton West **Date** 1987 **Survey** Land Grant ; **Name** Campo de los Franceses
c. Address 1638 & 1800 N. California City Stockton Zip 95204
d. UTM: (Give more than one for large and/or linear resources) Zone 10S , 650246 mE/ 4203699 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
Parcel Numbers: 127-180-44 and 127-190-32. The complex occupies the block bound by McCloud Avenue to North California Street, East Maple Street and Cemetery Lane, as well as also western half of the block immediately south of East Maple Street. Addresses associated with the medical complex include 1800 North California Street, 1638 North California Street, and 542 McCloud Avenue.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The St. Joseph's Medical Center Complex is comprised of a large hospital building containing numerous contiguous wings flanked by a number of stand-alone buildings and landscaped spaces. Additionally, the complex includes a freestanding building, the McCloud building, which is sited at its own address, 542 McCloud Avenue but shares a parcel with 1800 North California Street. The complex was gradually developed over the course of 121 years, and displays a wide range of architectural styles and materials. **See continuation sheet.**

***P3b. Resource Attributes:** (List attributes and codes) HP41. Hospital

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



***P4. Resources Present:** ■ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (view, date, accession #) Main elevation, view looking northeast, March 6, 2019

***P6. Date Constructed/Age and Source:** ■ Historic ☐ Prehistoric ☐ Both
1899 (Stockton Evening Mail 1899)

***P7. Owner and Address:**
St. Joseph's Medical Center
1800 N California St.
Stockton, CA 95204

***P8. Recorded by:** (Name, affiliation, and address)
Sarah Corder, MFA
Dudek,
1102 R Street
Sacramento, California 95820

***P9. Date Recorded:** 3/6/2020

***P10. Survey Type:** (Describe)
Pedestrian

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Kaiser, K., F. Steffen, S. Corder and W. Burns. 2021. Historical Resources Inventory And Evaluation Report For The St. Joseph's Medical Center Hospital Expansion Project, Stockton, California. Dudek, September 2021.

***Attachments:** ☐NONE ■Location Map ■Continuation Sheet ■Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

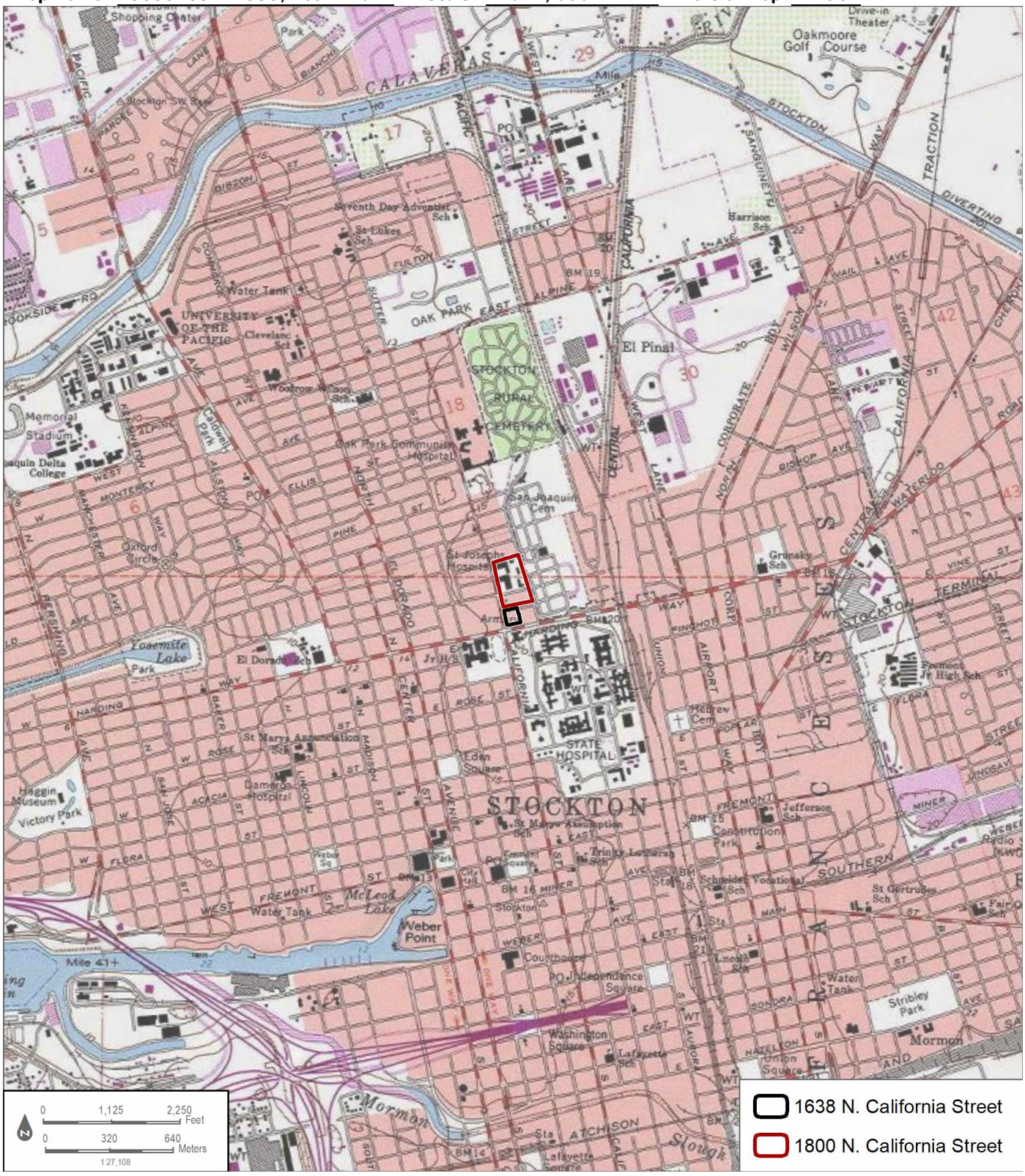
State of California ◆ Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI#
Trinomial

 ***Resource Name or #** (Assigned by recorder) St. Joseph's Medical Center Complex

***Map Name:** Stockton West, Calif. ***Scale:** 1:24,000 ***Date of map:** 1987



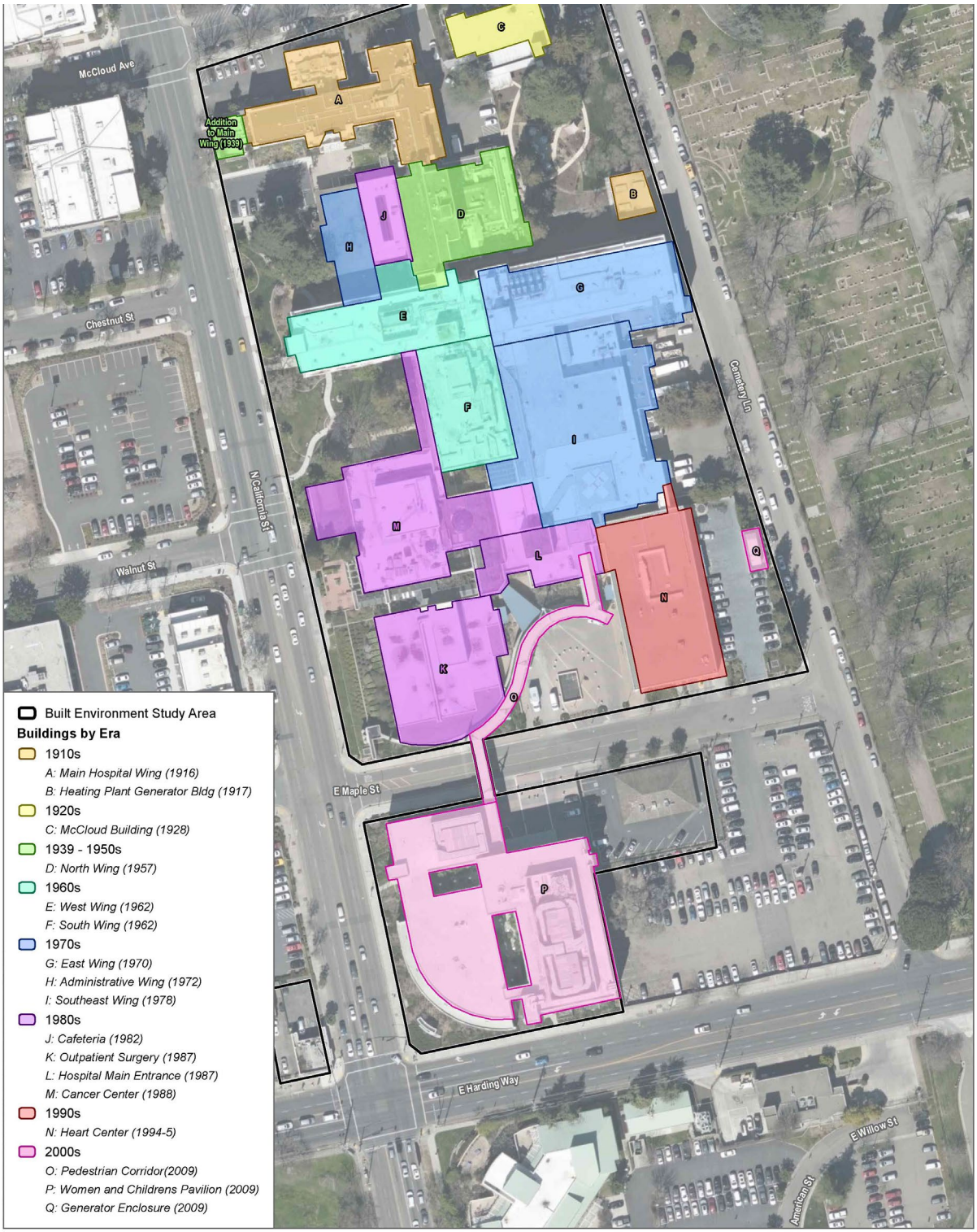
State of California ♁ Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

SKETCH MAP

Primary # _____
HRI#
Trinomial

Page 3 **of** 47 ***Resource Name or #** (Assigned by recorder) St. Joseph's Medical Center Complex

***Drawn by:** Christopher Starbird ***Date of map:** April 1, 2020



State of California ◆ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) St. Joseph's Medical Center Complex ***NRHP Status Code** 6Z
Page 4 **of** 47

B1. Historic Name: St. Joseph's Home and Hospital; St. Joseph's Hospital of Stockton
B2. Common Name:
B3. Original Use: Hospital B4. Present Use: Hospital
***B5. Architectural Style:** Mission Revival, Spanish Colonial Revival, and Mid-Century Modern
***B6. Construction History:** (Construction date, alterations, and date of alterations)
According to an article in the Stockton Evening Mail the St. Joseph's Medical Center Complex was constructed in 1899 with numerous additions, interior renovations, and exterior alterations made to the building since its original date of construction (Stockton Evening Mail 1899). **See continuation sheet.**

***B7. Moved?** ■**No** □**Yes** □**Unknown** **Date:** **Original Location:**
***B8. Related Features:**

B9a. Architect: Various (see continuation sheet) b. Builder: Various (see continuation sheet)
***B10. Significance: Theme** n/a **Area** n/a

Period of Significance n/a **Property Type** n/a **Applicable Criteria** n/a
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Historical Overview of the City of Stockton
The San Joaquin River delta area had been settled since the prehistoric era. The Spanish first explored the San Joaquin valley in 1772; however, Gabriel Moraga named the valley San Joaquin de los Tulares, after the rushes and wetland plants that grew there only in 1808. In 1828, Jedediah Smith traveled for the Rocky Mountain Fur Company to Southern California, then to the San Joaquin Valley to trap beaver at the French Camp settlement, just south of present-day Stockton. This was followed by a trapper party led by John Work in 1832 for the Hudson Bay Company. Several party members were infected with a fever illness, which spread to the local Native American population in the San Joaquin Delta when the two groups eventually clashed (Mokelumne and Yokuts). This, as well as years of aggression from the Spanish then Mexican armies decreased the Native American habitation on the slough as well. Overall, aside from a fur company camp, the area was not well settled prior to the 1840s (ARG 2000; Lewis et al 1979; Tinkham 1880). **See continuation sheet.**

B11. Additional Resource Attributes: (List attributes and codes)
***B12. References:** **See continuation sheet**

B13. Remarks:

***B14. Evaluator:** Kate Kaiser, MSHP
***Date of Evaluation:** April 1, 2020

(This space reserved for official comments.)

(Sketch Map with north arrow required.)



***P3a. Description (continued):**

The complex occupies the block bound by McCloud Avenue to North California Street, East Maple Street and Cemetery Lane, as well as also western half of the block immediately south of East Maple Street. The description of the various wings of the complex below is organized to correspond to the chronological development of the St. Joseph's Medical Center Complex presented in the Sketch Map.



Figure 1. The St. Joseph's Medical Center from across California Street, view looking N (IMG_9821)

Main Hospital Wing (A) (1916)

The Main Hospital Wing (A) (Figure 2) is a three-story Mission Revival-style building constructed in 1916 as an auxiliary wing to the 1899 St Joseph's Home (now demolished). The original T-shaped area of the building has been expanded with a two-story addition on the north elevation (1917) and a one-story addition on the west elevation (c.1949-57) (Figure 3). The exterior of the building has been stuccoed and painted a light beige color, and the mansard parapet roof is clad in red barrel tiles. The foundation of the building is fully obscured by abutting asphalt and landscaping.

The primary elevation faces south towards the center of the complex, and features a distinctive Mission-style roof parapet with a square multi lite window at the center (Figure 4). Below, a similar shaped parapet sits above the arched bays of the entrance portico containing the original oak entry door, side panels, and oak-framed transom. The portico floor and the eight steps leading from the courtyard between the Main Hospital Wing (A), the Administrative Wing (H) and the Cafeteria (J) up to the portico feature terrazzo flooring (Figures 5 and 6).

Fenestration across the original section of the building is generally consistent. On the first and second stories, segmented window openings fitted with undersized rectangular, metal casement windows have required the arched sections above the window to be infilled. On the third story, rectangular window openings are fitted with either single, double, or tripartite metal casement windows and feature a filled-in transom above each window (Figure 7). On the eastern side of the building where it meets the North Wing (D), several original square windows remain (Figure 8).

The northern addition features segmented metal casement windows which have glass fitted in the arched section of the windows on the first story., On the second story, large square multi-lite windows overlook the parking lot (See Figure 3 and 7). The west addition features multi-lite casement windows and a ribbon of metal casement windows with wide transoms that wrap around the southwestern corner of the building (See Figure 2).



Figure 2. Main Hospital Wing (A): Partial west and south (main) elevations, view looking NE (DSCN5183)



Figure 3. Main Hospital Wing (A): Partial north (rear) elevation showing the 1917 Kitchen and Surgery addition at left and the c.1949-1957 addition at right, view looking SE (DSCN5207)



Figure 4. Main Hospital Wing (A): West and south (main) elevations, view looking NE (IMG_9994)



Figure 5. Main Hospital Wing (A): Courtyard between south (main) and west elevations. Stairs to the Administrative Wing (H) at right, view looking NE (IMG_0001)



Figure 6. Main Hospital Wing (A): Primary entrance door located on south (main) elevation showing the modified section of the portico at left, view looking N (IMG_0015)



Figure 7. Main Hospital Wing (A): Partial north (rear) elevation showing 1917 addition at right and an original wing projecting from the building at left, view looking S (DSCN5217)



Figure 8. Main Hospital Wing (A): Partial view of west elevation (right) showing the connection to the North Wing (D) (left), view looking SW (DSCN5285)

Identified Alterations to Main Hospital Wing (A):

- North Addition (1917)
- Third story added to the building (1926)
- West addition (1939)
- Wood casement windows replaced with tripartite metal casement windows across the whole wing
- Original segmented (first and second stories) and rectilinear (third story) transoms infilled
- Metal emergency exit stairwells added to the north elevation
- Two outer-most bays of the entrance portico infilled and fitted with windows.
- Original decorative belfries flanking the central parapet of the entry portico removed
- "St. Joseph's Hospital" signage and statue of St. Joseph installed in small arched opening at the center of the entry portico parapet
- Red tile caps removed from pillars flanking the third story parapet

Heating Plant Generator Building (B) (1917)

The Heating Plant Generator Building (B) is a modest, rectilinear masonry building located on the northeastern section of the medical campus (Figure 9) which appears to date to 1917, although it shows signs of major alterations over time. The building features a parapet roof, replaced stucco siding, and multiple bays that have been modified and/or infilled. Fenestration is are limited to a roll-up utility door and two metal doors on the western elevation.



Figure 9. Heating Plant Generator Building (B): view looking NW (DSCN5278)

Identified Alterations to Heating Plant Generator Building (B):

- Exterior stuccoed
- Addition of new roll-up doors and metal entry doors
- Infill of existing openings

McCloud Building (C) (1928)

The Spanish Revival-style McCloud Building (C) was constructed on the St. Joseph's Medical campus in 1928 to function as a convent for the nuns who manage the hospital, as well as a residence for pupils of the Nursing school (Figure 10). While the building is not connected physically to the St. Joseph's Medical Center, the McCloud Building (C) was developed in conjunction with the St. Joseph's Medical Complex and shares a corresponding history. The McCloud Building (C) is located on the same parcel as the St. Joseph's Medical Center, however, the building is identified with an independent address from the remainder of the medical complex, 542 McCloud Avenue. The U-shaped building is three stories tall and faces north onto McCloud Avenue and is completely disconnected from the remaining hospital buildings. The building was originally designed in the Spanish Colonial Revival style, however, an intensive renovation that resulted in the removal of the original roof and addition of a third story has since removed almost all major elements of the original design. It features a parapet roof topped by inconspicuous metal copping above the stuccoed elevations of the building. The building features a partial basement level, and the foundation type is unknown.

The primary entrance to the building is located beneath a recessed entry bay on the north (main) elevation which is framed by a pair of arched pilasters leading to a replaced wood paneled entry door (Figure 11). The west and south (rear) elevations contain replaced entry doors, all of which are protected by covered walkways (Figure 12). The south (rear) elevation faces out onto a sizable landscaped area called "Schroder Park" that is encompassed by tall metal fence (Figure 13).

The original fenestration has been replaced with aluminum-framed casement windows across the whole of the building, ranging from narrow rectangular single-lite windows to wide, tripartite examples. The windows do not feature any kind of window surround or trim, apart from a pair of windows located on the left-hand side of the north elevation. The ground-level window here features a decorative raised surround supported by two corbels (Figure 14).



Figure 10. McCloud Building (C): North (main) elevation, view looking S (DSCN5225)



Figure 11. McCloud Building (C): Primary entry porch detail on north (main) elevation, view looking S (DSCN5240)



Figure 12. McCloud Building (C): West and south (rear) elevations showing two alternate entry areas protected by covered walkways, view looking NE (DSCN5245)



Figure 13. McCloud Building (C): South (rear) elevation showing a portion of Schroder Park, view looking NE (DSCN5248)



Figure 14. McCloud Building (C): East and north (main) elevation showing only pair of windows featuring a raised surround, view looking SW (DSCN5232)

Identified Alterations to McCloud Building (C):

- Third story addition replacing the original pitched, tile-clad roof with a flat parapet roof
- Replacement of all original windows
- Reconfiguration of window openings and locations and removal of the majority of original window surrounds
- Replacement of original doors
- Replaced stucco siding
- Addition of elevator shaft on south (rear) elevation
- Overall, removal of all character-defining features related to the original design

North Wing (D) (1957)

The North Wing (D) is a Mid-Century Modern-style addition with one-story and four-story components that was completed in 1957 (Figure 15). It is presently connected with the Main Hospital Wing (A) to the north, the Cafeteria (J) to the west and the West Wing (E) and the East Wing (G) to the south. The building is constructed from concrete masonry units with a flat roof featuring wide eaves on the one-story section, and a parapet roof on the four-story section. The east and west elevations of the four-story section feature cantilevered overhangs that delineate each story, while the one-story area contains a wide loading dock on the north elevation. Fenestration across the North Wing (D) is varied and includes fixed windows, tripartite casement windows, stacked hopper windows, horizontal pivot windows, half-lite and solid metal doors.



Figure 15. North Wing (D) : North loading dock elevation of one-story section with east-facing, four-story elevation at center-right, view looking SW (DSCN5287)

Identified Alterations to North Wing (D):

- Fourth story added to the multi-story section
- Addition to the east elevation
- Oxygen enclosure added to south elevation
- Replaced Windows

West Wing (E) (1962)

The Mid-Century Modern-style West Wing (E) (Figure 16) was added onto the existing hospital as part of the major hospital expansion completed in 1962 and is presently connected with the North Wing (D) and Administrative Wing (H) to the north, the East Wing (G) to the east, and the South Wing (F) and Cancer Center (M) to the south.

The four-story wing is constructed of concrete and features a predominately flat, multi-level roof with several sections of parapet-type roof obscuring the flat roof behind in those sections. The prominent west (main) elevation faces North California Street with a protruding central bay clad in stone tile and affixed with the original 1962 cross and "St. Joseph's Medical Center" signage. The central bay is flanked by columns of decorative breezeway block and a wide span of flat, concrete wall above each of the two entries to the first story main entrance portico. Inside the shaded portico, a dual, automatic sliding door provides access to the interior of the building.

The north and south elevations of the West Wing (E) feature flat, cantilevered overhangs that delineate each level of the building. Fenestration across the building has been replaced and the original openings appear to have been infilled to accommodate the new metal-frame, single-lite, paired single-lite with transom, or dual-lite with transom windows.



Figure 16. West Wing (E): West (main) and south elevations, view looking NE (IMG_9916)

Identified Alterations to West Wing (E):

- Replaced windows
- Replaced entry door with modern automatic sliding doors

South Wing (F) (1962)

The two-story South Wing (F) was completed during the 1962 expansion period and is now fully surrounded by the West Wing (E) to the north, the Cancer Center (M) to the west and south, and the Southeast Wing (I) to the east (Figure 17). As such, the only visible area of the South Wing (F) is the west elevation where the second story slightly projects above the Cancer Center (M). It appears to share the same Mid-Century Modern stylings featured on the West Wing (E) including flat, cantilevered overhangs above the window and broad, flat, unadorned surfaces with metal-frame windows.



Figure 17. South Wing (F): West elevation projecting above Cancer Center (M), view looking E (IMG_9902)

Identified Alterations to South Wing (F):

- Replaced Windows
- Obscured by construction of the Canter Center (M) in 1988

East Wing (G) (1970)

The four-story East Wing (G) was completed in 1970 and is situated between North Wing (D) to the north, West Wing (E) to the west, and Southeast Wing (I) to the south (Figure 18). The East Wing (G) was designed in the Mid-Century Modern style and overall appears to closely resemble the West and South Wings. The resemblances include concrete construction, delineating cantilevered overhangs between levels, a broad short end (in this case containing a set of stairs and multiple balconies) and corresponding fenestration.



Figure 18. East Wing (G): South and east elevations, view looking NW (DCSN5120)

Identified Alterations to East Wing (G):

- South elevation obscured by construction of the Southeast Wing (I) in 1978

Administrative Wing (H) (1972)

The Administrative Wing (H) was completed in 1972 during a busy period of hospital expansion (Figure 19). The functional, utilitarian-style building features muted New Formalist stylings including heavy brick veneer, over-built roof eaves and heavy, protruding roof-support beams. It meets the West Wing (E) to the south and the Cafeteria (J) on the west and faces the entrance portico of the Main Hospital Wing (A). The Administrative Wing (H) comprised from a combination of pigmented, flat, concrete masonry units and formed concrete. Fenestration is limited to metal sash fixed, double-lite windows with transoms, and full-lite single shop doors.



Figure 19. Administrative Wing (H): North and partial west (main) elevations, view looking SE (IMG_9972)

Identified Alterations to Administrative Wing (H):

- Extension of roofline to accommodate Cafeteria (J) (1982)

Southeast Wing (I) (1978)

The Southeast Wing (I) is located on the eastern side of the complex between the East Wing (G) to the north and the Heart Center (N) to the south and was completed in 1978 (Figure 20). The utilitarian building presents with Post-modern flourishes such as an articulated, boxy massing clad in rough, scored stucco, and features both vertical and horizontal ribbons of windows fitted with dark tempered glass.



Figure 20. Southeast Wing (I): East (main) elevation facing Cemetery Lane, view looking W (IMG_0109)

Cafeteria (J) (1982)
The Cafeteria (J) is sandwiched between the Administrative Wing (H) to the west and the North Wing (D) to the east and was completed during the 1982 expansion period (Figure 21). It shares its north elevation with the Administrative Wing (H) and is demarcated by the north patio and the floor to ceiling front windows.



Figure 21. Cafeteria (J): North (main) elevation, view looking W (IMG_0038)

Outpatient Surgery (K) (1987)
The Outpatient Surgery (K) (Figure 22) was completed in 1987 and faces out onto North California Street. The utilitarian building featured muted Post Modern-style elements including a circular cut-out window, an articulated elevation, stucco siding, a complex roof structure, and integrated tiered landscaping.



Figure 22. Outpatient Surgery (K): West (main) elevation facing North California Avenue, view looking NE (IMG_9846)

Hospital Main Entrance (L) (1987)
The Hospital Entrance (L) (Figure 23) was completed in 1987 and is situated strategically between multiple wings constructed between 1982 and 2009: Cancer Center (M) to the north, Outpatient Surgery (K) and the Pedestrian Corridor (O) to the south, and the Heart Center (N) to the east. The building is utilitarian in design but does exhibit some Post-Modern stylings. The building was developed in conjunction with the semi-circular patient drop off and pick-up drive facing East Maple Street completed in 1995, however the addition of the Pedestrian Corridor (O) has largely obscured the stucco and concrete Main Entrance building. The building is accessed via an automatic, full-lite sliding glass door located on the south (Main) elevation and via a long covered walkway from North California Street leading to another sliding glass door on the west elevation.



Figure 23. Hospital Main Entrance (L): South (main) elevation facing East Maple Street, view looking NW (IMG_0054)

Cancer Center (M) (1988)
The Cancer Center (M) was completed in 1988 (Figure 24) and is Utilitarian in design. The one-story building faces out onto North California Avenue and features a scored stucco and concrete exterior. The limited square fixed and dual-lite fixed windows across the building are framed by flush stucco frames.



Figure 24.Cancer Center (M) : West (main) elevation facing No California Street, view looking SE (IMG_9887)

Heart Center (N) (1994-1995)

The Heart Center (N) is a utilitarian building is located on the corner of Cemetery Lane and East Maple Street and was completed between 1994 and 1995 (Figure 25). The L-shaped building was recently constructed and features a scored stucco finish, and minimal rectangular windows fitted with dark, tempered glass.



Figure 25. Heart Center (N): South and east (main) elevations, view looking NW (DCSN5346)

Pedestrian Corridor (O) (2009)

The curvilinear Pedestrian Corridor is located at the south end of the St. Joseph's complex and was

completed in 2009 (Figure 26). The elevated walkway connects the Outpatient Surgery (L), Heart Center (N) with the Women and Children's Pavilion (P) located on the south side of East Maple Street. The predominant materials include steel, stone tile, and blue tempered glass.



Figure 26. Pedestrian Corridor (O): East and south (main) elevations, view looking W (DCSN5340)

Women and Children's Pavilion (P) (2009)

The Women and Children's Pavilion (P) was completed in 2009 and it is the only complex building located on the block south of East Maple Street on a different parcel (Figure 39). As such, it features a different addresses from that associated with the remainder of the Complex, but remains connected to the overall Complex via the Pedestrian Corridor (O) that extend across East Maple Street. The recently constructed building featured a curved southwest corner and a second story connection to the Pedestrian Corridor (O). The predominant materials include steel, stone tile, stucco and blue tempered glass.



Figure 27. Women and Children's Pavilion (P): North (main) elevation, view looking SW (DCSN5340)

Generator Enclosure (Q) (2009)
The Generator Enclosure (Q) is located on the east edge of the Heart Center (N) parking lot and consists of a three-sided concrete masonry unit structure with no roof secured with a metal gate across the south side (Figure 28).



Figure 28. Generator Enclosure (Q): view looking N (DCSN5349)

***B10. Significance (continued):**

Charles M. Weber and business partner William Gulnac acquired a land grant to the 48,747-acre Rancho Campo de los Franceses in 1843. Weber, a German immigrant, came to California with the 1841 Bidwell-Bartleson Party, which was one of the earliest settlement parties from the eastern United States to successfully reach California. Weber and his wife Helen settled on the rancho and began planning the City of Stockton. Weber and Gulnac planned to raise livestock in the area, but were particularly interested in the San Joaquin River Delta for its shipping potential and physical outlet into the San Francisco Bay. The river was deep enough to accommodate steamboats and sailing ships alike. However, the Gold Rush altered the economic environment around Stockton after the discovery of gold at Coloma on the American River in 1848. Settlement at the Stockton location began as early as 1847, and in 1849 the Webers hurriedly paid for a survey and plat for the town. The City of Stockton incorporated in 1850. Charles Weber, Gulnac, and a group of early settlers founded the Stockton Mining Company to sell supplies to California Gold Rush miners heading from San Francisco and Sacramento into the Sierra Nevada foothills, east of Stockton. The town's early growth can be attributed to profiteering from the necessary shipping and freighting for the Gold Rush miners (ARG 2000; Kassler 2005; Lewis et al 1979; Tinkham 1880).

Though well positioned at the head of a navigable waterway to receive passengers and freight, Stockton's location in a delta of the San Joaquin and Calaveras Rivers left it prone to seasonal flooding, and it took nearly 15 years (1850-1865) to build a permanent elevated, dry road out of town to French Camp. For the earliest years, tents, rather than permanent buildings dominated Stockton as the main building type. Nevertheless, Stockton grew quickly. In 1850, the population was marked as 2,500 people, but by 1854, it had grown to 7,000 people, making Stockton the third-largest city in California (Kassler 2005; Lewis et al 1979).

Though the 1849 gold rush ended by 1855, Stockton smoothly transitioned to become an agricultural exporter, sending livestock, dairy, grain, fruits and vegetables to the major markets in San Francisco and Sacramento. With a harbor as its major asset, the rich agricultural area around Stockton and its mild climate quickly turned the city into a major hub for agricultural products. In an effort to support its new position as a major agricultural exporter, the city quickly gained flourmills, warehouses, food processing and canning plants, and brickyards to support the new building efforts. Several brickyards established in Stockton in the 1850s, providing much needed building materials for the rapidly growing city (ARG 2000; Boyton 1968; Tinkham 1880).

To accommodate the City's growth, delta and swamp environments were reclaimed and backfilled with soil to create land for development. Harbors and channels were deepened to accommodate a formal port that could support larger ships. The city expanded with all the services and large, grand buildings afforded to a large city. Telegraph lines were added in 1854. As the San Joaquin County seat, Stockton gained a courthouse by 1862 and a jail in 1865. Stockton also became the location of a state hospital called Stockton General Hospital in 1851 (renamed Insane Asylum of California at Stockton from 1853 onward). Various rail lines connecting Stockton to agricultural communities to the east and south, as well as north to Sacramento were added between 1865 and 1874. These included the Stockton & Copperopolis Railroad, the Stockton & Visalia Railroad, and Western Pacific Railroad (subsidiary of Central Pacific) (Barth 1940; Letcher 1969; Starr 1976; Tinkham 1880).

The City of Stockton continued to grow and in 1870, the population surpassed 10,000 persons. Chinese immigrants, restricted by the Chinese Exclusion Act in 1882, made up a significant portion of the population and commercial growth in Stockton in the 1880s. During the 1890s, Stockton's population had grown to over 14,000 and new projects were completed throughout the city. In 1890, a new courthouse was constructed, followed by a red brick jail in 1893. Multi-story brick buildings including banks, commercial buildings, schools, and hotels were also erected during the 1890s, leading to the nickname "Brick City" for Stockton. Stockton was also famous for the invention of agricultural machinery such as the Stockton Gang Plow and the Marvin Combined Harvester (commonly called a combine). Other agricultural production companies such as Sperry and Lyon Flour Mills created enormous economic growth for Stockton (Boyton 1968; Clerc 1989).

Stockton remained a center for agriculture, commerce, and manufacturing into the twentieth century. By 1900, Stockton had several hundred manufacturing companies including canneries, ship builders, and farm equipment manufacturers. One of these would become the Holt Manufacturing Company, which created the crawler-type tractor patented as "Caterpillar" in 1911. Another was the Diamond Walnut Company, which had emerged from the Diamond Walnut Growers Association cooperative, founded in 1912. Stockton was not hard-hit by the 1906 San Francisco earthquake, sending relief supplies and building materials to affected areas and further growing its manufacturing economy. Manufacturing boomed during World War I in Stockton, as companies like Holt were converted to tank manufacturing. However, after World War I, Holt Manufacturing ceased tank production and had to merge with Best Tractor Company, which had produced farm equipment in the gap left by Holt. The resulting merged company moved to Peoria, Illinois, leaving Stockton without a farm machinery manufacturer (ARG 2000; Clerc 1989).

In 1925, Stockton started a bond campaign to improve the San Joaquin channel, with federal assistance provided in 1926. In 1928 and through the earliest years of the Great Depression, the City of Stockton completed the river channel project, known as the Stockton Deepwater Channel. The result was that the channel could accommodate loaded, ocean-faring vessels. During World War II, Stockton was heavily involved in the war effort, serving as a relocation center location for Japanese-Americans who were then sent on to a detention camp in Arkansas, as well as warship building, airplane parts manufacturing, and weapons manufacturing at Stockton's plants. World War II also created issues in the agricultural industry. With no workers to pick crops, farmers had to rely on federal programs bringing in workers from Mexico via the Bracero Program, which persisted until 1964 and resulted in a large influx of Mexican immigrants settling in Stockton permanently (ARG 2000; Clerc 1989; Lewis et al 1979).

Though Stockton experienced some mild post-war growth after World War II, most of this was suburban growth. From the 1950s through the 1990s, Urban Blight/Urban Renewal programs significantly affected Stockton's downtown. Many historical buildings and landmarks from the 1860s, such as the county courthouse and city library were replaced with modern buildings. This resulted in a sharp reduction

in low-income housing options for farm laborers and forced an exodus of residential communities from the city center. In the more suburban areas of Stockton, the Stockton Metropolitan Airport and a baseball stadium were added, followed by retail centers like St. Mark's Plaza, Venetian Square, Quail Lakes, and College Square, which were added in the 1970s (ARG 2000; Clerc 1989).

In the 1990s and early 2000s, as Silicon Valley and Bay Area housing prices increased, working-class and middle-class Californians were pushed out of urban centers like San Jose, San Francisco, and Oakland into the Delta, occupying Sacramento, Tracy, and Stockton. Housing prices in the region tripled, and Stockton briefly experienced higher tax revenue. When the housing bubble burst in 2009, Stockton was hit hard by the recession that followed (McGrath 2016).

Hospital Industry History in Stockton

In 1851, the State of California passed a bill establishing three state-run hospitals in Sacramento, San Francisco, and Stockton. The Stockton State General Hospital was originally a wood building at the corner of El Dorado Street and Market Street in downtown Stockton. However, another State Bill in 1852 required the separation of physically ill and mentally ill patients, resulting in the renaming of the Stockton General Hospital to the Insane Asylum of California at Stockton. In 1853, the asylum was established in the northeastern edge of Stockton city limits on 100 acres of land donated by Stockton founder Charles Weber. That same year, 124 patients from the other state hospitals were sent to the Insane Asylum of California at Stockton. The new facility was the first publically supported psychiatric facility in the American West. Though the Insane Asylum first began to treat patients in 1853, the facility was constantly growing and remained under construction until 1874. At the peak of its growth, the asylum had hundreds of beds and separate men and women's wards. Parts of the campus were demolished in 1968, but continued to function until 1997 when it was officially deactivated. Following its deactivation, the remaining buildings and the campus itself were repurposed into the Stockton extension campus for California State University Stanislaus (ARG 2000; Roeser 1990; Starr 1976; Tinkham 1880).

A second hospital, the San Joaquin General Hospital, was established by the San Joaquin County Supervisors in 1857, under the direction of Dr. E.B. Bateman. The hospital also operated as a "pest house" in early years, for those suffering from contagious diseases. It had a significant addition in 1879 to accommodate the County's growth since the 1850s, but the hospital burned down in 1886. San Joaquin County offered a small contract to put up replacement buildings but this fell through, and in 1892 bonds were sold to build a new County General Hospital at a property in French Camp, the next town south of Stockton. The new county hospital at French Camp was completed in 1895. Due to its remote locationoutside the City of Stockton, the new hospital was often referred to as the "County Farm" and operated as a poor house. The hospital continued to take in the disease-afflicted including those suffering from Spanish Flu in 1918 and a tuberculosis outbreak in the 1920s. The tuberculosis outbreak was so dire, that a second hospital, called the Bret Harte Hospital was opened by San Joaquin County and Calaveras County jointly in 1928 (Roeser 1990; SJHS N.D.).

Despite having the state-run asylum within reach and the county general hospital several miles outside of town, doctors in Stockton usually practiced at home or in storefront offices in town for most of the nineteenth century. The next hospital to be established in Stockton came nearly 45 years after the establishment of the State Asylum. When plans were announced for a Catholic men's home for elder care in 1898 by Father William O'Connor, local physicians in Stockton encouraged O'Connor to plan for the construction of a private hospital as well. The result was the St. Joseph's Home and Hospital (see Section 3.3, Development History of the Study Area). During the first few years of operations, many local physicians and surgeons rotated into the St. Joseph's Home and Hospital to take advantage of the facility, which stressed cleanliness, ample staff and sanitary conditions (Shelb 1984).

Another private hospital would not be established in Stockton until 1912. After years of practicing as a surgeon and physician at the State Asylum and in private practice, Dr. John Dameron founded Dameron Hospital in Stockton in 1912. Dameron's hospital had a modest 20 bed capacity, but provided a non-religious hospital setting at a time when there was discrimination against Catholics. Illness eventually prompted Dameron to sell the organization to a group of local doctors, staff, and business persons in 1925. This new board of directors expanded the

facility in 1927 to 55 beds. The hospital was incorporated as Dameron Hospital Association in 1943, becoming an independent, not-for-profit medical facility governed by a seven-person board of directors (Dameron Hospital 2020).

While Dameron Hospital remains open today, other private hospitals that established in the early twentieth century did not. One such private hospital, the Nippon Hospital, was established in 1919. During the 1910s and 1920s, Stockton had a considerable population of Japanese-Americans and one of the largest Japanese communities in the United States at the time. Tokutaro Matsumoto, a wealthy fruit farmer from the area, sponsored the hospital. The Nippon Hospital, located at 25 South Commerce Street, served a population of over 2,000 Japanese-Americans in the 1920s. The hospital became a publicly traded company in 1922, but closed due to financial difficulties in the 1930s. Today it is part of the Steamboat Landing apartment complex (Hillman 1977; SDER 1915a).

In 1923, San Joaquin County established a local health district for the City of Stockton, headquartered in the old State Asylum building. With multiple hospital buildings outside the city center, and testing facilities too far away for patients, Stockton's reliance on outside laboratories and hospitals was having a negative effect on health professionals as well as patients. To combat this, San Joaquin County opened a County Health Clinic in downtown Stockton in 1925 on Market Street. A dedicated medical office building in downtown Stockton was also added, putting Stockton on par with other large urban centers in San Francisco, Oakland, and Sacramento. The Medico-Dental Building was a professional medical office building, built 1927 and was, at 12 stories, Stockton's tallest building. Though not a formal hospital, it was originally dedicated exclusively for medical and dental offices. The first floor had a pharmacy and tenant clubroom, while the only non-medical tenant was the local radio station, which broadcast from the building. Built just before the Great Depression, the building stood mostly vacant until after World War II (Roeser 1990; Smith 2009).

Alternative medicine doctors called osteopaths opened other private hospitals, such as the Vanosse Hospital (c. 1930s) and Oak Park Hospital (1957). These operated relatively well at the private level but both eventually closed. Oak Park Hospital was purchased by St Joseph's Medical Center in 1980 and converted into a recovery center that offered a chemical dependency program (Shelb 1984). With the increasing population in the 1950s and 1960s, many of Stockton's surviving hospitals either closed, or reorganized and expanded. By 1960, the remaining, operating hospitals consisted of Stockton State Asylum, St. Joseph's Hospital, Dameron Hospital, and the San Joaquin General Hospital in French Camp. Other smaller clinics and offices throughout Stockton also grew or closed depending on location. Clinics in downtown Stockton, such as the Medico-Dental Building suffered from the urban renewal programs and demolition of downtown Stockton, while others, such as San Joaquin General Hospital, St. Joseph's Hospital, and Dameron Hospital gained new treatment wings and services (Roeser 1990; Shelb 1984; Smith 2009).

St. Joseph's Medical Center Complex (1899-present)

St. Joseph's was founded as a care facility for elderly men in 1899 by Fr. William B. O'Connor. O'Connor had immigrated to the United States in 1868 from Ireland and lived in San Francisco briefly before being sent to Stockton to lead St. Mary's Catholic parish in 1872. In 1875, O'Connor invited Dominican-order nuns from San Rafael to establish a convent and school in Stockton, St Agnes' Academy for girls, followed by St. Joseph's School for girls and St. Mary's School for boys. O'Connor negotiated land for all the schools, convent, and churches with Charles Weber, town founder, who donated the land for the schools from his personal holdings (Dignity Health 2020; Shebl 1984).

In 1884, O'Connor purchased a 9.23-acre parcel from Alonzo McCloud. The tract was just north of city limits, on the electric rail car line, and adjacent to other church properties, including a cemetery. In 1898, O'Connor announced plans for a convalescent home for elderly men, to be built on the McCloud tract. Local Stockton physicians also asked that a hospital with a surgery ward be included in the plans for the home. Until this point, many physicians had been practicing at home or in offices, and surgeries were often performed in unsanitary environments. O'Connor agreed and in February 1899, site preparation began. The St. Joseph's Home and Hospital buildings were designed by local architect W. W. Oates, built by contractors John C. Doyle and Dennis Burns, and officially opened in February 1900. The home consisted of the main home building and two side cottages. In 1900, a 14-room annex serving as quarters for the men's home was added. Three Dominican sisters staffed the facility for

the first year, with a Dr. H.E. Allen as resident physician and Eliza McClain as head nurse. In 1902, a nurse's training program was employed at St. Joseph's to train new medical staff as well as keep the cost of care in the home to a minimum. The cost to enter the home was a flat fee with no increases, so O'Connor cut corners where he could, including not offering compensation to the Dominican sisters who staffed the hospital. In 1905 another new building, a 19-room building separate for the men was added to the southeast portion of the property (Dignity Health 2020; Shebl 1984; Stockton Evening Mail 1899, 1900).

In 1909, O'Connor himself entered the home when his health began to fail. He died at the facility just two years later in 1911. Before his death, O'Connor asked the Diocese's Archbishop if he would make sure that the staff of nuns could be compensated after his death. Rather than doing so, however, the entire board of commissioners resigned. The Dominican sisters took over the board and Sister Mary Carmelita became superintendent of the men's home and hospital (Shebl 1984).

Over the next few years, changes to the home and hospital were relatively small. In 1914, the hospital opened an accredited maternity department, conforming to a recent California Board code that the hospital have an official license. In 1916, a new building was added to the northwest corner of the campus, specifically dedicated as a medical facility, instead of a joint facility with the men's home. The new building was a two-story, Mission Revival style hospital, complementing the existing St. Joseph's Home and hospital buildings. The new building was designed by architect, Walter King and constructed by an unknown contractor. In 1926, a third story was added to this building, increasing the capacity of the hospital overall to 125 Beds. By 1927, the hospital consisted of a medical and surgical department, children's ward, obstetrical department, chapel, sister's home (convent), the Old Men's homes, a laundry, and a dormitory for the nurses' school. Staff included 44 doctors, ten Dominican sisters conducting hospital business, nine head nurses, a night superintendent, three floor supervisors a record nurse, a dietician, and one anesthetist. The Men's home had 45 full-time patients (Shebl 1984).

The hospital was accredited by the American College of Surgeons in 1928, and the same year, a new nurses' home and convent was under construction, now known as the McCloud Building. The nurses' school had grown to 40 nurses-in-training and 30 graduated nurses who staffed the hospital. In 1929, the hospital got its first X-ray machine. In 1938, the St. Joseph's Nursing School was closed, due to funding issues. At the end of a long national economic depression, the school's expenses could no longer be afforded and teachers for the program could not be found (Shebl 1984).

During World War II, national rationing efforts and a shortage of doctors, nurses and medical staff nearly closed the hospital. The shipbuilding efforts at the Stockton Harbor and the agricultural processing in the city ensured that the city's business continued as usual, so the shortage of medical care was keenly felt. The hospital managed to stay open by relying again on unpaid Dominican nuns and nursing students from the San Joaquin Delta College's nursing program. After the war, the population boom throughout all of California in the 1940s and 1950s quickly overwhelmed St. Joseph's Hospital capacity. In 1952, St. Joseph's began a charity drive to pay for a new hospital wing to add the necessary beds to keep up with Stockton's growing population and meet State standards. The expansion was mostly completed in 1954; however, subsequent updates to this section were not finalized until 1957. As the hospital increased its operations, the old men's home phased out operations in the 1950s. The Men's Home closed in 1959, admitting its final group as either St. Joseph's Hospital patients or sending them to other private care facilities (Davis 1984; Shebl 1984).

In 1960, the hospital again needed to expand. No State funding was available in 1960s, so the new, $2.8 million wing was financed by donations, funding drives, and mortgaging the hospital property. The hospital's West Wing (E) was completed in 1962 (See Sketch Map). In 1967, work began on a "coronary care unit," now called the East Wing (G), which was completed in 1970 (See Sketch Map). St. Joseph's performed Stockton's first open heart surgery in the 1970s, and to date, has performed well over 13,000 open heart procedures (San Joaquin Magazine 2018; Shebl 1984).

Expansions continued with a $4.2 million, 4-story addition that was completed in fall 1970. The addition included 300 new hospital beds and a new maternity department, expanded the Emergency Department, medical library, and medical records department. The following year, the Emergency Department became the first 24-hours, 365-days-a-year emergency department in Stockton. In 1973,

St. Joseph's officially changed its corporate name from St. Joseph's Home and Hospital to St. Joseph's Hospital of Stockton. The board of directors, which was entirely composed of Dominican sisters since 1912, also enlarged the to include secular members and medical staff in order to continue the mission of community involvement, as well as open the hospital to new funding sources. Another addition, the $12 million Southeast Wing (I) was started in 1973 and completed in 1978, adding a radiology department, nuclear medicine lab, new surgery facilities, post-surgery recover ward, and an intensive care department (See Sketch Map) (Shebl 1984).

St. Joseph's established two new programs in 1974: Behavioral Health Services and Outpatient Surgery. The behavioral health program grew rapidly during the 1980s, needing more space with future opportunity for growth of inpatient and outpatient services. In 1988, St. Joseph's Behavioral Health Center moved operations from the main campus to 2510 North California Street (across the street and north), the former site of Oak Park Hospital, which was acquired by St. Joseph's in 1980. The site was a perfect location for a separate Behavioral Health Center, and opened with 35 beds and three units: Adult Intensive Treatment, Chemical Dependency, and Geropsychiatric services. Nearby space was leased adjacent to the hospital, to house the Outpatient Services Program in 1991 (Dignity Health 2020; Shebl 1984).

During the 1980s, St. Joseph's Hospital of Stockton began a period of aggressive growth on both the main California Street campus, and off-site facilities. In 1980, St. Joseph's acquired the Oak Park Hospital and converted it, with Phoenix recovery centers to a chemical dependency clinic in 1984. In 1983. St. Joseph's acquired the Stockton Pathology Medical Group, Inc. and established a clinical laboratory at six locations in north Stockton. A new facility on March Lane, called the St. Joseph's Immediate Care clinic was opened as an urgent care facility. By 1984, St. Joseph's Hospital was the largest medical/surgical hospital between Sacramento and Fresno (San Joaquin Magazine 2018; Shebl 1984).

In 1985, construction began on a large addition on the south part of the hospital, which opened in 1992 as an outpatient surgery wing, a dedicated cancer center, and a new main entrance and intake for the hospital. In 1994 the hospital again began an expansion program that lead to the Women and Children's Pavilion (P) on the southern portion of the property (opened 1994) and a new, dedicated Heart Center (N) wing (opened 1997), moving cardiac services of the East Wing (G) (See Sketch Map) (San Joaquin Magazine 2018).

With the 1990s, St. Joseph's Hospital began to use an array of new technology, tools, and procedures that included beating-heart, open-heart surgery, rotoblation, and the use of carotid stents. In 1994, St. Joseph's opened a new 30,000 square foot Heart & Vascular Institute that today houses its three cardiac catheterization labs, two open heart surgery rooms, and a cardiac hybrid suite. From the year 2000 and beyond, St. Joseph's debuted complex aortic surgeries, stent grafting, endoscopic vein harvests, minimally invasive thoracic surgery, and valve surgery, as well as opening a the county's first cardiac hybrid suite in 2016 (San Joaquin Magazine 2018).

Associated Architectural Styles

The subject properties contain building constructed in the Mission Revival, Mid-Century Modern, and Spanish Colonial Revival architectural styles. Contexts for these architectural styles are presented in the section below.

Mission Revival (1890 – 1915)
The California Mission Revival style blends architectural styles of the Mediterranean Italian, and Spanish tradition with that of the California Missions, established in the eighteenth century in Alta California by Spanish missionaries and the military. The Mission Revival style borrows directly from these traditional religious forms. The style's popularity grew in the early twentieth century in the United States: Southern California, Nevada, New Mexico, and Arizona (McAlester 2013; Gebhard 1985).

Key character-defining features of the Mission Revival style include the following:

- Smooth stuccoed exterior cladding, usually painted white to mimic lime coating on adobe;
- Arched openings, generally with the surface of the building flush with the arch;

- Low-pitched, red clay tile roofs;
- Flat roof with distinctive shaped, Mission-like parapet;
- Scalloped parapet gable ends;
- Quatrefoil-shaped, or ornamental windows located in parapet gable ends;
- Pairs of Bell Towers, often fitted with hipped tile roofs;
- Occasional use of domes.

Spanish Colonial Revival (1915-Present)
The Spanish Colonial Revival style has a rich history and popularity in California. The history of the style began with architectural forms originating in Spain that were carried to California during the Spanish Period. The Moors had a truly significant impact on the architectural development and heritage of Spain, and is clearly evident in many Spanish cities like Seville. The Moors brought with them a rich Muslim tradition that was based on the Islamic patterns of architectural development seen throughout the Middle East (NGS 2017). The combination of the Spanish and Moorish influence became known as the Hispano-Moorish (also referred to as Hispano-Moresque) architectural style. The height of Hispano-Moorish architecture in the Iberian Peninsula was from the 8th century to the 15th century and there was a significant revival during the 19th and early 20th centuries throughout Europe and the Americas (Curl 2006).

During the Spanish colonial period in the late 1400s the architectural traditions known as the Hispano Moorish style were brought to the Americas. The convergence of Christian and Islamic traditions seen in America is most often referred to as Mudèjar. The convergence of religious and architectural traditions during the Spanish Colonial period set the stage for the Spanish Colonial Revival architectural movement that gained great popularity in California following its formal debut at the San Diego Fair in 1915. Californian Architects Bertram G. Goodhue and Carleton M Windslow helped to popularize the style well into the 1920s and 1930s, by which time the style was represented in many coastal cities throughout California. The popularity of the style persisted well into the second half of the 20th century, spurring new offshoot styles such as the Monterey Revival and even the California Ranch House. During the 1970s and the 1980s, the style was frequently employed for commercial architecture including shopping malls and retail centers (Khalidi, SIC 2017, SOHO 2007; Gebhard: 573-4).

The most significant character-defining features of the Spanish Colonial Revival style include the following:

- Low pitched roofs with clay tiles
- Stucco walls
- Simple rectangular or L-shaped plans
- Asymmetrical façades
- Arched entryways
- Irregular, recessed fenestration
- Elaborately carved wood entry doors
- Wrought-iron balconies
- Arcaded walkways
- Commercial buildings are organized in vertical bands featuring deep, recessed windows

Mid-Century Modern (1945-1965)

Following World War II, the United States focused on progress and modernity, which prompted bold architectural movements such as Mid-Century Modern. In addition to a focus on new construction techniques pioneered by practitioners of the style, Mid-Century Modern style aesthetics focused on the contemporary, cutting-edge materials that were being developed and mass-produced during the period.

In Northern California, the Mid-Century Modern movement was characterized by simplistic and clear uses of materials and structural components, open interior planning, and large expanses of glass. Mid-Century Modern in Northern California was influenced by the International Style and the Second Bay Tradition while also incorporating a more relaxed style of architecture which reflected post-World War II attitudes. The cost-effective nature of the style and the ability to mass-produce Mid-

Century Modern building materials like concrete, wood, steel, and glass made it the perfect style for cities growing at a rapid pace following the end of World War II (SFPD 2010).
Characteristics of the Mid-Century Modern style include the following:

- Cantilevered overhangs
- Flat, shed or low-pitched gable roof forms
- Vaulted roofs and overhangs
- Articulated primary facades
- Stucco, wood (often vertical), or corrugated siding
- Stacked Roman brick or stone often used as accent material
- Expressed post and beam construction
- Strong right angles and simple cubic forms
- Projecting vertical elements
- Large steel- or wood-framed windows
- Canted windows
- Painted finish is often stained, earth tone, or brightly colored
- Projecting boxes that frame the upper stories
- Atrium or courtyard entryways
- Overhanging trellises, sunshades, and pergolas

NRHP/CRHR Statement of Significance

The St. Joseph's Medical Center Complex does not meet any of the criteria for listing in the NRHP or CRHR, either individually or as part of an existing or potential historic district, based on the following significance evaluation.

Criterion A/1: That are associated with events that have made a significant contribution to the broad patterns of our history.
The St. Joseph's Medical Center was founded in 1899 as the St. Joseph's Home and Hospital, by a Catholic priest and staffed by nuns of the Dominican order. The hospital began as a complex dedicated to elder care for men, originally consisting of the main Men's Home building with hospital and cafeteria wings, and two side cottages. Prior to the establishment of St. Joseph's Home and Hospital, hospitals in Stockton consisted only of the State Asylum and the San Joaquin General Hospital, which had burned down in 1886 and began at a new location outside of Stockton in 1895. At the time of St. Joseph's founding in 1899, there was a demonstrable need for additional hospital beds in the City of Stockton. Pioneering then-new technology such as a sanitation department, ventilation systems, fireproof buildings, and dedicated surgery and maternity wards, St. Joseph's was exceptionally modern when compared to the State Asylum, or even the relatively new San Joaquin General Hospital located outside Stockton in nearby French Camp. Though it was Stockton's first private hospital, St. Joseph's filled a vital role, as it was open to non-Catholics with its any-race, any-creed doctrine, essentially filling the City's need for a full service medical center after San Joaquin General Hospital vacated the city.

St. Joseph's received additions to accommodate growth as early as 1900, adding annexes to the men's dormitories and hospital wings as needed throughout its lifespan. Additions to the property in the first few decades included additions in 1902, 1909, 1914, and 1916, and included gaining an accredited maternity department and nursing school. A nurse's dormitory was added in 1928, the last addition that did not significantly detract or demolish portions of the campus. These early additions expanded the 1899 hospital and Men's Home, but did not significantly alter them or their original mission.
The original hospital, Men's Home, and hospital campus layout remained preserved until the 1950s, when population pressures prompted a series of expansion projects beginning in 1954, including the closure of the Men's Home in 1959 and demolition of the original 1899-1916 buildings. This resulted in the complete loss of the original hospital buildings designed by local Stockton architect W. W. Oates and a loss of association with the original hospital mission: the long-term end-of-life care of elderly men.

While the St. Joseph's Medical Center Complex can certainly be credited with having made a significant

contribution to the City of Stockton for being the first private hospital in the city, the fact that nothing of the original 1899 hospital remains prevents the complex from conveying these important contributions through its physical features. The oldest remaining building on the campus is the 1916 hospital and surgery wing addition, designed by Walter King. The original setting of the building on a relatively open campus with landscaped lawns, fountains, and gardens and larger, local setting in suburban Stockton situated between single-family homes and the large open spaces of a nearby cemetery have been lost with the expansion of the hospital. In aerial photographs, the setting surrounding the hospital changed from single-family residences to large-scale commercial blocks and office parks by the late 1980s on North California Street. The decades of demolition and expansion beginning in the 1950s has remade St. Joseph's such that it would be unrecognizable to any person from the pre-1950 period. While the hospital had several additions prior to 1950, the original hospital and men's home buildings from 1899 were largely still intact until their demolition in 1959. Entire residential blocks were demolished and absorbed by the growth of the hospital campus to the south, and nearly all original green spaces for the elderly boarders at St. Joseph's were removed and built over by modern additions. Moreover, all 1899 buildings and many early twentieth century annexes and wings were demolished, leaving only the altered 1916 wing and the 1928 McCloud Building, which were not original to the hospital's design.

Despite the contributions St. Joseph's Medical Center Complex has made to Stockton's history, the hospital can no longer convey its historical association due to a complete loss of the original 1899-1900 hospital buildings and insufficient integrity of the later buildings up to 1928. For all of these reasons, St. Joseph's Medical Center Complex does not appear eligible under Criterion A of the NRHP or Criterion 1 of the CRHR.

Criterion B/2: That are associated with the lives of persons significant in our past.
To be found eligible under Criterion B/2 the property has to be directly tied to an important person and the place where that individual conducted or produced the work for which he or she is known. Archival research indicated that Father William O'Connor, a Catholic priest and church leader in Stockton, founded the St. Joseph Home and Hospital in 1899. Though O'Connor is responsible for convincing local leaders and the founder of Stockton to donate land and money for Catholic schools, the hospital and a cemetery, these actions do not elevate O'Connor to the level of historically significant figures at the national, state, or local level. Archival research did not indicate any other previous property owners, medical professionals, leaseholders, or board members who were known to be historically significant figures at the national, state, or local level. As such, this property is not known to have any historical associations with people important to the nation's or state's past. Therefore, the St. Joseph's Medical Center Complex does not appear eligible for the NRHP under Criterion B or CRHR under Criterion 2.

Criterion C/3: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
The St. Joseph's Medical Center Complex is a multi-component hospital building containing numerous contiguous wings, and has been continuously added on to, partially demolished, and updated since it was first constructed in 1899. Today it displays as a medical complex with a wide range of architectural styles and materials. The hospital and men's home were originally designed as a Mediterranean Revival Style building with sprawling buildings, gardens, and a courtyard. All subsequent additions are, for the most part, modestly executed examples of popular architecture trends of the given wing's construction period. The next few additions were the 1916 Mission Revival Main Hospital Wing (A) and the separate, 1928 Spanish Colonial Revival McCloud Building. The 1950s and 1960s additions including the North Wing (D) (circa 1957), West Wing (E) (1962), South Wing (F) (1962), and East Wing (G) (1970), are all Mid-Century Modern-style buildings. The Administrative Wing (H) (1972) is a utilitarian building with restrained New Formalist details, and the Hospital Main Entrance (L) (1987), Cancer Center (M) (1988) Outpatient Surgery (K) wing (circa 1982) are all utilitarian buildings with Post-Modern details. Other connective buildings such as the Cafeteria (J) or non-street-facing wings such as the Heart Center (N) (circa 1993-1998), Generator Enclosure (Q) (circa 2009), or Heating Plant Generator Building (B) (1917) lack cohesive, identifiable styles or have been altered beyond recognition. None of the hospital wings stand out as particularly representative or particularly classic expressions of any of the accounted styles.

Notwithstanding the multitude of additions and wings, an important observance to make is that St.

Joseph's Medical Center Complex is a large and predominately connected medical complex with a few small, separate outbuildings, such as the 1928 McCloud building and the 1917 heating plant. The medical center has no distinctive characteristics of any one type, period or method of construction. NRHP Criterion C allows an eligible building to represent multiple architectural styles or methods of construction only if it illustrates the transition of architectural design and the transition itself is considered an important architectural development. The combination of styles and periods of construction, leave St. Joseph's Medical Center Complex unable to communicate a distinctive architectural type, style, or period. Moreover, all of the original 1899 Mediterranean Revival style hospital and Men's Home buildings have been demolished. Furthermore, all landscape elements and site design features from the original period of construction are also missing. The progressive additions to the hospital, the majority of which took place after 1950, rendered the medical campus unrecognizable to its original construction period. The separate buildings including the McCloud Building (C), Heating Plant Generator Building (B) have all be altered beyond recognition by numerous exterior material changes, or in the case of the McCloud Building (C), altered by both material changes and additions. Therefore, these building are also not good examples of a particular style, construction type, or period.

The original St. Joseph's Medical Center Complex buildings were the design of locally important architect W. W. Oates, who might be considered a master architect for being a prolific designer and responsible for the designs of several important commercial block, civic, and public use buildings throughout Stockton in the late nineteenth and early twentieth century. Few examples of Oates' work remain, however his designs at the St. Joseph's Medical Center Complex were demolished in the 1950s and 1960s to make way for the multitude of wings on the southern portion of the hospital campus. In addition to Oates, Walter King, another local important architect to Stockton, might be considered a master architect for being a prolific designer and responsible several important commercial blocks, schools, and public use buildings throughout Stockton. However King's design for the 1916 Main Hospital Wing (A) has been altered beyond recognition by the addition of a third floor, alteration to the original roof design, removal of the prominent Mission-style parapet in places, removal of the "bell tower" style decorations, and making several modernist, 1- and 2-story additions to the building. In short, despite King's importance as a designer and architect, nearly all components of his original design have been lost. Other architects associated with St. Joseph's Medical Center Complex include Albert M. Cauldwell who designed the McCloud Building (C) in 1928 and Alastair Simpson and Associates who designed the 1970 East Wing (G). Archival research found that neither rise to the level of "master architect."

According to NRHP Bulletin 15: "High artistic values may be expressed in many ways, including areas as diverse as community design or planning, engineering, and sculpture. A property is eligible for its high artistic values if it so fully articulates a particular concept of design that it expresses an aesthetic ideal. (Andrus and Shrimpton 2002:20)." The original aesthetic was that of a Mediterranean Revival hospital and convalescent home, which turned inward towards a central lawn and garden. This Mediterranean Revival design was highly ornate for a hospital, which would have been an excellent expression of the Mediterranean Revival design. However, subsequent additions and demolitions render the hospital complex unable to express this particular ideal. The earliest additions, including the 1916 Main Hospital Wing (A), emulated the original style, but all wing additions in the 1950s forward, demolitions and alterations to these buildings diluted the original artistic intent. All original 1899 buildings have been demolished and their design aesthetic is no longer represented at the hospital complex. Later additions are also not good expressions of original artistic intent. For example, the 1928 McCloud Building (C) and the 1916 Main Hospital Wing (A) have had decorative elements removed, such as decorative parapets, bells towers, exterior decoration, original doors, entry spaces, and windows. Other wings did not rise to the level of having artistic value as they did not express particular aesthetic ideals or design concepts more fully than other properties of this type.

The St. Joseph's Medical Center Complex is not representative of a significant and distinguishable entity whose components may lack individual distinction. While there are no extant, comparable hospital properties in Stockton from 1899, the St. Joseph's Medical Center Complex is itself, is not an intact or representative example of a turn-of-the-century hospital or elder care facility. Other comparable examples of hospitals in Stockton, such as Dameron Hospital, have similar integrity of design issue, diminished by numerous modern additions that insensitively add on to, conceal, or demolish portions of the original hospital building. Therefore, there is no possibility of St.

Joseph's Medical Center Complex belonging to a district of historical hospitals in Stockton or the greater region.

Finally, in addition to deficient architectural merit, the St. Joseph's Medical Center Complex lacks many of the most basic components of integrity to convey significance under Criterion C. The numerous and incompatible alterations to the original 1899 design, destruction of the original setting, and loss of original materials and workmanship leave St. Joseph's Medical Center Complex without the requisite level of integrity to convey significance. For these reasons, the St. Joseph's Medical Center Complex does not appear eligible for listing in the NRHP under Criterion C or CRHR under Criterion 3.

Criterion D/4: That have yielded, or may be likely to yield, information important in prehistory or history

The St. Joseph's Medical Center Complex is not significant under Criterion D of the NRHP or Criterion 4 of the CRHR as a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies.

City of Stockton Statement of Significance

Landmarks

The The St. Joseph's Medical Center Complex does not appear to meet any of the criteria for listing as a City of Stockton Landmark, based on the following significance evaluation.

1. Archaeological Interest. Its potential for yielding significant information of archaeological interest;

As stated above in NRHP/CRHR Criterion D/4, the St. Joseph's Medical Center Complex is not a source, or likely source, of important archaeological information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, the St. Joseph's Medical Center Complex is not of archeological interest and does not appear eligible under City of Stockton Landmark Criterion 1.

2. Architectural Craftsmanship. Its embodiment of elements demonstrating outstanding attention to architectural and/or engineering craftsmanship, design, detail, or materials;

As stated above in NRHP/CRHR Criterion C/3 and below in the integrity discussion, the St. Joseph's Medical Center Complex was originally designed as a Mediterranean Revival Hospital, but has since had several alterations and additions, and does not embody any single element demonstrating outstanding attention to architectural or engineering detail. Moreover, the demolition of original buildings and architectural details as well as the introduction of modern materials has significantly compromised and in some situations destroyed the overall architectural craftsmanship of the medical complex and no longer conveys significance. Therefore, the St. Joseph's Medical Center Complex is not of an outstanding example of architectural craftsmanship, design, details, or materials and does not appear eligible under City of Stockton Landmark Criterion 2.

3. Architectural Style. Its exemplification of a particular architectural style or way of life important to the City, the State, or the Nation;

As stated above in NRHP/CRHR Criterion C/3, the St. Joseph's Medical Center Complex is not exemplary or demonstrative of any singular, coherent architectural style. Multiple, highly altered representations of popular architectural styles are present at St. Joseph's Medical Center Complex, but no particular architectural style is represented. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Landmark Criterion 3.

4. Architectural Type. Its exemplification of the best remaining architectural type in the City;

The St. Joseph's Medical Center Complex is a heavily altered combination of many architectural styles and does not particularly represent any of the styles well. Better representations of all styles are available elsewhere in the City of Stockton. As such, the St. Joseph's Medical Center Complex cannot be considered the best remaining architectural type in the city and does not appear eligible under City of Stockton Landmark Criterion 4.

5. Historic Event. Its location as a site of a significant historic event;

As stated above in NRHP/CRHR Criterion A/1, the St. Joseph's Medical Center Complex is not associated with a significant historic event, and its founding is not a significant historic event. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 5.

6. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

As stated above in NRHP/CRHR Criterion A/1, the St. Joseph's Medical Center Complex's historical associations are notable, but the hospital can no longer convey its historical association due to a complete loss of the original 1899-1900 hospital buildings and insufficient integrity of the later buildings up to 1928. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 6.

7. Visual Feature. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

The St. Joseph's Medical Center Complex ranges between two and four story buildings and does rise above the surrounding buildings in its northern Stockton neighborhood. However, the building does not have a unique location, and looks no different from other modest office parks or other buildings of this scale in Stockton. While the hospital complex is likely a familiar visual feature for some, it has continuously grown and changed in appearance, and there is no fixed visual feature that can be specifically called out within the complex. Therefore, subject property does not appear eligible under City of Stockton Landmark Criterion 7.

8. Relationship to Another Landmark. Its relationship to any other landmark, if its preservation is essential to the integrity of that landmark;

The St. Joseph's Medical Center Complex is not related to another City of Stockton Landmark, nor is its preservation essential to any Landmark. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 8.

9. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation;

As stated above in NRHP/CRHR Criterion B/2, the St. Joseph's Medical Center Complex is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Criterion 9.

10. Work of a Significant Person. Its identification as the creation, design, or work of a person(s) whose effort has significantly influenced the heritage of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion C/3, the St. Joseph's Medical Center Complex is associated with two potential architects who have made substantial contributions to architecture in Stockton: W. W. Oates and Walter King. However, due to the demolition of all original 1899 buildings designed by Oates and substantial alterations to the 1916 Main Hospital Wing (A) designed by King, the St. Joseph's Medical Center Complex buildings can no longer be identifiable as the work of either architect. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 10.

11. Natural Environment. Its integrity as a natural environment that strongly contributes to the well-being of the people of the City, the State, or the Nation.

The setting of the St. Joseph's Medical Center Complex is a fully developed urban lot with a small lawn and garden area in the northeast portion of the hospital parcel. This area is gated off for private hospital use and is not available for the well-being of the people of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 11.

Structure of Merit

The City of Stockton Cultural Heritage Board may consider buildings that do not rise to the level of significance needed to be a landmark as a structure of merit if it determines that it is deserving of official recognition as having historic, architectural, archaeological, ecological, cultural, or aesthetic significance. However, the St. Joseph's Medical Center Complex also does not appear to meet any of the criteria for listing as a City of Stockton Structure of Merit, based on the following

significance evaluation:

1. ***Archaeological Interest. Its potential of yielding significant information of archaeological interest;***

As stated above in NRHP/CRHR Criterion D/4 and Landmark Criterion 1, the St. Joseph's Medical Center Complex is not a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Structure of Merit Criterion 1.

2. ***Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;***

As stated above in Landmark Criterion 6, the St. Joseph's Medical Center Complex is not associated with the City's heritage and does not possess character, interest or value as part of the City's heritage. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Structure of Merit Criterion 2.

3. ***Visual Feature of the City. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;***

As stated above in Landmark Criterion 7, the: St. Joseph's Medical Center Complex is relatively tall compared with surrounding buildings, but the sprawling nature of the property, restrained expression of architectural style, and lack of any visually interesting features fail to set it apart as a potential visual feature or attraction. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Structure of Merit Criterion 3.

4. ***Way of Life. Its exemplification of a particular way of life important to the City, the State, or the Nation;***

The St. Joseph's Medical Center Complex is a typical private religious hospital and does not represent or exemplify a particular life way important or otherwise unique to the City, State, or Nation. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Structure of Merit Criterion 4.

5. ***Historic Event. Its location as a site of a significant historic event regardless of its current configuration, development, or use;***

As stated above in NRHP/CRHR Criterion A/1 and Landmark Criterion 5, the St. Joseph's Medical Center Complex is not associated with any significant historical event. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Structure of Merit Criterion 5.

6. ***Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation; or***

As stated above in NRHP/CRHR Criterion B/2 and Landmark Criterion 9, the St. Joseph's Medical Center Complex is not associated with any person who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the St. Joseph's Medical Center Complex does not appear eligible under City of Stockton Structure of Merit Criterion 6.

7. ***Significant Person of a Specific National Origin. Its identification with a person(s) representative of a specific national origin who have contributed to the culture and development of the City, the State, or the Nation.***

The St. Joseph's Medical Center Complex is not associated with any significant person of specific national origin who have contributed to the culture and development of the City. Similar to NRHP/CRHR Criterion B/2 and Landmark Criterion 9, and Structure of Merit Criterion 6, no significant persons are associated with the St. Joseph's Medical Center Complex. Therefore, the subject property does not appear eligible City of Stockton Structure of Merit Criterion 7.

Integrity Discussion

In addition to meeting one or more of the above criteria, an eligible resource must retain integrity, which is expressed in seven aspects: location, design, setting, workmanship, materials, feeling, and association. All properties change over the course of time. Consequently, it is not necessary for a property to retain all its historic physical features or characteristics. The property must

retain, however, the essential physical features that enable it to convey its historic identity. The essential physical features are those features that define both why a property is significant and when it was significant. The following sections discuss the integrity of the buildings over 45 years old (A through H) located within the St. Joseph's Medical Center Complex.

Main Hospital Wing (A) (1916)

Location: The building remains in its original location facing the center of the complex of buildings and therefore retains integrity of location.

Design, Materials, and Workmanship: Due to extensive alterations over time, numerous character-defining features of the building have been altered resulting in an overall loss of the integrity of design, materials and workmanship. Architect Walter King's original design for the two-story building displayed multiple character- defining features that are archetypally associated with the Mission Revival Style (Figure 29). King's design included a smooth, white stuccoed exterior; arched openings on the entry portico and window frames; visible wooden rafters in the eaves of a pent roof below a simple parapet roofline; distinctive mission-shaped parapets on both the first and second stories; ornamental openings located in each parapet; and two pairs of domed faux bell towers astride the primary entrance.



Figure 29. Main Hospital Wing (A) as designed by King and prior to third story addition, c.1916-1926. Note the domed faux bell towers and the broad expanses of stucco (St. Joseph's Archives)

Alterations to the building began in 1917 with the construction of a northern addition containing a new kitchen and surgery ward; however, this mostly detached wing was largely inconspicuous due to its detached location in the rear of the building and overall design continuity. In 1926, a third story addition was added to the entire building (Figure 30). While the design of this addition was generally Mission Revival in style, it fundamentally altered the profile and massing of the building as the dissimilar third story now towers over the original areas of the building. The third story also eliminated the wide eaves of the original pent roof by enclosing it directly into the elevations of the building to appear as a decorative belt course, and instead replaced it with a tile covered parapet roof with no visible eaves. The addition also resulted in the replacement of the second

story domed faux bell towers located astride the entry portico with simple hipped tile roofs as the entire parapet was raised to the third story position. The rectangular fenestration of the new story was also inconsistent with the arched openings of the original design, and the placement of six windows in the new third story parapet is discordant with the broad expanses of stucco typically featured in a Mission Revival building.



Figure 30. Main Hospital Wing (A) in 1949 with showing the results of the third story addition including the rafter tails of original roofline enclosed into the building, the hipped roofs replacing the original faux bell towers and the inconsistent fenestration of the new construction (St. Joseph's Archives)

Further alterations to the building over time have resulted in subsequent losses of integrity of design, materials and workmanship. In 1939, a stylistically inconsistent Art Deco addition was added to the western-most leg of the building for use as an X-ray and maternity ward. Historical photographs suggest that the original wooden dual casement windows were replaced by 1964 with incompatible, tri-partite metal casement windows and the transoms above each window infilled (Figure 31). The two outermost arches of the main entry portico were infilled and fitted with the same replacement windows during this time, and the remaining original faux bell towers astride the portico were removed and capped.



Figure 31. Main Hospital Wing (A) showing replaced fenestration, infilled transoms, the outer arches of the main entry portico now fitted with metal casement windows and the square-capped columns where the remaining faux bell towers once stood, March 2020 (St. Joseph's Archives)

In conclusion, the many changes enacted to the Main Hospital Wing (A) over time have resulted in a loss of the essential physical characteristics that enable the building to convey its historic identity as a Mission Revival-style medical facility dating to 1916. For the reasons discussed above, the Main Hospital Wing (A) no longer retains integrity of design, materials or workmanship.

Setting, Feeling, and Association: Demolition and a host of new construction projects within the St. Joseph's Medical Center Complex have fundamentally altered the intended circulation and use patterns of the complex over time. These changes have had a particularly acute effect on the Main Hospital Wing (A), which has resulted in a loss of integrity in the areas of setting, feeling, and association.

The anomalous orientation of the Main Hospital Wing (A) building with its main elevation facing south appears abnormal in its present setting surrounded closely by mid to late 20th century buildings. When the building was completed in 1916 however, the orientation of the building was intended to interact with the placement of the original 1899 St. Joseph's Home and Hospital building that faced out onto North California Street. A prominent, open, landscaped area with a semi-circular drive filled the space framed by the two buildings until the 1959 when the 1899 building was demolished (Figure 32 and 33).

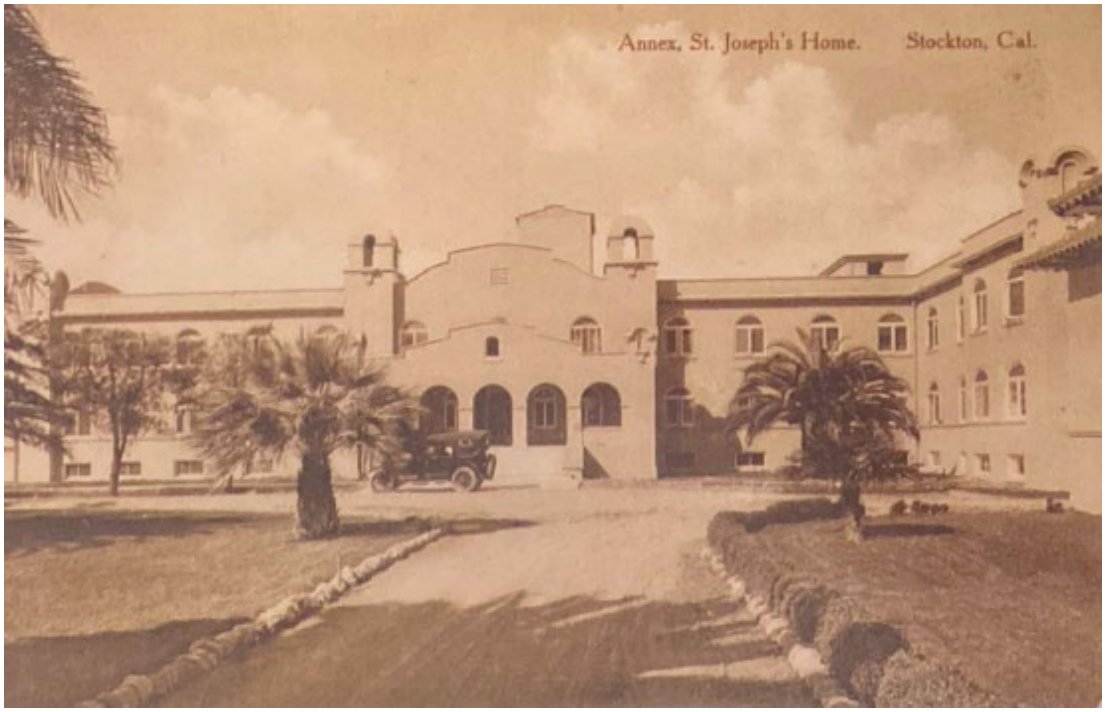


Figure 32. Prominent entry space located in front of Main Hospital Wing (A), c. 1916-1926 (St. Joseph's Archives)



Figure 33. Prominent entry space in front of Main Hospital Wing (A) now paved, c. 1930s (St. Joseph's Archives)

Following the demolition of the original 1899 building in 1959, a number of new hospital facilities

gradually infilled the once open promenade space, most notably including the West Wing (E) in 1962, the Administrative Wing (H) in 1972, and the Cafeteria (J) in 1982 (Figure 34). This eventually resulted in a stark reorientation of the complex toward the south with the completion of a new Hospital Main Entrance (L) building completed in 1987.

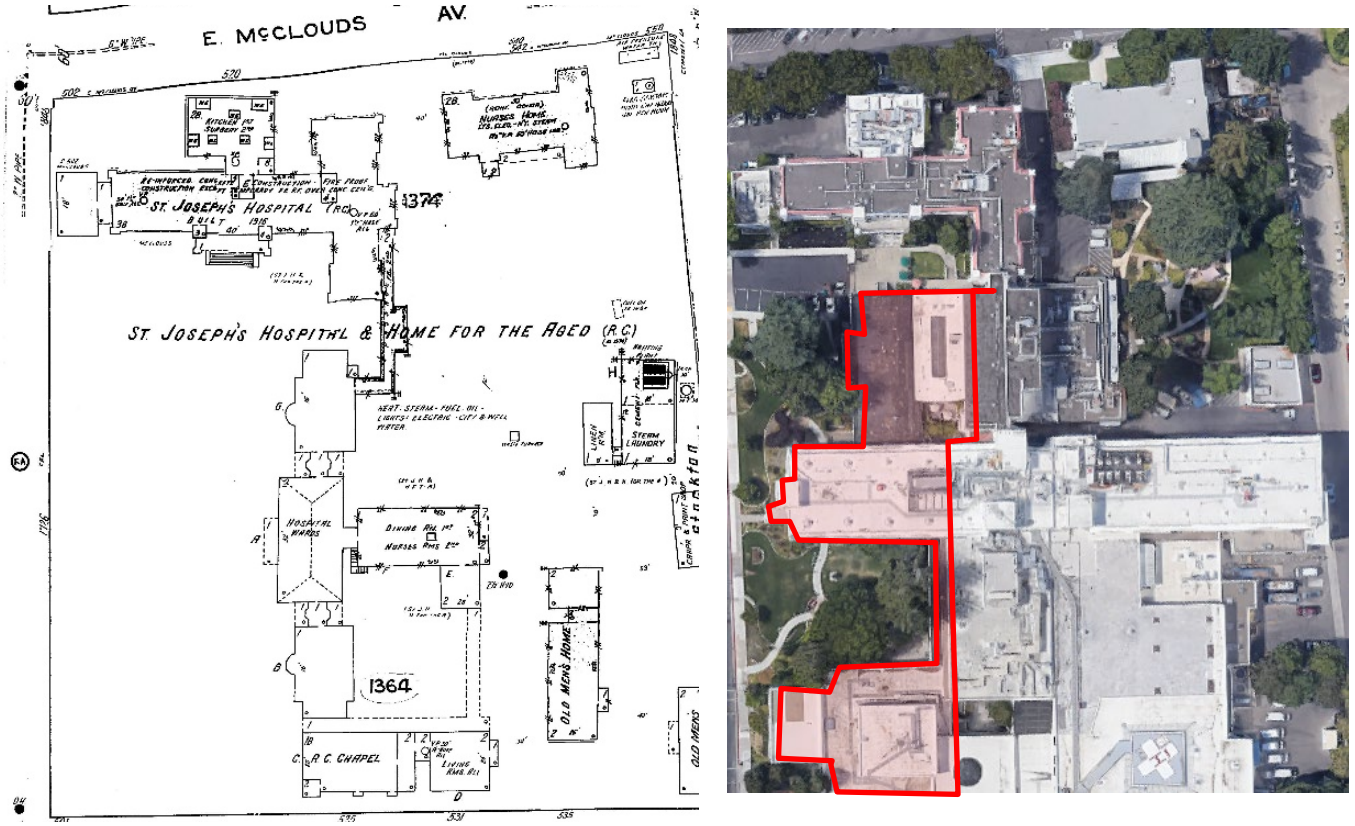


Figure 34. Comparison of 1946 Sanborn (left) and present-day aerial (right) demonstrating the extent of new construction infill in the once open area (outlined in red) , c. 1930s (Sanborn 1946; St. Joseph's Archives)

In conclusion, the demolition of the original 1899 building and the infill of the original entrance drive and landscape areas has caused the building to lose integrity of setting. Because of these changes, in conjunction with the design changes discussed above, the building no longer retains the integrity of feeling that enable the building to convey its 1916 historic identity. Finally, while the building retains a continued working connection to the history of St. Joseph's Home and Hospital, the alterations of the circulation patterns and infill construction from a much later time period has caused the building to be incapable of displaying this historical association.

Heating Plant Generator Building (B) (1917)
The Heating Plant Generator Building (B) maintains integrity of location, as it has maintained its position on the campus since the 1917 edition of the Sanborn Map. Alterations to the building including new exterior stucco siding and reconfiguration of the fenestration openings, have resulted in a loss of integrity in the areas of design, materials, and workmanship. The addition of large, mid-century construction in the complex has cause the diminishment of integrity in the areas of feeling, setting and association. In conclusion, the Heating Plant Generator Building (B) maintains integrity of location, diminished integrity in the areas of feeling, setting and association, and a loss altogether of integrity in the areas of design, materials, and workmanship.

McCloud Building (C) (1928)
Location: The McCloud Building maintains its original location and orientation facing McCloud Avenue on the northeast corner of the complex, and therefore maintains integrity of location.

Design, Materials, Workmanship: The McCloud Building (C) was designed by architect Albert Cauldwell and completed in 1928, at which time the building displayed obvious Spanish Colonial Revival stylings (Figure 35, top).

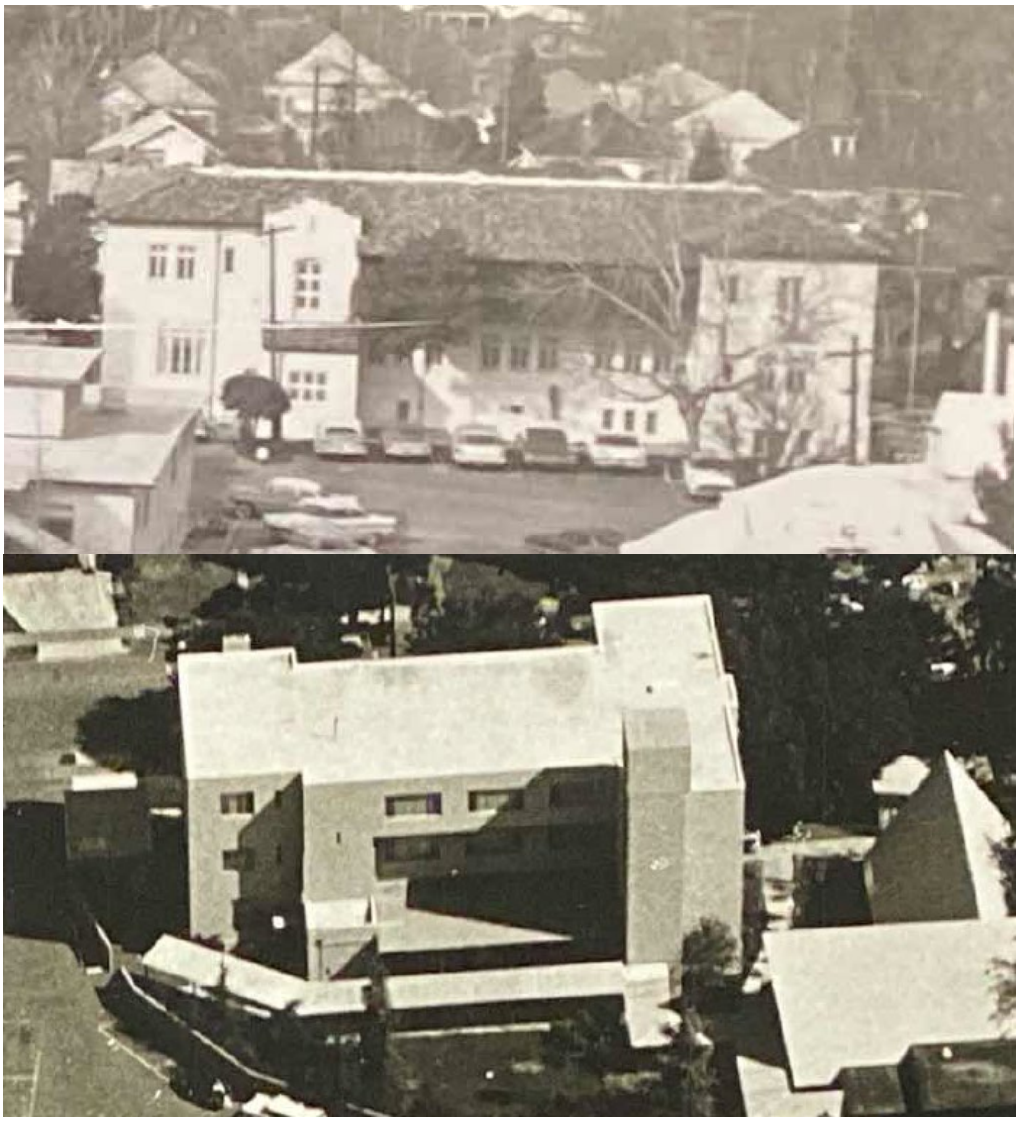


Figure 35. Comparative views of the McCloud Building (C) in 1964 (top) and in 1970 (bottom) after extensive alterations including a third floor addition which removed the original hipped roofline and the replacement of all original fenestration(St. Joseph's Archives)

Between 1964 and 1970, the McCloud Building underwent and extensive alteration campaign that added a third story to the building, replacing the hipped, tile roof with a flat, parapet roofline (see Figure 35, bottom). The alterations during this phase also removed all indications of Spanish Colonial Revival style, including the replacement of all the original fenestration and modification of the size and placement of fenestration openings. A large overhang was added to shade the area at the rear of the building, as well as a covered walkway leading to the eastern side of the Main Hospital Wing (A). These extensive changes have caused the building to lose all integrity in the areas of design, materials and workmanship, as the building is no longer remotely representative of the original 1928 design.

Setting, Feeling, and Association: Demolition and a host of new construction projects within the St. Joseph's Medical Center Complex have fundamentally altered the intended circulation and use patterns of the complex over time. Additionally, the once extensive residential development on the northern side of McCloud Avenue has been largely replaced by parking lots. These surrounding changes have caused the McCloud Building (C) to lose integrity in the areas of setting, feeling, and maintain only diminished integrity of association.

North Wing (D)
The North Wing (D) building maintains integrity of location, as it has maintained its position on the campus since its completion in 1957. Alterations to the building include the addition of a fourth story added to the multi-story section at an unknown date, a small ground floor addition on the east elevation, an oxygen tank enclosure added to south elevation, replaced windows throughout, and finally the construction of the East Wing (G) in 1970 effectively enclosing the south elevation. These alterations have caused the North Wing (D) to lose integrity of design, materials and workmanship. The addition of multiple large additions surrounding the North Wing (D) has caused diminished integrity in the areas of feeling, setting and association. In conclusion, the North Wing (D) maintains integrity of location, diminished integrity in the areas of feeling, setting and association, and a loss altogether of integrity in the areas of design, materials, and workmanship.

West Wing (E)
The West Wing (E) building maintains integrity of location, as it has maintained its position on the campus since its completion in 1962. Alterations to the Mid-Century Modern exterior of the building are limited to the replacement of original windows and a replacement of the entry door with modern automatic sliding equivalents, and the building appears to maintain a high degree of integrity in the areas of design, materials, workmanship and association. The addition of multiple large wings surrounding the West Wing (E) on the north, and east has caused the West Wing (E) integrity in the areas of setting and feeling to diminish. In conclusion, the West Wing (E) maintains integrity of location, design, materials, workmanship, and association diminished integrity in the areas of feeling and setting.

South Wing (F)
The South Wing (F) was completed in 1962 during the same expansion period as the West Wing (E), and while it maintains integrity of location, the integrity of setting, feeling, and association has been lost due to the close proximity of subsequent development in the complex. The Mid-Century Modern design of the building has been almost completely obscured by the encroaching development, causing a loss of integrity in the areas of design, workmanship and materials. In conclusion, the West Wing (E) maintains integrity of location, but no longer maintains integrity in the areas of design, materials workmanship, setting, feeling, or association.

East Wing (G)
The East Wing (G) was completed in 1970 and maintains integrity of location, and it has maintained its position on the campus since its completion in 1970. Alterations to the Mid-Century Modern exterior of the building are limited and the building appears to maintain a high degree of integrity in the areas of design, materials, workmanship and association. The addition of the large Southeast Wing (I) to the south has caused the East Wing (G) to maintain only diminished integrity of setting and feeling. In conclusion, the East Wing (G) maintains integrity of location, design, materials, workmanship, and association diminished integrity in the areas of feeling and setting.

Administrative Wing (H)
The Administrative Wing (H) was completed in 1972 and maintains integrity of location, as it has remained in its position on the campus since completion. The addition of the contiguous cafeteria building in 1982 however, has negatively affected the integrity of design, materials and workmanship. Otherwise, the building appears to maintain integrity of setting, feeling and association. In conclusion, the Administrative Wing (H) maintains integrity, of location, setting, feeling and association and a loss altogether of integrity in the areas of design, materials, and workmanship.

St. Joseph's Medical Center Complex Integrity Summary
In conclusion, the St. Joseph's Medical Center Complex as a whole does not appear to retain adequate integrity in the areas of design, materials, workmanship, setting, feeing and association to accurately convey the significance of the property .

As a result of Dudek's extensive archival research, field survey, and property significance evaluation, the St. Joseph's Medical Center Complex does not appear eligible for listing in the NRHP, the CRHR, as Stockton Landmarks, or as Stockton Structures of Merit due to a lack of historical associations, architectural merit, and compromised integrity. As such, the subject property do not appear to be a historical resource for the purposes of CEQA and they have been assigned a California Historical Resource Status Code of 6Z (found ineligible for the NRHP, CRHR, or local designation through survey evaluation).

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State of California ♉ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

Page 1 **of** 10 ***Resource Name or #:** (Assigned by recorder) 534 E. Maple Street
P1. Other Identifier:

*P2. **Location:** ☐ **Not for Publication** ■ **Unrestricted**
*a. **County** San Joaquin **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
*b. **USGS 7.5' Quad** Stockton West **Date** 1987 **Survey** Land Grant ; **Name** Campo de los Franceses
c. Address 534 East Maple Street City Stockton Zip 95204
d. UTM: (Give more than one for large and/or linear resources) Zone 10S , 650246 mE/ 4203699 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
Parcel Number: 127-190-30. The property is located mid-block on the southern side of East Maple Street between North California Street and Cemetery Lane in the City of Stockton.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The subject property was constructed in 1968, and is one-story in height and rectangular in plan, located midblock on the southern side of East Maple Street between North California Street and Cemetery Lane. The modest brick commercial building displays a hipped roof sheathed in composition shingles and exterior walls clad in brick veneer. The building's main entry faces north and displays a pair of fixed windows with painted inset metal panels below each, a pair of metal entry doors, and five fixed lite windows with metal panels below the last two windows displaying as a pair. The west elevation displays a single lite, fixed window with an inset metal panel below, an inset panel, a single leaf metal entry door, and a single lite, fixed window with an inset metal panel below. **See continuation sheet.**

***P3b. Resource Attributes:** (List attributes and codes) HP6. 1-3 Story Commercial Building

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



***P4. Resources Present:** ■ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)
P5b. Description of Photo: (view, date, accession #) Main elevation, view looking south, March 6, 2020
***P6. Date Constructed/Age and Source:** ■ Historic ☐ Prehistoric ☐ Both
1963 (City of Stockton)
***P7. Owner and Address:**
Gentry Vu MD Inc
534 E. Maple Street
Stockton, CA 95204
***P8. Recorded by:** (Name, affiliation, and address)
Sarah Corder, MFA
Dudek,
1102 R Street
Sacramento, California 95820
***P9. Date Recorded:** 3/6/2020

***P10. Survey Type:** (Describe)
pedestrian

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Kaiser, K., F. Steffen, S. Corder and W. Burns. 2021. Historical Resources Inventory And Evaluation Report For The St. Joseph's Medical Center Hospital Expansion Project, Stockton, California. Dudek, September 2021.

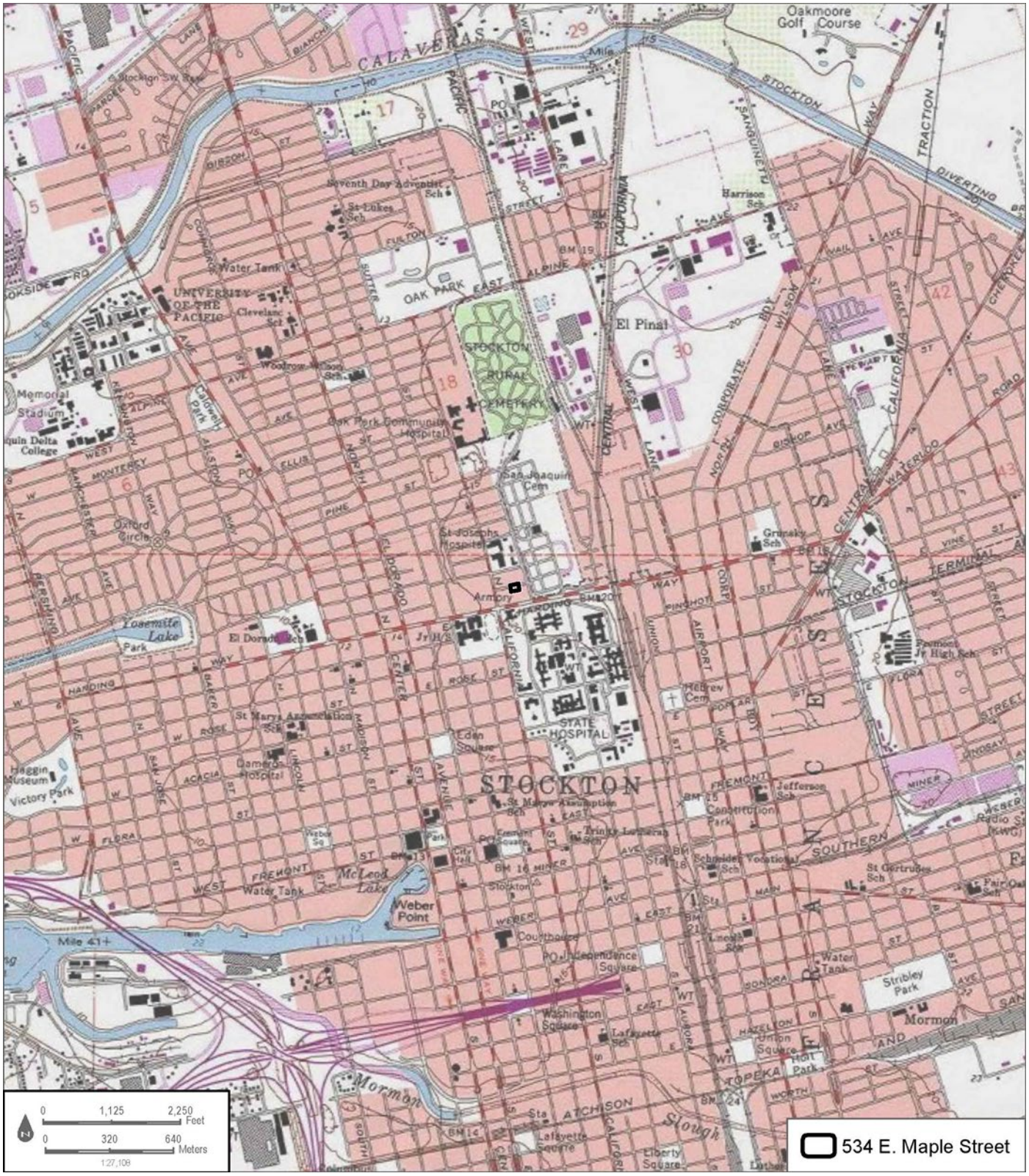
***Attachments:** ☐NONE ■Location Map ■Continuation Sheet ■Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

State of California ◆ Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI#
Trinomial

 ***Resource Name or #** (Assigned by recorder) 534 E. Maple Street
***Map Name:** Stockton West, Calif. ***Scale:** 1:24,000 ***Date of map:** 1987



State of California ◆ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) 534 E. Maple Street ***NRHP Status Code** 6Z
Page 3 **of** 10

B1. Historic Name:
B2. Common Name:
B3. Original Use: Medical Office Building B4. Present Use: Medical Office Building
***B5. Architectural Style:** Brick commercial
***B6. Construction History:** (Construction date, alterations, and date of alterations)
According to building permits on file with the City of Stockton permit office, the building was constructed in 1968 (Permit #BP69-54606). Buildings permits indicate that the following alterations were made to the building throughout its history: 1996-Tear off existing shake shingle to deck furnish and apply heavy shake roof (#96-00004329), 2003-Install air conditioning unit at computer room (#BP03-00002713), 2008-Temporary power for construction (BP08-00002298), 2018-Change-out roof mount to a new roof mount (#BP18-03529), 2019-Change out roof mount to a new roof mount (#BP19-05776). No other observed alterations were noted.

***B7. Moved?** ■**No** ☐**Yes** ☐**Unknown** **Date:** **Original Location:**
***B8. Related Features:**

B9a. Architect: b. Builder: Frahm and Kelley Company
***B10. Significance: Theme** n/a **Area** n/a

Period of Significance n/a **Property Type** n/a **Applicable Criteria** n/a
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Historical Overview of the City of Stockton
The San Joaquin River delta area had been settled since the prehistoric era. The Spanish first explored the San Joaquin valley in 1772; however, Gabriel Moraga named the valley San Joaquin de los Tulares, after the rushes and wetland plants that grew there only in 1808. In 1828, Jedediah Smith traveled for the Rocky Mountain Fur Company to Southern California, then to the San Joaquin Valley to trap beaver at the French Camp settlement, just south of present-day Stockton. This was followed by a trapper party led by John Work in 1832 for the Hudson Bay Company. Several party members were infected with a fever illness, which spread to the local Native American population in the San Joaquin Delta when the two groups eventually clashed (Mokelumne and Yokuts). This, as well as years of aggression from the Spanish then Mexican armies decreased the Native American habitation on the slough as well. Overall, aside from a fur company camp, the area was not well settled prior to the 1840s (ARG 2000; Lewis et al 1979; Tinkham 1880). **See continuation sheet.**

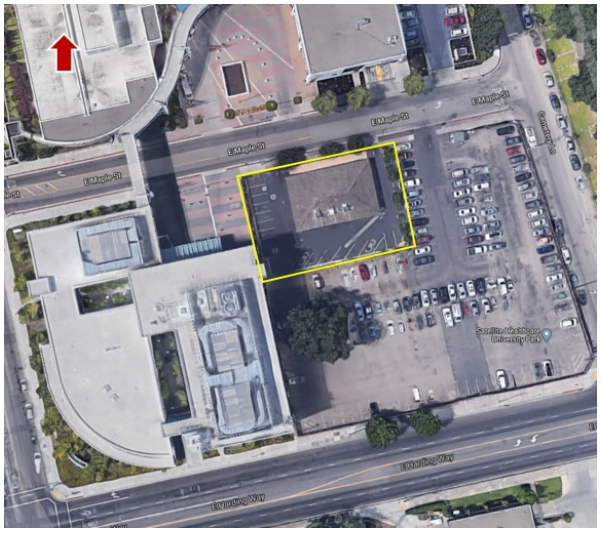
B11. Additional Resource Attributes: (List attributes and codes)
***B12. References:** see continuation sheet

B13. Remarks:

***B14. Evaluator:** Nicole Frank, MSHP
***Date of Evaluation:** April 1, 2020

(This space reserved for official comments.)

(Sketch Map with north arrow required.)



***P3a. Description (continued):**
The south elevation's fenestration displays as a single leaf entry door, three fixed windows with metal inset panels below, a single leaf entry door, and a fixed window with a metal inset panel below. The east elevation displays a pair of fixed windows with inset metal panels below.

***B10. Significance (continued):**

Charles M. Weber and business partner William Gulnac acquired a land grant to the 48,747-acre Rancho Campo de los Franceses in 1843. Weber, a German immigrant, came to California with the 1841 Bidwell-Bartleson Party, which was one of the earliest settlement parties from the eastern United States to successfully reach California. Weber and his wife Helen settled on the rancho and began planning the City of Stockton. Weber and Gulnac planned to raise livestock in the area, but were particularly interested in the San Joaquin River Delta for its shipping potential and physical outlet into the San Francisco Bay. The river was deep enough to accommodate steamboats and sailing ships alike. However, the Gold Rush altered the economic environment around Stockton after the discovery of gold at Coloma on the American River in 1848. Settlement at the Stockton location began as early as 1847, and in 1849 the Webers hurriedly paid for a survey and plat for the town. The City of Stockton incorporated in 1850. Charles Weber, Gulnac, and a group of early settlers founded the Stockton Mining Company to sell supplies to California Gold Rush miners heading from San Francisco and Sacramento into the Sierra Nevada foothills, east of Stockton. The town's early growth can be attributed to profiteering from the necessary shipping and freighting for the Gold Rush miners (ARG 2000; Kassler 2005; Lewis et al 1979; Tinkham 1880).

Though well positioned at the head of a navigable waterway to receive passengers and freight, Stockton's location in a delta of the San Joaquin and Calaveras Rivers left it prone to seasonal flooding, and it took nearly 15 years (1850-1865) to build a permanent elevated, dry road out of town to French Camp. For the earliest years, tents, rather than permanent buildings dominated Stockton as the main building type. Nevertheless, Stockton grew quickly. In 1850, the population was marked as 2,500 people, but by 1854, it had grown to 7,000 people, making Stockton the third-largest city in California (Kassler 2005; Lewis et al 1979).

Though the 1849 gold rush ended by 1855, Stockton smoothly transitioned to become an agricultural exporter, sending livestock, dairy, grain, fruits and vegetables to the major markets in San Francisco and Sacramento. With a harbor as its major asset, the rich agricultural area around Stockton and its mild climate quickly turned the city into a major hub for agricultural products. In an effort to support its new position as a major agricultural exporter, the city quickly gained flourmills, warehouses, food processing and canning plants, and brickyards to support the new building efforts. Several brickyards established in Stockton in the 1850s, providing much needed building materials for the rapidly growing city (ARG 2000; Boyton 1968; Tinkham 1880).

To accommodate the City's growth, delta and swamp environments were reclaimed and backfilled with soil to create land for development. Harbors and channels were deepened to accommodate a formal port that could support larger ships. The city expanded with all the services and large, grand buildings afforded to a large city. Telegraph lines were added in 1854. As the San Joaquin County seat, Stockton gained a courthouse by 1862 and a jail in 1865. Stockton also became the location of a state hospital called Stockton General Hospital in 1851 (renamed Insane Asylum of California at Stockton from 1853 onward). Various rail lines connecting Stockton to agricultural communities to the east and south, as well as north to Sacramento were added between 1865 and 1874. These included the Stockton & Copperopolis Railroad, the Stockton & Visalia Railroad, and Western Pacific Railroad (subsidiary of Central Pacific) (Barth 1940; Letcher 1969; Starr 1976; Tinkham 1880).

The City of Stockton continued to grow and in 1870, the population surpassed 10,000 persons. Chinese immigrants, restricted by the Chinese Exclusion Act in 1882, made up a significant portion of the population and commercial growth in Stockton in the 1880s. During the 1890s, Stockton's population had grown to over 14,000 and new projects were completed throughout the city. In 1890, a new courthouse was constructed, followed by a red brick jail in 1893. Multi-story brick buildings including banks, commercial buildings, schools, and hotels were also erected during the 1890s, leading to the nickname "Brick City" for Stockton. Stockton was also famous for the invention of agricultural machinery such as the Stockton Gang Plow and the Marvin Combined Harvester (commonly called a combine). Other agricultural production companies such as Sperry and Lyon Flour Mills

created enormous economic growth for Stockton (Boyton 1968; Clerc 1989).
Stockton remained a center for agriculture, commerce, and manufacturing into the twentieth century. By 1900, Stockton had several hundred manufacturing companies including canneries, ship builders, and farm equipment manufacturers. One of these would become the Holt Manufacturing Company, which created the crawler-type tractor patented as "Caterpillar" in 1911. Another was the Diamond Walnut Company, which had emerged from the Diamond Walnut Growers Association cooperative, founded in 1912. Stockton was not hard-hit by the 1906 San Francisco earthquake, sending relief supplies and building materials to affected areas and further growing its manufacturing economy. Manufacturing boomed during World War I in Stockton, as companies like Holt were converted to tank manufacturing. However, after World War I, Holt Manufacturing ceased tank production and had to merge with Best Tractor Company, which had produced farm equipment in the gap left by Holt. The resulting merged company moved to Peoria, Illinois, leaving Stockton without a farm machinery manufacturer (ARG 2000; Clerc 1989).

In 1925, Stockton started a bond campaign to improve the San Joaquin channel, with federal assistance provided in 1926. In 1928 and through the earliest years of the Great Depression, the City of Stockton completed the river channel project, known as the Stockton Deepwater Channel. The result was that the channel could accommodate loaded, ocean-faring vessels. During World War II, Stockton was heavily involved in the war effort, serving as a relocation center location for Japanese-Americans who were then sent on to a detention camp in Arkansas, as well as warship building, airplane parts manufacturing, and weapons manufacturing at Stockton's plants. World War II also created issues in the agricultural industry. With no workers to pick crops, farmers had to rely on federal programs bringing in workers from Mexico via the Bracero Program, which persisted until 1964 and resulted in a large influx of Mexican immigrants settling in Stockton permanently (ARG 2000; Clerc 1989; Lewis et al 1979).

Though Stockton experienced some mild post-war growth after World War II, most of this was suburban growth. From the 1950s through the 1990s, Urban Blight/Urban Renewal programs significantly affected Stockton's downtown. Many historical buildings and landmarks from the 1860s, such as the county courthouse and city library were replaced with modern buildings. This resulted in a sharp reduction in low-income housing options for farm laborers and forced an exodus of residential communities from the city center. In the more suburban areas of Stockton, the Stockton Metropolitan Airport and a baseball stadium were added, followed by retail centers like St. Mark's Plaza, Venetian Square, Quail Lakes, and College Square, which were added in the 1970s (ARG 2000; Clerc 1989).

In the 1990s and early 2000s, as Silicon Valley and Bay Area housing prices increased, working-class and middle-class Californians were pushed out of urban centers like San Jose, San Francisco, and Oakland into the Delta, occupying Sacramento, Tracy, and Stockton. Housing prices in the region tripled, and Stockton briefly experienced higher tax revenue. When the housing bubble burst in 2009, Stockton was hit hard by the recession that followed (McGrath 2016).

534 East Maple Street
The contractors Frahm and Kelly Co. constructed the subject property in 1968 as a medical office for Doctors Roach, Evert, and Hildebrand. The 11,000 sq. ft. lot included a 2,975 sq. ft. building and 13 parking spaces at the estimated cost of $62,000. Robert N. Evert, Lawrence D. Hildebrand, and Francis X. Roach in City Directories were listed as the owners and occupants of the building from its construction in 1968 until 1972, all three doctors were urologists. Evert was president of the San Joaquin County Medical Society, after Roach's death in 1974 physician George R. Herron took his place in the office. By 1977, physician Ronald C. Allison replaced Herron. In 1986, the building remained listed under Evert and Hildebrand. In 1996, the building's existing shake shingle roof was replaced with a heavy shake roof and roof mounts were replaced in 2018 and 2019. The building's current occupant, Dr. Gentry Vu, MD an obstetrics and gynecology doctor has occupied the building since 2010. Archival research failed to indicate any additional information pertaining to this property (Stockton City Directories; Sacramento Bee 1973, 1974).

NRHP/CRHR Statement of Significance

The subject property is located at 534 East Maple Street and does not meet any of the criteria for listing in the NRHP or CRHR, either individually or as part of an existing or potential historic district, based on the following significance evaluation.

Criterion A/1: That are associated with events that have made a significant contribution to the broad patterns of our history.
The subject property was constructed in 1968 operated as a medical office three local, practicing urologists: Robert N. Evert, Lawrence D. Hildebrand, and Francis X. Roach. The building remained an unaffiliated urology clinic until 2010, when it became an obstetrics/gynecology clinic operated by Dr. Gentry Vu. Both medical practices were privately owned. Archival research failed to indicate associations with historic events, nor have they contributed to the broad patterns of history. Therefore, the subject property does not appear eligible under Criterion A of the NRHP or Criterion 1 of the CRHR.

Criterion B/2: That are associated with the lives of persons significant in our past.
To be found eligible under Criteria B/2 the property has to be directly tied to an important person and the place where that individual conducted or produced the work for which he or she is known. Archival research did not indicate that any previous property owners or leaseholders were known to be historically significant figures at the national, state, or local level. As such, this property is not known to have any historical associations with people important to the nation's or state's past. Therefore, the subject property does not appear eligible for the NRHP under Criterion B or CRHR under Criterion 2.

Criterion C/3: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
The subject property is a modest brick commercial building constructed in 1968. The building retains its original scale and massing and there do not appear to have been any additions to the building since its construction. The only notable alteration was the replacement of the original shake roof with modern composition shingles. The building presents as a modest and simple commercial building that does not embody the characteristics of a specific type or period and is not readily identifiable as a distinctive style. Archival research failed to indicate an architect for the building, but did identify a contracting company: Frahm and Kelly Co. Based in Stockton, Frahm and Kelly Co. was one of many contracting firms working in the city during this period and do not appear to be master builders. The building does not possess high artistic value and is not representative of a significant and distinguishable entity whose components may lack individual distinction. For these reasons, the subject property does not appear eligible for listing in the NRHP under Criterion C or CRHR under Criterion 3.

Criterion D/4: That have yielded, or may be likely to yield, information important in prehistory or history
The subject property is not significant under Criterion D of the NRHP or Criterion 4 of the CRHR as a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies.

City of Stockton Statement of Significance

Landmarks
The subject property is located at 534 East Maple Street and does not meet any of the criteria for listing as a City of Stockton Landmark, based on the following significance evaluation.

1. ***Archaeological Interest. Its potential for yielding significant information of archaeological interest;***

As stated above in NRHP/CRHR Criteria D/4, the subject property is not a source, or likely source, of important historical or archaeological information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore the subject property is not of archeological interest and does not appear eligible under City of Stockton Landmark Criterion 1.

2. ***Architectural Craftsmanship. Its embodiment of elements demonstrating outstanding attention to architectural and/or engineering craftsmanship, design, detail, or materials;***

As stated above in NRHP/CRHR Criteria C/3, the subject property is a modest, commercial brick building built in 1968. The building is constructed from mass-produced materials commonly used

during the period of its construction, and are not notable. There is no visible exterior decoration on the building demonstrating architectural or engineering craftsmanship. Due to alterations, most notably a change in original materials to the roof, the building no longer retains requisite integrity to convey material craftsmanship. Therefore the subject property is not of an outstanding example of architectural craftsmanship, design, details, or materials and does not appear eligible under City of Stockton Landmark Criterion 2.

3. Architectural Style. Its exemplification of a particular architectural style or way of life important to the City, the State, or the Nation;

As stated above in NRHP/CRHR Criteria C/3, the subject property is a modest and unremarkable brick commercial building built in 1968. Given its simplistic nature and lack of architectural features, the building fails to represent a specific architectural style. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 3.

4. Architectural Type. Its exemplification of the best remaining architectural type in the City;

The subject property is a modest commercial building built in 1968, but is not a particularly outstanding example of a commercial building. Therefore the subject property cannot be considered the best remaining architectural type in the city and does not appear eligible under City of Stockton Landmark Criterion 4.

5. Historic Event. Its location as a site of a significant historic event;

As stated above in NRHP/CRHR Criteria A/1, the subject property is not associated with a significant historic event. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 5.

6. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

The subject property is an unremarkable building both architecturally and historically. The building's relatively modernity and lack of relationship with any of the formative events of Stockton, or specific heritage groups render its character, interest, or value as not significant to the heritage of the City of Stockton, the state or the nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 6.

7. Visual Feature. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

The subject property is a one story, low profile building built in 1968. The building does not have a unique location or visually interesting physical characteristic that sets it apart from other buildings in its general vicinity or among other buildings of this type. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 7.

8. Relationship to Another Landmark. Its relationship to any other landmark, if its preservation is essential to the integrity of that landmark;

The subject property is not related to another City of Stockton Landmark, nor is its preservation essential to any Landmark. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 8.

9. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation;

As stated above in NRHP/CRHR Criteria B/2, the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Criterion 9.

10. Work of a Significant Person. Its identification as the creation, design, or work of a person(s) whose effort has significantly influenced the heritage of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion C/3, the subject property is not associated with a significant person as their creation or design. The building is a modest brick commercial building constructed by local contracting firm Frahm and Kelly Co. Frahm and Kelly Co. does not appear to reach the level of significance necessary to be considered a "master" builder or significantly influenced the

heritage of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 10.

11. Natural Environment. Its integrity as a natural environment that strongly contributes to the well-being of the people of the City, the State, or the Nation.

The setting of the subject property is on a fully developed urban lot with no apparent natural environment that might strongly contribute to the well-being of the people of the City, the State, or the Nation. Therefore, the subject property is not eligible under City of Stockton Landmark Criterion 11.

Structure of Merit

The subject property does not appear to meet any of the criteria for listing as a City of Stockton Structure of Merit, based on the following significance evaluation:

1. Archaeological Interest. Its potential of yielding significant information of archaeological interest;

As stated above in NRHP/CRHR Criteria D/4 and Landmark Criterion 1, the subject property is not a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 1.

2. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

As stated above in Landmark Criterion 6, the subject property is an unremarkable building both architecturally and historically. It is not associated with the City's heritage and does not possess character, interest or value as part of the City's heritage. Therefore, is the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 2.

3. Visual Feature of the City. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

As stated above in Landmark Criterion 7, the subject property is a one-story, low profile building built in a nondescript style. The building does not have a unique location or visually interesting physical characteristics that set it apart from other buildings in its general vicinity. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 3.

4. Way of Life. Its exemplification of a particular way of life important to the City, the State, or the Nation;

The subject property was designed as a medical office building and has had various leaseholders and owners, which, of itself does not represent or exemplify a particular life way important or otherwise unique to the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 4.

5. Historic Event. Its location as a site of a significant historic event regardless of its current configuration, development, or use;

As stated above in NRHP/CRHR Criteria A/1 and Landmark Criterion 5, the subject property is not associated with any significant historical event. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 5.

6. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criteria B/2 and Landmark Criterion 9, is the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 6.

7. Significant Person of a Specific National Origin. Its identification with a person(s) representative of a specific national origin who have contributed to the culture and development of the City, the State, or the Nation.

The subject property is currently and has been historically operated as a medical office building and is not associated with any person representative of a specific national origin or cultural group who has contributed to the culture and development of the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 7.

Integrity Discussion
As stated above, the subject property does not appear significant under any of the national, state, or local designation criteria. The building retains some aspects of integrity, including location, setting, and feeling, but does have a diminished integrity of design, materials or workmanship due to alterations. The building can still convey the feeling of being a private medical clinic. Given the lack of historical associations, there is no integrity of association for the subject property. Regardless of the integrity of the subject property, its lack of architectural significance and lack of historical associations prevents it from rising to the level of significance required for listing with the NRHP, CRHR, and the City of Stockton designation program. As such, the subject property does not appear to be a historical resource for the purposes of CEQA and has been assigned a California Historical Resource Status Code of 6Z (found ineligible for the NRHP, CRHR, or local designation through survey evaluation).

B12. References (continued):

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State of California ◆ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

Page 1 **of** 12 ***Resource Name or #:** (Assigned by recorder) 425 E. Harding Way
P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted**

***a. County** San Joaquin **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Stockton West **Date** 1987 **Survey** Land Grant ; **Name** Campo de los Franceses

c. Address 425 Harding Way City Stockton Zip 95204

d. UTM: (Give more than one for large and/or linear resources) Zone 10S , 650246 mE/ 4203699 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

Parcel Number: 127-150-39. The property is located mid-block on the northern side of East Harding Way between North Wood Land and North California Street in the City of Stockton.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Mid-Century Modern building displays a flat roof sheathed in rolled composition roofing and exterior walls clad in textured concrete, CMUs, vertical board siding, and wooden shingles. The building's main (south) elevation displays as three sections. The left section is distinguished by painted vertical board siding. The middle section is inset approximately three feet with a planter box and two concrete entry steps. This section's fenestration includes a band of fixed windows and a single leaf entry door with a security gate in front. The right section is distinguished by a checkered patterned stamped concrete pattern. The east elevation displays as two sections, the left is distinguished by a checkered patterned stamped concrete pattern and the right is inset approximately four feet and displays two single entry doors. **See continuation sheet.**

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



***P3b. Resource Attributes:** (List attributes and codes) HP6. 1-3 Story Commercial Building

***P4. Resources Present:** ■ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.) P5b. Description of Photo: (view, date, accession #) Main elevation, view looking north, March 2019

***P6. Date Constructed/Age and Source:** ■ Historic ☐ Prehistoric ☐ Both 1963 (City of Stockton)

***P7. Owner and Address:**
Karen Leung, et al.
3940 Pine Lake Circle
Stockton, CA 95219

***P8. Recorded by:** (Name, affiliation, and address)
Sarah Corder, MFA
Dudek,
1102 R Street
Sacramento, California 95820

***P9. Date Recorded:** 3/6/2020

***P10. Survey Type:** (Describe)
pedestrian

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Kaiser, K., F. Steffen, S. Corder and W. Burns. 2021. Historical Resources Inventory And Evaluation Report For The St. Joseph's Medical Center Hospital Expansion Project, Stockton, California. Dudek, September 2021.

***Attachments:** ☐NONE ■Location Map ■Continuation Sheet ■Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

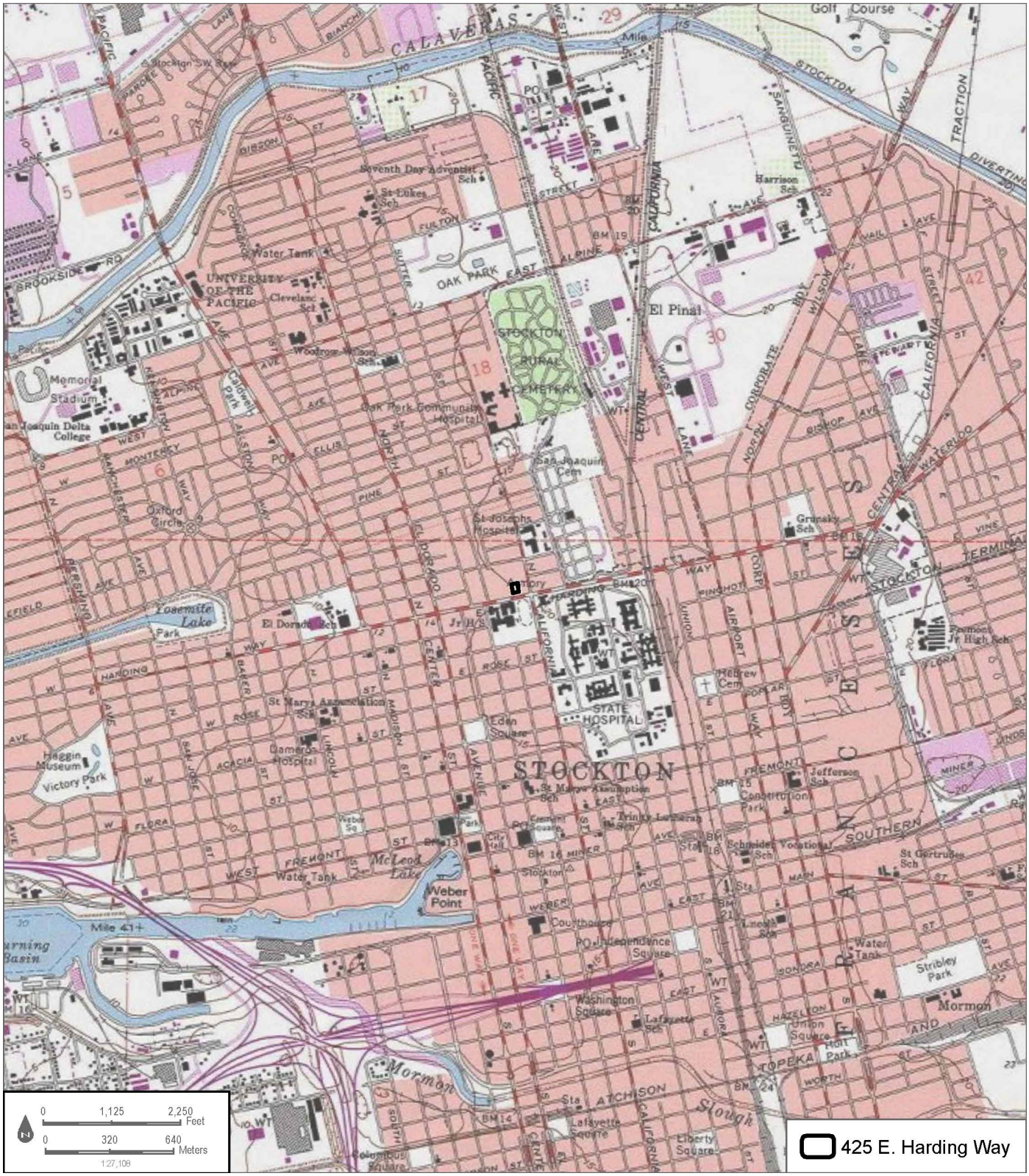
State of California ◆ Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI#
Trinomial

 ***Resource Name or #** (Assigned by recorder) 425 E. Harding Way

***Map Name:** Stockton West, Calif. ***Scale:** 1:24,000 ***Date of map:** 1987



State of California ◆ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) 425 E. Harding Way ***NRHP Status Code** 6Z
Page 3 **of** 12

B1. Historic Name:
B2. Common Name:
B3. Original Use: Commercial Building B4. Present Use: Commercial Building
***B5. Architectural Style:** Mid-Century Modern
***B6. Construction History:** (Construction date, alterations, and date of alterations)
According to building permits on file with the City of Stockton permit office, the building was constructed in 1963. Buildings permits indicate that the following alterations were made to the building throughout its history (City of Stockton Building Permits Office): 1963-Construction of an office building for the Upjohn National Leasing Co. by Hoffman Construction (#BP63-32859), 1963-Erect exterior sign (#BP63-34336), 1984-Remodel office building (#BP84-57492), 1987-Install non-illuminated exterior lettering (#BP87-68199), 1990-Install drop ceiling with drop in low energy lighting (#BP91-8096), 1992-Add plumbing lines (#BP92-00004192), 2003-Add new women and men handicap restrooms (#BP03-00003117), 2009-Replace HVAC package unit on roof (#BP09-00000923). No other observed alterations were noted.

***B7. Moved?** ■**No** ☐**Yes** ☐**Unknown** **Date:** **Original Location:**
***B8. Related Features:**

B9a. Architect: b. Builder: Hoffman Construction
***B10. Significance: Theme** n/a **Area** n/a

Period of Significance n/a **Property Type** n/a **Applicable Criteria** n/a
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

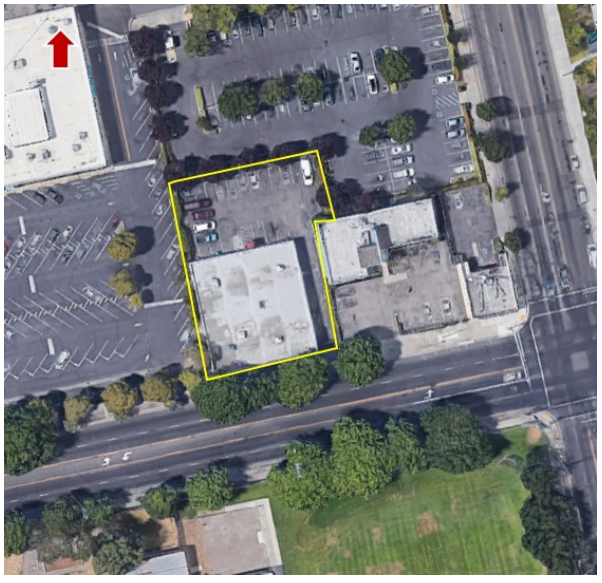
Historical Overview of the City of Stockton
The San Joaquin River delta area had been settled since the prehistoric era. The Spanish first explored the San Joaquin valley in 1772; however, Gabriel Moraga named the valley San Joaquin de los Tulares, after the rushes and wetland plants that grew there only in 1808. In 1828, Jedediah Smith traveled for the Rocky Mountain Fur Company to Southern California, then to the San Joaquin Valley to trap beaver at the French Camp settlement, just south of present-day Stockton. This was followed by a trapper party led by John Work in 1832 for the Hudson Bay Company. Several party members were infected with a fever illness, which spread to the local Native American population in the San Joaquin Delta when the two groups eventually clashed (Mokelumne and Yokuts). This, as well as years of aggression from the Spanish then Mexican armies decreased the Native American habitation on the slough as well. Overall, aside from a fur company camp, the area was not well settled prior to the 1840s (ARG 2000; Lewis et al 1979; Tinkham 1880). **See continuation sheet.**

B11. Additional Resource Attributes: (List attributes and codes)
***B12. References:** **see continuation sheet**

B13. Remarks:

(This space reserved for official comments.)

(Sketch Map with north arrow required.)



BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) 425 E. Harding Way ***NRHP Status Code** 6Z

***B14. Evaluator:** Nicole Frank, MSHP

***Date of Evaluation:** April 1, 2020

***P3a. Description (continued):**
The building's north elevation could not be viewed from the public right of way. The west elevation displays as two sections, the left contains no fenestration, exterior walls clad in painted wooden shingles that distinguish the right section.

***B10. Significance (continued):**

Charles M. Weber and business partner William Gulnac acquired a land grant to the 48,747-acre Rancho Campo de los Franceses in 1843. Weber, a German immigrant, came to California with the 1841 Bidwell-Bartleson Party, which was one of the earliest settlement parties from the eastern United States to successfully reach California. Weber and his wife Helen settled on the rancho and began planning the City of Stockton. Weber and Gulnac planned to raise livestock in the area, but were particularly interested in the San Joaquin River Delta for its shipping potential and physical outlet into the San Francisco Bay. The river was deep enough to accommodate steamboats and sailing ships alike. However, the Gold Rush altered the economic environment around Stockton after the discovery of gold at Coloma on the American River in 1848. Settlement at the Stockton location began as early as 1847, and in 1849 the Webers hurriedly paid for a survey and plat for the town. The City of Stockton incorporated in 1850. Charles Weber, Gulnac, and a group of early settlers founded the Stockton Mining Company to sell supplies to California Gold Rush miners heading from San Francisco and Sacramento into the Sierra Nevada foothills, east of Stockton. The town's early growth can be attributed to profiteering from the necessary shipping and freighting for the Gold Rush miners (ARG 2000; Kassler 2005; Lewis et al 1979; Tinkham 1880).

Though well positioned at the head of a navigable waterway to receive passengers and freight, Stockton's location in a delta of the San Joaquin and Calaveras Rivers left it prone to seasonal flooding, and it took nearly 15 years (1850-1865) to build a permanent elevated, dry road out of town to French Camp. For the earliest years, tents, rather than permanent buildings dominated Stockton as the main building type. Nevertheless, Stockton grew quickly. In 1850, the population was marked as 2,500 people, but by 1854, it had grown to 7,000 people, making Stockton the third-largest city in California (Kassler 2005; Lewis et al 1979).

Though the 1849 gold rush ended by 1855, Stockton smoothly transitioned to become an agricultural exporter, sending livestock, dairy, grain, fruits and vegetables to the major markets in San Francisco and Sacramento. With a harbor as its major asset, the rich agricultural area around Stockton and its mild climate quickly turned the city into a major hub for agricultural products. In an effort to support its new position as a major agricultural exporter, the city quickly gained flourmills, warehouses, food processing and canning plants, and brickyards to support the new building efforts. Several brickyards established in Stockton in the 1850s, providing much needed building materials for the rapidly growing city (ARG 2000; Boyton 1968; Tinkham 1880).

To accommodate the City's growth, delta and swamp environments were reclaimed and backfilled with soil to create land for development. Harbors and channels were deepened to accommodate a formal port that could support larger ships. The city expanded with all the services and large, grand buildings afforded to a large city. Telegraph lines were added in 1854. As the San Joaquin County seat, Stockton gained a courthouse by 1862 and a jail in 1865. Stockton also became the location of a state hospital called Stockton General Hospital in 1851 (renamed Insane Asylum of California at Stockton from 1853 onward). Various rail lines connecting Stockton to agricultural communities to the east and south, as well as north to Sacramento were added between 1865 and 1874. These included the Stockton & Copperopolis Railroad, the Stockton & Visalia Railroad, and Western Pacific Railroad (subsidiary of Central Pacific) (Barth 1940; Letcher 1969; Starr 1976; Tinkham 1880).

The City of Stockton continued to grow and in 1870, the population surpassed 10,000 persons. Chinese immigrants, restricted by the Chinese Exclusion Act in 1882, made up a significant portion of the population and commercial growth in Stockton in the 1880s. During the 1890s, Stockton's population had grown to over 14,000 and new projects were completed throughout the city. In 1890, a new courthouse was constructed, followed by a red brick jail in 1893. Multi-story brick buildings including banks, commercial buildings, schools, and hotels were also erected during the 1890s, leading to the nickname "Brick City" for Stockton. Stockton was also famous for the invention of agricultural machinery such as the Stockton Gang Plow and the Marvin Combined Harvester (commonly called a combine). Other agricultural production companies such as Sperry and Lyon Flour Mills

created enormous economic growth for Stockton (Boyton 1968; Clerc 1989).
Stockton remained a center for agriculture, commerce, and manufacturing into the twentieth century. By 1900, Stockton had several hundred manufacturing companies including canneries, ship builders, and farm equipment manufacturers. One of these would become the Holt Manufacturing Company, which created the crawler-type tractor patented as "Caterpillar" in 1911. Another was the Diamond Walnut Company, which had emerged from the Diamond Walnut Growers Association cooperative, founded in 1912. Stockton was not hard-hit by the 1906 San Francisco earthquake, sending relief supplies and building materials to affected areas and further growing its manufacturing economy. Manufacturing boomed during World War I in Stockton, as companies like Holt were converted to tank manufacturing. However, after World War I, Holt Manufacturing ceased tank production and had to merge with Best Tractor Company, which had produced farm equipment in the gap left by Holt. The resulting merged company moved to Peoria, Illinois, leaving Stockton without a farm machinery manufacturer (ARG 2000; Clerc 1989).

In 1925, Stockton started a bond campaign to improve the San Joaquin channel, with federal assistance provided in 1926. In 1928 and through the earliest years of the Great Depression, the City of Stockton completed the river channel project, known as the Stockton Deepwater Channel. The result was that the channel could accommodate loaded, ocean-faring vessels. During World War II, Stockton was heavily involved in the war effort, serving as a relocation center location for Japanese-Americans who were then sent on to a detention camp in Arkansas, as well as warship building, airplane parts manufacturing, and weapons manufacturing at Stockton's plants. World War II also created issues in the agricultural industry. With no workers to pick crops, farmers had to rely on federal programs bringing in workers from Mexico via the Bracero Program, which persisted until 1964 and resulted in a large influx of Mexican immigrants settling in Stockton permanently (ARG 2000; Clerc 1989; Lewis et al 1979).

Though Stockton experienced some mild post-war growth after World War II, most of this was suburban growth. From the 1950s through the 1990s, Urban Blight/Urban Renewal programs significantly affected Stockton's downtown. Many historical buildings and landmarks from the 1860s, such as the county courthouse and city library were replaced with modern buildings. This resulted in a sharp reduction in low-income housing options for farm laborers and forced an exodus of residential communities from the city center. In the more suburban areas of Stockton, the Stockton Metropolitan Airport and a baseball stadium were added, followed by retail centers like St. Mark's Plaza, Venetian Square, Quail Lakes, and College Square, which were added in the 1970s (ARG 2000; Clerc 1989).

In the 1990s and early 2000s, as Silicon Valley and Bay Area housing prices increased, working-class and middle-class Californians were pushed out of urban centers like San Jose, San Francisco, and Oakland into the Delta, occupying Sacramento, Tracy, and Stockton. Housing prices in the region tripled, and Stockton briefly experienced higher tax revenue. When the housing bubble burst in 2009, Stockton was hit hard by the recession that followed (McGrath 2016).

425 East Harding Way
The contractor Hoffman Construction constructed the subject property in 1963 as an office building for Upjohn National Leasing Company. The building cost approximately $75,000 to build. The building's construction permit was filed on July 23, 1963 and by October 29, 1963 the building's new owner, the National Cash Register Corporation (NCR), filed a sign permit. The NCR Corporation was a communications technology provider that began as a cash register company in the 1800s. By 1981, the building was vacant and in 1982 the Metropolitan Company Realtors, Dr. Patricia Hatton who eventually moved her office to 435 East Harding Way and Dr. Thabet M. Karabala occupied the building. In 1984, the office building was remodeled, but the details of this remodel are unknown and in 1987, the building was permitted to have a non-illuminated sign installed. In the early 2000s, San Joaquin County's assistance agency for eligible aged, blind, and disabled individuals, In Home Supportive Services (IHSS), occupied the building. In 2016, the building's current owners, Cunningham Funeral Services, moved into the subject property after being vacant between 2012 and 2015. Archival research failed to indicate any additional information pertaining to this property (Stockton City Directories; SFE 1967)

Architectural Style

Mid-Century Modern (1945 – 1965)

Following World War II, the United States focused on progress and modernity, which prompted bold architectural movements such as Mid-Century Modern. In addition to a focus on new construction techniques pioneered by practitioners of the style, Mid-Century Modern style aesthetics focused on the contemporary, cutting-edge materials that were being developed and mass-produced during the period.

In Northern California, the Mid-Century Modern movement was characterized by simplistic and clear uses of materials and structural components, open interior planning, and large expanses of glass. Mid-Century Modern in Northern California was influenced by the International Style and the Second Bay Tradition while also incorporating a more relaxed style of architecture which reflected post-World War II attitudes. The cost-effective nature of the style and the ability to mass-produce Mid-Century Modern building materials like concrete, wood, steel, and glass made it the perfect style for cities growing at a rapid pace following the end of World War II (SFPD 2010).
Characteristics of the Mid-Century Modern style include the following:

- Cantilevered overhangs
- Flat, shed or low-pitched gable roof forms
- Vaulted roofs and overhangs
- Articulated primary facades
- Stucco, wood (often vertical), or corrugated siding
- Stacked Roman brick or stone often used as accent material
- Expressed post and beam construction
- Strong right angles and simple cubic forms
- Projecting vertical elements
- Large steel- or wood-framed windows
- Canted windows
- Painted finish is often stained, earth tone, or brightly colored
- Projecting boxes that frame the upper stories
- Atrium or courtyard entryways
- Overhanging trellises, sunshades, and pergolas

NRHP/CRHR Statement of Significance

The subject property is located at 425 East Harding Way and does not meet any of the criteria for listing in the NRHP or CRHR, either individually or as part of an existing or potential historic district, based on the following significance evaluation.

Criterion A/1: That are associated with events that have made a significant contribution to the broad patterns of our history.
The subject property was constructed in 1963 operated as an office space for the National Cash Register Company from 1963-1981. Following the occupation of the building by the National Cash Register Company the building was vacant for a few years and was then remodeled and served as a doctor's office, before finally becoming a funeral services office in 2015. The building appears to have operated as an office for either commercial or health-related industries for the majority of its history, likely because of its close proximity to St. Joseph's Medical Center. The building was built for the National Cash Register Company in 1963, when Stockton was experiencing suburban growth and had multiple urban renewal programs reshaping the downtown Stockton area. The building's construction does not appear to be related to the themes of suburban growth of urban renewal in Stockton. National Cash Register Company, founded in Illinois in 1884, was transitioning to a general business computer industry in the 1960s, creating the first computer with CRAM storage in 1962. Company offices were already established in Walnut, Sacramento and other Northern California cities, but the office in Stockton does not appear to have be associated with the invention or manufacture of these computer systems, only their sale. The building transitioned to a medical office in the 1980s. The office transitioned to aged and disabled home services company In Home Support Services in the early 2000s before another period of vacancy and finally becoming a funeral home in 2015. The construction of the 425 East Harding Way and all of the subsequent tenants and events-on-premises

did not have any influence or association with historic events, nor have they made contributions to the broad patterns of history. Therefore, the subject property does not appear eligible for the NRHP under Criterion A or CRHR under Criterion 1.

Criterion B/2: That are associated with the lives of persons significant in our past.
To be found eligible under Criterion B/2 the property has to be directly tied to an important person and the place where that individual conducted or produced the work for which he or she is known. Archival research did not indicate that any previous property owners or leaseholders were known to be historically significant figures at the national, state, or local level. As such, this property is not known to have any historical associations with people important to the nation's or state's past. Therefore, the subject property does not appear eligible for the NRHP under Criterion B or CRHR under Criterion 2.

Criterion C/3: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
The subject property is a simple Mid-Century Modern style office building, constructed in 1963. The building does not seem to have received any alterations or additions since its construction and still successfully conveys some of the more modest character-defining features of the Mid-Century Modern architectural style: one-story in height; horizontality stressed; blocky, modular appearance; constructed of mass produced materials; glass and steel storefront windows; and a decorative textured concrete wall. The only major exterior alterations appear to be changes to the sign band and rooftop HVAC additions. However, while the building has few exterior alterations, its simple appearance cannot be said to "embody the distinctive characteristics" of its period of construction nor the Mid-Century Modern architectural style. Archival research did not uncover an architect, only the contractor company: Hoffman Construction. They appear to have been one of many local, small-scale contracting firms doing work in Stockton during this period and do not appear to be master builders. The building does not possess high artistic value and is not representative of a significant and distinguishable entity whose components may lack individual distinction. For these reasons, the subject property does not appear eligible for listing in the NRHP under Criterion C or CRHR under Criterion 3.

Criterion D/4: That have yielded, or may be likely to yield, information important in prehistory or history
The subject property is not significant under Criterion D of the NRHP or Criterion 4 of the CRHR as a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies.

City of Stockton Statement of Significance

Landmarks
The subject property is located at 425 East Harding Way and does not meet any of the criteria for listing as a City of Stockton Landmark, based on the following significance evaluation.

1. ***Archaeological Interest. Its potential for yielding significant information of archaeological interest;***

As stated above in NRHP/CRHR Criterion D/4, the subject property is not a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore the subject property is not of archeological interest and does not appear eligible under City of Stockton Landmark Criterion 1.

2. ***Architectural Craftsmanship. Its embodiment of elements demonstrating outstanding attention to architectural and/or engineering craftsmanship, design, detail, or materials;***

As stated above in NRHP/CRHR Criterion C/3, the subject property is a modest and unremarkable Mid-century Modern office built in 1963. While it does retain many of its original features, it is constructed from mass produced materials commonly used during the period of its construction. Therefore the subject property is not of an outstanding example of architectural craftsmanship, design, details, or materials and does not appear eligible under City of Stockton Landmark Criterion 2.

3. Architectural Style. Its exemplification of a particular architectural style or way of life important to the City, the State, or the Nation;

As stated above in NRHP/CRHR Criterion C/3, the subject property is a modest and unremarkable Mid-century Modern office built in 1963. However, due to the ubiquity of this style and the lack of outstanding design or craftsmanship components, the building cannot be said to exemplify the Mid-Century Modern architectural style. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 3.

4. Architectural Type. Its exemplification of the best remaining architectural type in the City;

The subject property is a modest and unremarkable Mid-century Modern office built in 1963, but is one of many such buildings constructed outside of the Stockton city center during the 1960s. Better representations of this style are available elsewhere in the City of Stockton, to the point that this architectural type can be considered ubiquitous in the City. As such, the subject property cannot be considered the best remaining architectural type in the city and does not appear eligible under City of Stockton Landmark Criterion 4.

5. Historic Event. Its location as a site of a significant historic event;

As stated above in NRHP/CRHR Criterion A/1, the subject property is not associated with a significant historic event. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 5.

6. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

The subject property is an unremarkable building both architecturally and historically. Its character, interest, or value are not significant to the heritage of the City of Stockton, the state or the nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 6.

7. Visual Feature. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

The subject property is, by design, a one story, low profile building built in a common, popular style ubiquitous throughout Stockton in the 1950s and 1960s. The building does not have a unique location or visually interesting physical characteristic, which sets it apart from other buildings in its general vicinity or among other buildings of this type or style. Therefore, the subject property is not eligible under City of Stockton Landmark Criterion 7.

8. Relationship to Another Landmark. Its relationship to any other landmark, if its preservation is essential to the integrity of that landmark;

The subject property is not related to another City of Stockton Landmark, nor is its preservation essential to any Landmark. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 8.

9. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation;

As stated above in NRHP/CRHR Criterion B/2, the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Criterion 9.

10. Work of a Significant Person. Its identification as the creation, design, or work of a person(s) whose effort has significantly influenced the heritage of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion C/3, the subject property is not associated with a significant person as their creation or design. The building is a modest and ubiquitous Mid-Century Modern office building constructed by local contracting firm Hoffman Construction. Hoffman Construction does not appear to reach the level of significance necessary to be considered a "master" builder. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 10.

11. Natural Environment. Its integrity as a natural environment that strongly contributes to the

well-being of the people of the City, the State, or the Nation.

The setting of the subject property is on a fully developed urban lot with no apparent natural environment that might strongly contribute to the well-being of the people of the City, the State, or the Nation. Therefore, subject property does not appear eligible under City of Stockton Landmark Criterion 11.

Structure of Merit

The subject property also does not appear to meet any of the criteria for listing as a City of Stockton Structure of Merit, based on the following significance evaluation:

1. ***Archaeological Interest. Its potential of yielding significant information of archaeological interest;***

As stated above in NRHP/CRHR Criterion D/4 and Landmark Criterion 1, the subject property is not a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, is the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 1.

2. ***Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;***

As stated above in Landmark Criterion 6, the subject property is an unremarkable building both architecturally and historically. It is not associated with the City's heritage and does not possess character, interest or value as part of the City's heritage. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 2.

3. ***Visual Feature of the City. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;***

As stated above in Landmark Criterion 7, the subject property is a one story, low profile building built in a common, popular style ubiquitous throughout Stockton in the 1950s and 1960s. The building does not have a unique location or visually interesting physical characteristics, which set it apart from other buildings in its general vicinity. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 3.

4. ***Way of Life. Its exemplification of a particular way of life important to the City, the State, or the Nation;***

The subject property was designed as an office building and has had various leaseholders and owners, which, of itself does not represent or exemplify a particular life way important or otherwise unique to the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 4.

5. ***Historic Event. Its location as a site of a significant historic event regardless of its current configuration, development, or use;***

As stated above in NRHP/CRHR Criterion A/1 and Landmark Criterion 5, the subject property is not associated with any significant historical event. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 5.

6. ***Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation; or***

As stated above in NRHP/CRHR Criterion B/2 and Landmark Criterion 9, Property 3: 425 East Harding Way is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, Property 3 is not eligible under City of Stockton Structure of Merit Criterion 6.

7. ***Significant Person of a Specific National Origin. Its identification with a person(s) representative of a specific national origin who have contributed to the culture and development of the City, the State, or the Nation.***

The subject property operated as an office building and was not associated with any person representative of a specific national origin or cultural group who has contributed to the culture and development of the City, State, or Nation. Therefore, the subject does not appear eligible under City of Stockton Structure of Merit Criterion 7.

Integrity Discussion
As stated above, the subject property, does not appear significant under any of the national, state, or local criteria. However, the building has not had visible exterior alterations and appears to retain many aspects of integrity including: location, design, materials, workmanship, and feeling. The only element of integrity that has been significantly compromised is the integrity of setting because of the major additions and wings for St. Joseph's Hospital and the loss of the original residential neighborhood setting. There were also no identified historical associations, so there is no integrity of association for the property. Despite the overall level of integrity of the subject property, its lack of architectural significance and lack of historical associations prevents it from rising to the level of significance required for listing with the NRHP, CRHR, and the City of Stockton designation program. There were also no identified historical associations, so there is no integrity of association for the property. Despite the integrity of the subject property, its lack of architectural significance and lack of historical associations prevents it from rising to the level of significance required for listing with the NRHP, CRHR, and the City of Stockton designation program. As such, the subject property does not appear to be a historical resource for the purposes of CEQA and has been assigned a California Historical Resource Status Code of 6Z (found ineligible for the NRHP, CRHR, or local designation through survey evaluation).

B12. References (continued):

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State of California ◆ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

Page 1 **of** 10 ***Resource Name or #:** (Assigned by recorder) 445 E. Harding Way
P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted**

***a. County** San Joaquin **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Stockton West **Date** 1987 **Survey** Land Grant ; **Name** Campo de los Franceses

c. Address 445 East Harding Way City Stockton Zip 95204

d. UTM: (Give more than one for large and/or linear resources) Zone 10S , 650246 mE/ 4203699 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

Parcel Number: 127-150-51. The property is located on the northwest corner of East Harding Way and North California Street in the City of Stockton.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The subject property was constructed circa 1975, is one-story in height, and is square in plan, located on the northwest corner of East Harding Way and North California Street. The modest commercial building features a flat roof obscured by Neo-Mansard roof detailing. The exterior walls are clad in a variety of materials including CMUs, brick veneer, and horizontal board siding. The building's main (south) elevation displays as two sections. Stacked bond soldier brick veneers distinguish the left section. The right section displays a faux mansard roof with wooden shingles and a full lite single leaf entry door flanked by two pairs of fixed windows with painted inset panels above and below. The east elevation displays as two sections. **See continuation sheet.**

***P3b. Resource Attributes:** (List attributes and codes) HP6. 1-3 Story Commercial Building

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



***P4. Resources Present:** ■ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.) P5b. Description of Photo: (view, date, accession #) South and East Elevations, view looking northwest, March 2019.

***P6. Date Constructed/Age and Source:** ■ Historic ☐ Prehistoric ☐ Both
Circa 1975 (Historic Aerials)

***P7. Owner and Address:**
Oliver & Shirley Torlai
1501 N. California St.
Stockton, CA 95204

***P8. Recorded by:** (Name, affiliation, and address)
Sarah Corder, MFA
Dudek,
1102 R Street
Sacramento, California 95820

***P9. Date Recorded:** 3/6/2020

***P10. Survey Type:** (Describe) pedestrian

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Kaiser, K., F. Steffen, S. Corder and W. Burns. 2021. Historical Resources Inventory And Evaluation Report For The St. Joseph's Medical Center Hospital Expansion Project, Stockton, California. Dudek, September 2021.

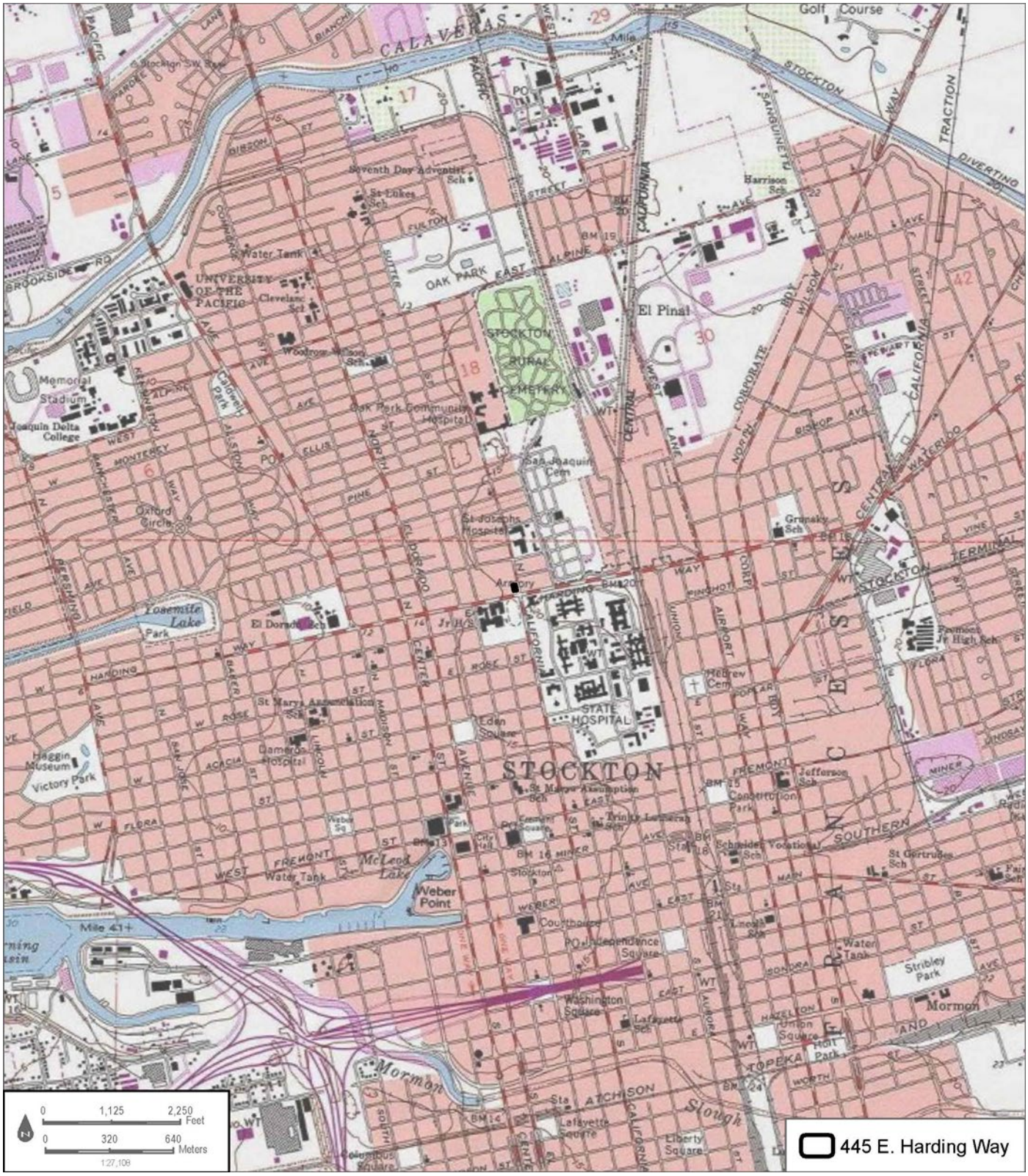
***Attachments:** ☐NONE ■Location Map ■Continuation Sheet ■Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

State of California ◆ Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI#
Trinomial

 ***Resource Name or #** (Assigned by recorder) 445 E. Harding Way
***Map Name:** Stockton West, Calif. ***Scale:** 1:24,000 ***Date of map:** 1987



State of California ◆ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) 445 E. Harding Way ***NRHP Status Code** 6Z
Page 3 **of** 10

B1. Historic Name:
B2. Common Name:
B3. Original Use: Commercial Building B4. Present Use: Commercial Building
***B5. Architectural Style:** Brick commercial with Neo-Mansard elements
***B6. Construction History:** (Construction date, alterations, and date of alterations)
According to historic aerial photographs and archival research the building was constructed circa 1975. Buildings permits obtained from the City of Stockton building permit office indicate that the following alterations were made to the building throughout its history: 1961-Sign installation (#BP61-22999), 1966-Repair fire damage (#BP66-51460), 1976-Install wall sign "Valley Optical Co." (#BP76-16228). Other observed alterations to the building include the addition of security bars to all windows.

***B7. Moved?** ■No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:**

B9a. Architect: b. Builder:

***B10. Significance: Theme** n/a **Area** n/a
Period of Significance n/a **Property Type** n/a **Applicable Criteria** n/a
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Historical Overview of the City of Stockton
The San Joaquin River delta area had been settled since the prehistoric era. The Spanish first explored the San Joaquin valley in 1772; however, Gabriel Moraga named the valley San Joaquin de los Tulares, after the rushes and wetland plants that grew there only in 1808. In 1828, Jedediah Smith traveled for the Rocky Mountain Fur Company to Southern California, then to the San Joaquin Valley to trap beaver at the French Camp settlement, just south of present-day Stockton. This was followed by a trapper party led by John Work in 1832 for the Hudson Bay Company. Several party members were infected with a fever illness, which spread to the local Native American population in the San Joaquin Delta when the two groups eventually clashed (Mokelumne and Yokuts). This, as well as years of aggression from the Spanish then Mexican armies decreased the Native American habitation on the slough as well. Overall, aside from a fur company camp, the area was not well settled prior to the 1840s (ARG 2000; Lewis et al 1979; Tinkham 1880). **See continuation sheet.**

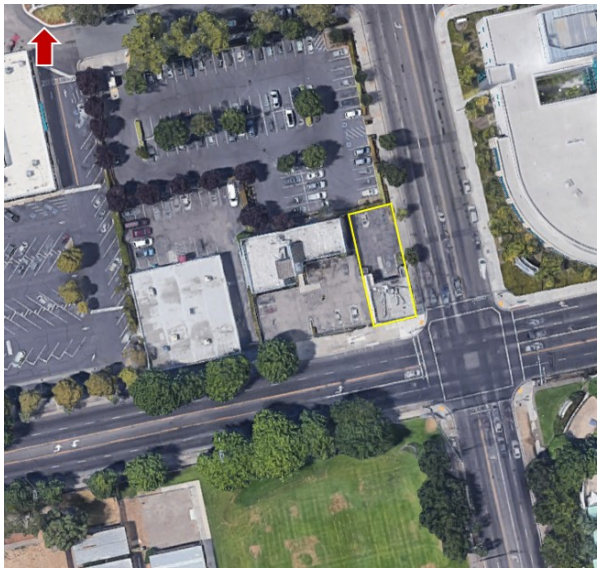
B11. Additional Resource Attributes: (List attributes and codes)
***B12. References: see continuation sheet**

B13. Remarks:

***B14. Evaluator:** Kate Kaiser, MSHP
***Date of Evaluation:** April 1, 2020

(This space reserved for official comments.)

(Sketch Map with north arrow required.)



***Required information**

***P3a. Description (continued):**
The left section's fenestration displays two fixed windows with painted inset panels above and below, a full lite single leaf entry door, and three fixed windows with painted inset panels above and below. The right contains a single left entry door. The north elevation displays as three sections. The left section projects from the main building approximately seven feet, the middle displays two single leaf security doors, and the right projects from the main building approximately seven feet. The west elevation displays no fenestration.

***B10. Significance (continued):**

Charles M. Weber and business partner William Gulnac acquired a land grant to the 48,747-acre Rancho Campo de los Franceses in 1843. Weber, a German immigrant, came to California with the 1841 Bidwell-Bartleson Party, which was one of the earliest settlement parties from the eastern United States to successfully reach California. Weber and his wife Helen settled on the rancho and began planning the City of Stockton. Weber and Gulnac planned to raise livestock in the area, but were particularly interested in the San Joaquin River Delta for its shipping potential and physical outlet into the San Francisco Bay. The river was deep enough to accommodate steamboats and sailing ships alike. However, the Gold Rush altered the economic environment around Stockton after the discovery of gold at Coloma on the American River in 1848. Settlement at the Stockton location began as early as 1847, and in 1849 the Webers hurriedly paid for a survey and plat for the town. The City of Stockton incorporated in 1850. Charles Weber, Gulnac, and a group of early settlers founded the Stockton Mining Company to sell supplies to California Gold Rush miners heading from San Francisco and Sacramento into the Sierra Nevada foothills, east of Stockton. The town's early growth can be attributed to profiteering from the necessary shipping and freighting for the Gold Rush miners (ARG 2000; Kassler 2005; Lewis et al 1979; Tinkham 1880).

Though well positioned at the head of a navigable waterway to receive passengers and freight, Stockton's location in a delta of the San Joaquin and Calaveras Rivers left it prone to seasonal flooding, and it took nearly 15 years (1850-1865) to build a permanent elevated, dry road out of town to French Camp. For the earliest years, tents, rather than permanent buildings dominated Stockton as the main building type. Nevertheless, Stockton grew quickly. In 1850, the population was marked as 2,500 people, but by 1854, it had grown to 7,000 people, making Stockton the third-largest city in California (Kassler 2005; Lewis et al 1979).

Though the 1849 gold rush ended by 1855, Stockton smoothly transitioned to become an agricultural exporter, sending livestock, dairy, grain, fruits and vegetables to the major markets in San Francisco and Sacramento. With a harbor as its major asset, the rich agricultural area around Stockton and its mild climate quickly turned the city into a major hub for agricultural products. In an effort to support its new position as a major agricultural exporter, the city quickly gained flourmills, warehouses, food processing and canning plants, and brickyards to support the new building efforts. Several brickyards established in Stockton in the 1850s, providing much needed building materials for the rapidly growing city (ARG 2000; Boyton 1968; Tinkham 1880).

To accommodate the City's growth, delta and swamp environments were reclaimed and backfilled with soil to create land for development. Harbors and channels were deepened to accommodate a formal port that could support larger ships. The city expanded with all the services and large, grand buildings afforded to a large city. Telegraph lines were added in 1854. As the San Joaquin County seat, Stockton gained a courthouse by 1862 and a jail in 1865. Stockton also became the location of a state hospital called Stockton General Hospital in 1851 (renamed Insane Asylum of California at Stockton from 1853 onward). Various rail lines connecting Stockton to agricultural communities to the east and south, as well as north to Sacramento were added between 1865 and 1874. These included the Stockton & Copperopolis Railroad, the Stockton & Visalia Railroad, and Western Pacific Railroad (subsidiary of Central Pacific) (Barth 1940; Letcher 1969; Starr 1976; Tinkham 1880).

The City of Stockton continued to grow and in 1870, the population surpassed 10,000 persons. Chinese immigrants, restricted by the Chinese Exclusion Act in 1882, made up a significant portion of the population and commercial growth in Stockton in the 1880s. During the 1890s, Stockton's population had grown to over 14,000 and new projects were completed throughout the city. In 1890, a new courthouse was constructed, followed by a red brick jail in 1893. Multi-story brick buildings including banks, commercial buildings, schools, and hotels were also erected during the 1890s,

leading to the nickname "Brick City" for Stockton. Stockton was also famous for the invention of agricultural machinery such as the Stockton Gang Plow and the Marvin Combined Harvester (commonly called a combine). Other agricultural production companies such as Sperry and Lyon Flour Mills created enormous economic growth for Stockton (Boyton 1968; Clerc 1989).

Stockton remained a center for agriculture, commerce, and manufacturing into the twentieth century. By 1900, Stockton had several hundred manufacturing companies including canneries, ship builders, and farm equipment manufacturers. One of these would become the Holt Manufacturing Company, which created the crawler-type tractor patented as "Caterpillar" in 1911. Another was the Diamond Walnut Company, which had emerged from the Diamond Walnut Growers Association cooperative, founded in 1912. Stockton was not hard-hit by the 1906 San Francisco earthquake, sending relief supplies and building materials to affected areas and further growing its manufacturing economy. Manufacturing boomed during World War I in Stockton, as companies like Holt were converted to tank manufacturing. However, after World War I, Holt Manufacturing ceased tank production and had to merge with Best Tractor Company, which had produced farm equipment in the gap left by Holt. The resulting merged company moved to Peoria, Illinois, leaving Stockton without a farm machinery manufacturer (ARG 2000; Clerc 1989).

In 1925, Stockton started a bond campaign to improve the San Joaquin channel, with federal assistance provided in 1926. In 1928 and through the earliest years of the Great Depression, the City of Stockton completed the river channel project, known as the Stockton Deepwater Channel. The result was that the channel could accommodate loaded, ocean-faring vessels. During World War II, Stockton was heavily involved in the war effort, serving as a relocation center location for Japanese-Americans who were then sent on to a detention camp in Arkansas, as well as warship building, airplane parts manufacturing, and weapons manufacturing at Stockton's plants. World War II also created issues in the agricultural industry. With no workers to pick crops, farmers had to rely on federal programs bringing in workers from Mexico via the Bracero Program, which persisted until 1964 and resulted in a large influx of Mexican immigrants settling in Stockton permanently (ARG 2000; Clerc 1989; Lewis et al 1979).

Though Stockton experienced some mild post-war growth after World War II, most of this was suburban growth. From the 1950s through the 1990s, Urban Blight/Urban Renewal programs significantly affected Stockton's downtown. Many historical buildings and landmarks from the 1860s, such as the county courthouse and city library were replaced with modern buildings. This resulted in a sharp reduction in low-income housing options for farm laborers and forced an exodus of residential communities from the city center. In the more suburban areas of Stockton, the Stockton Metropolitan Airport and a baseball stadium were added, followed by retail centers like St. Mark's Plaza, Venetian Square, Quail Lakes, and College Square, which were added in the 1970s (ARG 2000; Clerc 1989).

In the 1990s and early 2000s, as Silicon Valley and Bay Area housing prices increased, working-class and middle-class Californians were pushed out of urban centers like San Jose, San Francisco, and Oakland into the Delta, occupying Sacramento, Tracy, and Stockton. Housing prices in the region tripled, and Stockton briefly experienced higher tax revenue. When the housing bubble burst in 2009, Stockton was hit hard by the recession that followed (McGrath 2016).

445 East Harding Way

The subject property was constructed circa 1975. A larger building occupied the property from circa 1949 until circa 1971, leased by a business named Abbie's Beauty Bar. In 1966, a fire damaged the property and a permit was issued to repair the damage. In 1975, City Directories listed the property as vacant and one year later the present building on the site appeared in historic aerials for the first time. In 1976, Valley Optical Fashion Center, opticians, filed a permit to install an exterior wall sign labeled "Valley Optical Co." By 1979, the property was listed as vacant in City Directories and in 1980, the occupants were listed as Lang and Company Developers. In 1981, Home TV Service moved into the subject property and remained on the property until at least 1986. In the early 2000s, a florist and real estate agency split the building and remain the building's occupants (Stockton City Directories; Sacramento Bee 1970).

NRHP/CRHR Statement of Significance

The subject property is located at 445 East Harding Way and does not meet any of the criteria for

listing in the NRHP or CRHR, either individually or as part of an existing historic district, based on the following significance evaluation.

Criterion A/1: That are associated with events that have made a significant contribution to the broad patterns of our history.

The subject property was constructed circa 1975 and operated as a commercial storefront property for much of this time. Little other information could be uncovered about the property through archival research. The property replaced another commercial property that burned down in 1966. The current building appears to have operated first as a beauty parlor, then an appliance repair shop, and finally as a florist. Its construction is not associated with any significant themes or patterns related to the history of Stockton, the State or the Nation nor has it made a significant contribution to the broad patterns of our history. Therefore, the subject property does not appear eligible for the NRHP under Criterion A or CRHR under Criterion 1.

Criterion B/2: That are associated with the lives of persons significant in our past.

To be found eligible under Criterion B/2 the property has to be directly tied to an important person and the place where that individual conducted or produced the work for which he or she is known. Archival research did not indicate that any previous property owners or leaseholders were known to be historically significant figures at the national, state, or local level. As such, this property is not known to have any historical associations with people important to the nation's or state's past. Therefore, the subject property does not appear eligible for the NRHP under Criterion B or CRHR under Criterion 2.

Criterion C/3: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

The subject property is a modest commercial storefront building, constructed circa 1975. While the building does have Neo-Mansard elements at the roofline, it is not an exceptional example of the style of architecture. The building has had modest alterations including installations of new signs on the Mansard roof section, replacement windows, and security bars on the windows. Given its modest nature and lack of decorative details, the subject property cannot be said to "embody the distinctive characteristics" of its period of construction or a specific architectural style. Archival research failed to indicate an architect or contractor associated with the property. The building does not possess high artistic value and is not representative of a significant and distinguishable entity whose components may lack individual distinction. For these reasons, the subject property does not appear eligible for listing in the NRHP under Criterion C or CRHR under Criterion 3.

Criterion D/4: That have yielded, or may be likely to yield, information important in prehistory or history

The subject property is not significant under Criterion D of the NRHP or Criterion 4 of the CRHR as a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies.

City of Stockton Statement of Significance

Landmarks

The subject property located at 445 East Harding Way does not meet any of the criteria for listing as a City of Stockton Landmark, based on the following significance evaluation.

1. ***Archaeological Interest. Its potential for yielding significant information of archaeological interest;***

As stated above in NRHP/CRHR Criterion D/4, the subject property is not a source, or likely source, of important archaeological or historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore the subject property is not of archeological interest and does not appear eligible under City of Stockton Landmark Criterion 1.

2. ***Architectural Craftsmanship. Its embodiment of elements demonstrating outstanding attention to architectural and/or engineering craftsmanship, design, detail, or materials;***

As stated above in NRHP/CRHR Criterion C/3, the subject property is a modest and unremarkable commercial storefront built circa 1975. Given its modest nature and lack of decorative details the

subject does not possess high artistic value and is not representative of significant architectural craftsmanship. In summary, the subject property is not of an outstanding example of architectural craftsmanship, design, details, or materials and does not appear eligible under City of Stockton Landmark Criterion 2.

3. Architectural Style. Its exemplification of a particular architectural style or way of life important to the City, the State, or the Nation;

As stated above in NRHP/CRHR Criterion C/3, the subject property is a modest and unremarkable commercial storefront built in the 1970s. However, due to the ubiquity of this style and the lack of outstanding design or craftsmanship components, the building cannot be said to exemplify a particular architectural style. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 3.

4. Architectural Type. Its exemplification of the best remaining architectural type in the City;

The subject property is a modest and unremarkable commercial storefront, but is one of many such buildings constructed throughout California in the 1970s. Better representations of this building typology are also available elsewhere in the City of Stockton. As such, the subject property cannot be considered the best remaining architectural type in the city and does not appear eligible under City of Stockton Landmark Criterion 4.

5. Historic Event. Its location as a site of a significant historic event;

As stated above in NRHP/CRHR Criterion A/1, the subject property is not associated with a significant historic event. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 5.

6. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

The subject property is an unremarkable building both architecturally and historically. Its character, interest, or value are not significant to the heritage of the City of Stockton, the state or the nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 6.

7. Visual Feature. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

The subject property is a one story, low profile building built in in the 1970s. The building does not have a unique location or visually interesting physical characteristic that sets it apart from other buildings in its general vicinity or among other buildings of this type or style. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 7.

8. Relationship to Another Landmark. Its relationship to any other landmark, if its preservation is essential to the integrity of that landmark;

The subject property is not related to another City of Stockton Landmark, nor is its preservation essential to any Landmark. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 8.

9. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation;

As stated above in NRHP/CRHR Criterion B/2, the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Criterion 9.

10. Work of a Significant Person. Its identification as the creation, design, or work of a person(s) whose effort has significantly influenced the heritage of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion C/3, the subject property is not associated with a significant person as their creation or design. The building is a modest and ubiquitous Mansard-style commercial storefront building. Its architect, engineer, or builder is unknown, but the quality of construction and craftsmanship do not appear to reach the level of significance necessary to be considered a "master" builder. Therefore, the subject property does not appear eligible under City of Stockton

Landmark Criterion 10.

11. Natural Environment. Its integrity as a natural environment that strongly contributes to the well-being of the people of the City, the State, or the Nation.

The setting of the subject property is a fully developed urban lot with no apparent natural environment that might strongly contribute to the well-being of the people of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 11.

Structure of Merit

The subject property also does not meet any of the criteria for listing as a City of Stockton Structure of Merit, based on the following significance evaluation:

1. Archaeological Interest. Its potential of yielding significant information of archaeological interest;

As stated above in NRHP/CRHR Criterion D/4 and Landmark Criterion 1, the subject property is not a source, or likely source, of important archaeological or historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 1.

2. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

As stated above in Landmark Criterion 6, the subject property is an unremarkable building both architecturally and historically. It is not associated with the City's heritage and does not possess character, interest or value as part of the City's heritage. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 2.

3. Visual Feature of the City. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

As stated above in Landmark Criterion 7, the subject property is a one story, low profile building form built throughout Stockton in the 1970s. The building does not have a unique location or visually interesting physical characteristics that set it apart from other buildings in its general vicinity. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 3.

4. Way of Life. Its exemplification of a particular way of life important to the City, the State, or the Nation;

The subject property was designed as a commercial storefront and has had various leaseholders and owners, which, of itself does not represent or exemplify a particular life way important or otherwise unique to the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 4.

5. Historic Event. Its location as a site of a significant historic event regardless of its current configuration, development, or use;

As stated above in NRHP/CRHR Criterion A/1 and Landmark Criterion 5, the subject property is not associated with any significant historical event. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 5.

6. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion B/2 and Landmark Criterion 9, the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 6.

7. Significant Person of a Specific National Origin. Its identification with a person(s) representative of a specific national origin who have contributed to the culture and development of the City, the State, or the Nation.

The subject property operated as a commercial storefront and archival research did not indicate that

the property was associated with any person representative of a specific national origin or cultural group who has contributed to the culture and development of the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 7.

Integrity Discussion
As stated above, the subject property does not appear significant under any of the national, state, or local criteria. The building retains some of the aspects of integrity, including location, setting, and feeling. However, alterations to the building have diminished the integrity of the design, materials and workmanship. The only element of integrity that has been significantly compromised is the integrity of setting because of the major additions and wings for St. Joseph's Hospital and the loss of the original residential neighborhood setting. There were also no identified historical associations, so there is no integrity of association for the property. Despite the overall level of integrity of the subject property, its lack of architectural significance and lack of historical associations prevents it from rising to the level of significance required for listing with the NRHP, CRHR, and the City of Stockton designation program. As such, the subject property properties do not appear to be a historical resource for the purposes of CEQA and has been assigned a California Historical Resource Status Code of 6Z (found ineligible for the NRHP, CRHR, or local designation through survey evaluation).

B12. References (continued):

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UCSB (University of California, Santa Barbra). 2020. Historic Aerial Photographs of 1800 California Street, Stockton, CA dating from 1928, 1949, 1957, 1963, 1970, 1987, 1993, 1998, and 2002. Map & Imagery Laboratory (MIL) UCSB Library, Accessed February 26, 2020. http://mil.library.ucsb.edu/ap_indexes/FrameFinder.

State of California ◆ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code Reviewer Date

Page 1 **of** 10 ***Resource Name or #:** (Assigned by recorder) 564 E. Cleveland Street
P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted**

***a. County** San Joaquin **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Stockton West **Date** 1987 **Survey** Land Grant ; **Name** Campo de los Franceses

c. Address 564 East Cleveland Street City Stockton Zip 95204

d. UTM: (Give more than one for large and/or linear resources) Zone 10S , 650294 mE/ 4204281 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

Parcel Number: 127-164-06. The property is located on the southwest corner of East Cleveland Street and Cemetery Lane. in the City of Stockton.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The subject property was constructed 1951. The modest one-story building is constructed of CMUs and is roughly T-shaped in plan (Photograph 1). The building features a cross gable roof clad in composition shingles and metal gutters. The majority of the building consists of exposed, painted CMUs except for the north elevation which features board-and-batten siding, and the gable ends throughout the building, which are fitted with painted plywood siding. The main entrance to the building is located below a central gable extending from the west (main) elevation of the building and consists of a wide metal door. Fenestration across the building consists of single-lite, plate glass windows with wooden sills and wooden surrounds. The majority of the windows have been covered with plywood. **See continuation sheet.**

***P3b. Resource Attributes:** (List attributes and codes) HP6. 1-3 Story Commercial Building; HP16. Religious Building

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



***P4. Resources Present:** ■ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.) P5b. Description of Photo: (view, date, accession #) West (main) elevation, view looking southeast, August 2021.

***P6. Date Constructed/Age and Source:** ■ Historic ☐ Prehistoric ☐ Both
1951 (Permit# BP51-35003)

***P7. Owner and Address:**
Port City Operating Company LLC
3400 Data Drive
Rancho Cordova, CA 95670

***P8. Recorded by:** (Name, affiliation, and address)
Fallin Steffen, MPS
Dudek,
1102 R Street
Sacramento, California 95820

***P9. Date Recorded:** 8/3/2021

***P10. Survey Type:** (Describe) pedestrian

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Kaiser, K., F. Steffen, S. Corder and W. Burns. 2021. Historical Resources Inventory And Evaluation Report For The St. Joseph's Medical Center Hospital Expansion Project, Stockton, California. Dudek, September 2021.

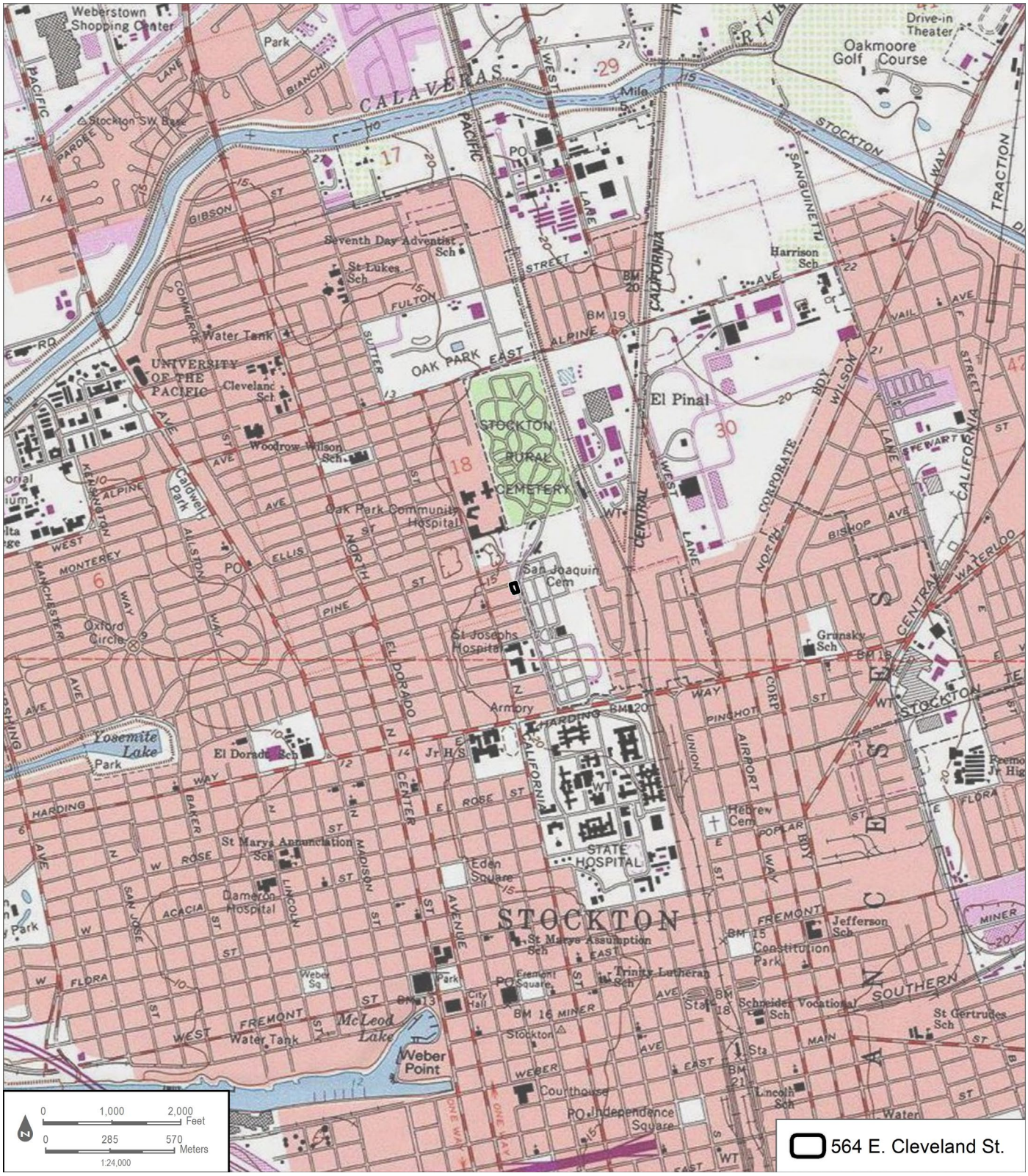
***Attachments:** ☐NONE ■Location Map ■Continuation Sheet ■Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

State of California ◆ Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI#
Trinomial

Page 2 **of** 10 ***Resource Name or #** (Assigned by recorder) 564 E. Cleveland Street
***Map Name:** Stockton West, Calif. ***Scale:** 1:24,000 ***Date of map:** 1987



State of California ◆ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) 564 E. Cleveland Street ***NRHP Status Code** 6Z
Page 3 **of** 10

B1. Historic Name: Jehovah's Witness Kingdom Hall
B2. Common Name:
B3. Original Use: Religious Building B4. Present Use: Commercial Building
***B5. Architectural Style:**
***B6. Construction History:** (Construction date, alterations, and date of alterations)
Buildings permits obtained from the City of Stockton building permit office indicate that the building was constructed in 1951 and that the following alterations were made to the building throughout its history: 1976-New bathroom, porch and inside remodel (#BP76-28140) and 1979-Repair fire damage (#BP76-37343. Other observed alterations to the building include an addition to the north elevation between 1970-1982 and the addition of plywood over the majority of windows.

***B7. Moved?** ■No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:**

B9a. Architect: b. Builder:

***B10. Significance: Theme** n/a **Area** n/a
Period of Significance n/a **Property Type** n/a **Applicable Criteria** n/a
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Historical Overview of the City of Stockton
The San Joaquin River delta area had been settled since the prehistoric era. The Spanish first explored the San Joaquin valley in 1772; however, Gabriel Moraga named the valley San Joaquin de los Tulares, after the rushes and wetland plants that grew there only in 1808. In 1828, Jedediah Smith traveled for the Rocky Mountain Fur Company to Southern California, then to the San Joaquin Valley to trap beaver at the French Camp settlement, just south of present-day Stockton. This was followed by a trapper party led by John Work in 1832 for the Hudson Bay Company. Several party members were infected with a fever illness, which spread to the local Native American population in the San Joaquin Delta when the two groups eventually clashed (Mokelumne and Yokuts). This, as well as years of aggression from the Spanish then Mexican armies decreased the Native American habitation on the slough as well. Overall, aside from a fur company camp, the area was not well settled prior to the 1840s (ARG 2000; Lewis et al 1979; Tinkham 1880). **See continuation sheet.**

B11. Additional Resource Attributes: (List attributes and codes)
***B12. References:** **See continuation sheet**

B13. Remarks:

***B14. Evaluator:** Fallin Steffen, MPS
***Date of Evaluation:** September 1, 2021

(This space reserved for official comments.)

(Sketch Map with north arrow required.)



***Required information**

***P3a. Description (continued):**
The left section's fenestration displays two fixed windows with painted inset panels above and below, a full lite single leaf entry door, and three fixed windows with painted inset panels above and below. The right contains a single left entry door. The north elevation displays as three sections. The left section projects from the main building approximately seven feet, the middle displays two single leaf security doors, and the right projects from the main building approximately seven feet. The west elevation displays no fenestration.

***B10. Significance (continued):**

Charles M. Weber and business partner William Gulnac acquired a land grant to the 48,747-acre Rancho Campo de los Franceses in 1843. Weber, a German immigrant, came to California with the 1841 Bidwell-Bartleson Party, which was one of the earliest settlement parties from the eastern United States to successfully reach California. Weber and his wife Helen settled on the rancho and began planning the City of Stockton. Weber and Gulnac planned to raise livestock in the area, but were particularly interested in the San Joaquin River Delta for its shipping potential and physical outlet into the San Francisco Bay. The river was deep enough to accommodate steamboats and sailing ships alike. However, the Gold Rush altered the economic environment around Stockton after the discovery of gold at Coloma on the American River in 1848. Settlement at the Stockton location began as early as 1847, and in 1849 the Webers hurriedly paid for a survey and plat for the town. The City of Stockton incorporated in 1850. Charles Weber, Gulnac, and a group of early settlers founded the Stockton Mining Company to sell supplies to California Gold Rush miners heading from San Francisco and Sacramento into the Sierra Nevada foothills, east of Stockton. The town's early growth can be attributed to profiteering from the necessary shipping and freighting for the Gold Rush miners (ARG 2000; Kassler 2005; Lewis et al 1979; Tinkham 1880).

Though well positioned at the head of a navigable waterway to receive passengers and freight, Stockton's location in a delta of the San Joaquin and Calaveras Rivers left it prone to seasonal flooding, and it took nearly 15 years (1850-1865) to build a permanent elevated, dry road out of town to French Camp. For the earliest years, tents, rather than permanent buildings dominated Stockton as the main building type. Nevertheless, Stockton grew quickly. In 1850, the population was marked as 2,500 people, but by 1854, it had grown to 7,000 people, making Stockton the third-largest city in California (Kassler 2005; Lewis et al 1979).

Though the 1849 gold rush ended by 1855, Stockton smoothly transitioned to become an agricultural exporter, sending livestock, dairy, grain, fruits and vegetables to the major markets in San Francisco and Sacramento. With a harbor as its major asset, the rich agricultural area around Stockton and its mild climate quickly turned the city into a major hub for agricultural products. In an effort to support its new position as a major agricultural exporter, the city quickly gained flourmills, warehouses, food processing and canning plants, and brickyards to support the new building efforts. Several brickyards established in Stockton in the 1850s, providing much needed building materials for the rapidly growing city (ARG 2000; Boyton 1968; Tinkham 1880).

To accommodate the City's growth, delta and swamp environments were reclaimed and backfilled with soil to create land for development. Harbors and channels were deepened to accommodate a formal port that could support larger ships. The city expanded with all the services and large, grand buildings afforded to a large city. Telegraph lines were added in 1854. As the San Joaquin County seat, Stockton gained a courthouse by 1862 and a jail in 1865. Stockton also became the location of a state hospital called Stockton General Hospital in 1851 (renamed Insane Asylum of California at Stockton from 1853 onward). Various rail lines connecting Stockton to agricultural communities to the east and south, as well as north to Sacramento were added between 1865 and 1874. These included the Stockton & Copperopolis Railroad, the Stockton & Visalia Railroad, and Western Pacific Railroad (subsidiary of Central Pacific) (Barth 1940; Letcher 1969; Starr 1976; Tinkham 1880).

The City of Stockton continued to grow and in 1870, the population surpassed 10,000 persons. Chinese immigrants, restricted by the Chinese Exclusion Act in 1882, made up a significant portion of the population and commercial growth in Stockton in the 1880s. During the 1890s, Stockton's population had grown to over 14,000 and new projects were completed throughout the city. In 1890, a new courthouse was constructed, followed by a red brick jail in 1893. Multi-story brick buildings including banks, commercial buildings, schools, and hotels were also erected during the 1890s,

leading to the nickname "Brick City" for Stockton. Stockton was also famous for the invention of agricultural machinery such as the Stockton Gang Plow and the Marvin Combined Harvester (commonly called a combine). Other agricultural production companies such as Sperry and Lyon Flour Mills created enormous economic growth for Stockton (Boyton 1968; Clerc 1989).

Stockton remained a center for agriculture, commerce, and manufacturing into the twentieth century. By 1900, Stockton had several hundred manufacturing companies including canneries, ship builders, and farm equipment manufacturers. One of these would become the Holt Manufacturing Company, which created the crawler-type tractor patented as "Caterpillar" in 1911. Another was the Diamond Walnut Company, which had emerged from the Diamond Walnut Growers Association cooperative, founded in 1912. Stockton was not hard-hit by the 1906 San Francisco earthquake, sending relief supplies and building materials to affected areas and further growing its manufacturing economy. Manufacturing boomed during World War I in Stockton, as companies like Holt were converted to tank manufacturing. However, after World War I, Holt Manufacturing ceased tank production and had to merge with Best Tractor Company, which had produced farm equipment in the gap left by Holt. The resulting merged company moved to Peoria, Illinois, leaving Stockton without a farm machinery manufacturer (ARG 2000; Clerc 1989).

In 1925, Stockton started a bond campaign to improve the San Joaquin channel, with federal assistance provided in 1926. In 1928 and through the earliest years of the Great Depression, the City of Stockton completed the river channel project, known as the Stockton Deepwater Channel. The result was that the channel could accommodate loaded, ocean-faring vessels. During World War II, Stockton was heavily involved in the war effort, serving as a relocation center location for Japanese-Americans who were then sent on to a detention camp in Arkansas, as well as warship building, airplane parts manufacturing, and weapons manufacturing at Stockton's plants. World War II also created issues in the agricultural industry. With no workers to pick crops, farmers had to rely on federal programs bringing in workers from Mexico via the Bracero Program, which persisted until 1964 and resulted in a large influx of Mexican immigrants settling in Stockton permanently (ARG 2000; Clerc 1989; Lewis et al 1979).

Though Stockton experienced some mild post-war growth after World War II, most of this was suburban growth. From the 1950s through the 1990s, Urban Blight/Urban Renewal programs significantly affected Stockton's downtown. Many historical buildings and landmarks from the 1860s, such as the county courthouse and city library were replaced with modern buildings. This resulted in a sharp reduction in low-income housing options for farm laborers and forced an exodus of residential communities from the city center. In the more suburban areas of Stockton, the Stockton Metropolitan Airport and a baseball stadium were added, followed by retail centers like St. Mark's Plaza, Venetian Square, Quail Lakes, and College Square, which were added in the 1970s (ARG 2000; Clerc 1989).

In the 1990s and early 2000s, as Silicon Valley and Bay Area housing prices increased, working-class and middle-class Californians were pushed out of urban centers like San Jose, San Francisco, and Oakland into the Delta, occupying Sacramento, Tracy, and Stockton. Housing prices in the region tripled, and Stockton briefly experienced higher tax revenue. When the housing bubble burst in 2009, Stockton was hit hard by the recession that followed (McGrath 2016).

564 East Cleveland Street

The subject property was previously occupied by a series of single-family homes before the current building was constructed on the property in 1951. A 1951 permit for the construction of a concrete block church building indicates that the property was developed by the Stockton, California Congregation of Jehovah's Witnesses Inc. for use as a Jehovah's Witness Kingdom Hall. City Directories indicate the property was in continual use as Jehovah's Witness Kingdom Hall through at least 1982. Permits indicate that a new porch was constructed off the west elevation of the property in 1976. In 1979, a fire caused damage to the building and a permit indicates that it was repaired. Aerial images suggest that another addition was added to the north elevation of the building between 1970 and 1982. By 1996, the property was in use by St. Joseph's Hospital as an auxiliary classroom known as the Cleveland Classroom (Permit numbers BP51-00035, BP76-28140, BP76-37343; Stockton City Directories 1951-1986; Modesto Bee 1996; NETR 2020; UCSB 2020.

NRHP/CRHR Statement of Significance

The subject property is located at 564 East Cleveland Street does not meet any of the criteria for listing in the NRHP or CRHR, either individually or as part of an existing historic district, based on the following significance evaluation.

Criterion A/1: That are associated with events that have made a significant contribution to the broad patterns of our history.
The subject property was constructed in 1951 and operated as a Jehovah's Witness Kingdom Hall until approximately 1996 when it was purchased by St. Joseph's Hospital and converted for use as an auxiliary classroom space. Archival research failed to indicate any significant contributions to the development and rise of the Jehovah's Witness faith on the local, state, or national level. Additionally, there is no strong connection to the larger hospital complex, as this property was acquired within recent years and is not reflective of a development pattern for the hospital. In summary, the building's construction is not associated with any significant themes or patterns related to the history of Stockton, the State or the Nation nor has it made a significant contribution to the broad patterns of our history. Therefore, the subject property does not appear eligible for the NRHP under Criterion A or CRHR under Criterion 1.

Criterion B/2: That are associated with the lives of persons significant in our past.
To be found eligible under Criterion B/2 the property has to be directly tied to an important person and the place where that individual conducted or produced the work for which he or she is known.
Archival research did not indicate that any previous property owners or leaseholders were known to be historically significant figures at the national, state, or local level. As such, this property is not known to have any historical associations with people important to the nation's or state's past. Therefore, the subject property does not appear eligible for the NRHP under Criterion B or CRHR under Criterion 2.

Criterion C/3: That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
The subject property is a modest liturgical building, constructed in 1951. The building presents as a simple building that does not embody the characteristics of a specific type or period and is not readily identifiable as a distinctive style. Additionally, the building has also gone several alterations including additions on the north and west elevations. Archival research failed to indicate an architect or contractor associated with the property. The building does not possess high artistic value and is not representative of a significant and distinguishable entity whose components may lack individual distinction. For these reasons, the subject property does not appear eligible for listing in the NRHP under Criterion C or CRHR under Criterion 3.

Criterion D/4: That have yielded, or may be likely to yield, information important in prehistory or history
The subject property is not significant under Criterion D of the NRHP or Criterion 4 of the CRHR as a source, or likely source, of important historical information nor does it appear likely to yield important information about historic construction methods, materials, or technologies.

City of Stockton Statement of Significance

Landmarks
The subject property located at 564 East Cleveland Street does not meet any of the criteria for listing as a City of Stockton Landmark, based on the following significance evaluation.

1. ***Archaeological Interest. Its potential for yielding significant information of archaeological interest;***

As stated above in NRHP/CRHR Criterion D/4, the subject property is not a source, or likely source, of important archaeological or historical information nor does it appear likely to yield important information about historic construction methods, materials, or technologies. Therefore, the subject property is not of archeological interest and does not appear eligible under City of Stockton Landmark Criterion 1.

2. Architectural Craftsmanship. Its embodiment of elements demonstrating outstanding attention to architectural and/or engineering craftsmanship, design, detail, or materials;

As stated above in NRHP/CRHR Criteria C/3, the subject property is a modest, liturgical CMU building built in 1951. The building is constructed from mass-produced materials commonly used during the period of its construction which are not notable. There is no visible exterior decoration on the building demonstrating architectural or engineering craftsmanship. Therefore, the subject property is not of an outstanding example of architectural craftsmanship, design, details, or materials and does not appear eligible under City of Stockton Landmark Criterion 2.

3. Architectural Style. Its exemplification of a particular architectural style or way of life important to the City, the State, or the Nation;

As stated above in NRHP/CRHR Criteria C/3, the subject property is a modest and unremarkable CMU liturgical building constructed in 1951. Given its simplistic nature and lack of architectural features, the building fails to represent a specific architectural style. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 3.

4. Architectural Type. Its exemplification of the best remaining architectural type in the City;

The subject property is a modest and unremarkable CMU liturgical building and is one of many such buildings constructed throughout California in the 1950s. Better representations of this building typology are also available elsewhere in the City of Stockton. As such, the subject property cannot be considered the best remaining architectural type in the city and does not appear eligible under City of Stockton Landmark Criterion 4.

5. Historic Event. Its location as a site of a significant historic event;

As stated above in NRHP/CRHR Criterion A/1, the subject property is not associated with a significant historic event. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 5.

6. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

The subject property is an unremarkable building both architecturally and historically. Its character, interest, or value are not significant to the heritage of the City of Stockton, the state or the nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 6.

7. Visual Feature. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

The subject property is a one story, low profile, CMU building built in in the 1950s. The building does not have a unique location or visually interesting physical characteristic that sets it apart from other buildings in its general vicinity or among other buildings of this type or style. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 7.

8. Relationship to Another Landmark. Its relationship to any other landmark, if its preservation is essential to the integrity of that landmark;

The subject property is not related to another City of Stockton Landmark, nor is its preservation essential to any Landmark. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 8.

9. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation;

As stated above in NRHP/CRHR Criterion B/2, the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Criterion 9.

10. Work of a Significant Person. Its identification as the creation, design, or work of a person(s) whose effort has significantly influenced the heritage of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion C/3, the subject property is not associated with a significant

person as their creation or design. The building is a modest CMU liturgical building. Its architect, engineer, or builder is unknown, but the quality of construction and craftsmanship does not appear to reach the level of significance necessary to be considered a "master" builder. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 10.

11. Natural Environment. Its integrity as a natural environment that strongly contributes to the well-being of the people of the City, the State, or the Nation.

The setting of the subject property is a fully developed urban lot with no apparent natural environment that might strongly contribute to the well-being of the people of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Landmark Criterion 11.

Structure of Merit

The subject property also does not meet any of the criteria for listing as a City of Stockton Structure of Merit, based on the following significance evaluation:

1. Archaeological Interest. Its potential of yielding significant information of archaeological interest;

As stated above in NRHP/CRHR Criterion D/4 and Landmark Criterion 1, the subject property is not a source, or likely source, of important archaeological or historical information nor does it appear likely to yield important information about historic construction methods, materials or technologies. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 1.

2. Heritage. Its character, interest, or value as a significant part of the heritage of the City, the State, or the Nation;

As stated above in Landmark Criterion 6, the subject property is an unremarkable building both architecturally and historically. It is not associated with the City's heritage and does not possess character, interest or value as part of the City's heritage. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 2.

3. Visual Feature of the City. Its unique location or singular physical characteristic representing an established and familiar visual feature of the City;

As stated above in Landmark Criterion 7, the subject property is a one story, low profile, CMU building built in throughout Stockton in the 1950s. The building does not have a unique location or visually interesting physical characteristics that set it apart from other buildings in its general vicinity. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 3.

4. Way of Life. Its exemplification of a particular way of life important to the City, the State, or the Nation;

The subject property was designed as a Jehovah's Witness Kingdom Hall, which, of itself does not represent or exemplify a particular life way important or otherwise unique to the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 4.

5. Historic Event. Its location as a site of a significant historic event regardless of its current configuration, development, or use;

As stated above in NRHP/CRHR Criterion A/1 and Landmark Criterion 5, the subject property is not associated with any significant historical event. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 5.

6. Significant Person. Its identification with a person(s) who significantly contributed to the culture and development of the City, the State, or the Nation; or

As stated above in NRHP/CRHR Criterion B/2 and Landmark Criterion 9, the subject property is not associated with any person or persons who significantly contributed to the culture and development of the City, the State, or the Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 6.

7. Significant Person of a Specific National Origin. Its identification with a person(s)

representative of a specific national origin who have contributed to the culture and development of the City, the State, or the Nation.

The subject property operated as a liturgical building and archival research did not indicate that the property was associated with any person representative of a specific national origin or cultural group who has contributed to the culture and development of the City, State, or Nation. Therefore, the subject property does not appear eligible under City of Stockton Structure of Merit Criterion 7.

Integrity Discussion

As stated above, the subject property does not appear significant under any of the national, state, or local designation criteria. The building retains some aspects of integrity, including location, setting, and feeling, but does have a diminished integrity of design, materials, or workmanship due to alterations. The building can no longer convey the feeling of being a private religious meeting hall. Given the lack of historical associations, there is no integrity of association for the subject property. Regardless of the integrity of the subject property, its lack of architectural significance and lack of historical associations prevents it from rising to the level of significance required for listing with the NRHP, CRHR, and the City of Stockton designation program.

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Appendix F
Geotechnical Report

WallaceKuhl & ASSOCIATES | A Universal Engineering Sciences Company

Preliminary Geotechnical Engineering Report

ST. JOSEPH'S MEDICAL CENTER NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS

WKA No. 4630.2100220.0000

March 28, 2022 (*Revised May 25, 2022*)

Prepared for:

Port City Operating Company LLC DBA St. Joseph's Medical Center Stockton

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Preliminary Geotechnical Engineering Report

ST. JOSEPH'S MEDICAL CENTER

NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS

Stockton, California

WKA No. 4630.2100220.0000

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Preliminary Geotechnical Engineering Report
ST. JOSEPH'S MEDICAL CENTER
NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS
1800 North California Street
Stockton, California
WKA No. 4630.2100220.0000
March 28, 2022 (*Revised May 25, 2022*)

INTRODUCTION

We have completed a preliminary geotechnical engineering investigation for the proposed St. Joseph's Medical Center North Tower Addition and Supportive Building in Stockton, California. Our preliminary study has been performed in accordance with our scope of services outlined in our proposal letter dated August 17, 2021, and the *Consulting Services Agreement*, dated and authorized on October 4, 2021, by Mr. Robert O'Hare. This report presents the results of our study.

The conclusions and recommendations provided herein are intended for preliminary planning and budget purposes and not considered suitable for design and construction of the project. A design-level *Geotechnical Engineering Report* will be required by the Design-Build team's Geotechnical Engineer of Record to provide specific design criteria. Note that the project is in its conceptual stages of design and will not be under the California Department of Health Care Access and Information (HCAi) formerly known as the Office of Statewide Planning and Development (OSHPD) jurisdiction.

Scope of Services

Our scope of services for the preliminary geotechnical study included the following tasks:

1. perform a site reconnaissance;
2. review of United States Geological Survey (USGS) geologic map, historical aerial photographs, and available groundwater information;
3. perform subsurface explorations, including the drilling and sampling of four borings to depths ranging from about 20 to 101½ feet below the existing ground surface. We also advanced three cone penetrometer test (CPT) soundings to depths ranging from about 78 to 100½ feet below existing site grades;
4. collect disturbed and relatively undisturbed soil samples at various depths within the borings;
5. collect representative bulk samples of near-surface soils;

6. collect representative samples of the investigation derived waste (IDW) for chemical analyses;
7. coordinate the removal and disposal of the IDW;
8. perform geotechnical and environmental laboratory testing of selected soil samples;
9. perform engineering analyses; and,
10. preparation of this report.

Project Description

We understand the project will consist of the design and construction of the proposed north tower addition up to five stories in height. The proposed north tower addition will likely be steel-framed walls with an interior concrete slab-on-grade lower floor. Upper floors are anticipated to be constructed of mild reinforced concrete poured on metal deck pans. The proposed supportive buildings will include new central utility plant, a new fuel tank yard, a new generator building addition, a new plant maintenance building, and a concrete parking garage up to 10 stories in height. Preliminary information provided to us indicates that the tower addition may possess a below-grade basement. We anticipate that the structures will be moderate heavy to very heavy structural loads based on this type of building and construction. Associated improvements will include the construction of underground utilities, landscaping, retaining walls, exterior concrete flatwork, and asphalt concrete pavements.

Figures and Attachments

This report contains a Vicinity Map as Figure 1, a Site Plan showing approximate boring and CPT locations as Figure 2, and Logs of Borings as Figures 3 through 6. An explanation of the symbols and classification system used on the logs is contained in Figure 7. Appendix A contains general information regarding project concepts, exploratory methods used during our study, and laboratory test results not included on the boring logs. Appendix B contains Results of CPT soundings. Appendix C contains environmental laboratory analyses results from the IDW. Appendix D contains the results from the Liquefaction Analysis.

FINDINGS

Site Description

The project site is located southwest of the intersection of East Cleveland Street and Cemetery Lane in Stockton, California (See Figure 1). The site is bordered to the north by East Cleveland

Street, beyond which are commercial buildings; to the east by Cemetery Lane, beyond which is a cemetery; to the south by the existing St. Joseph's Medical Center Hospital; and to the west by North California Street, beyond which are commercial buildings and a residential subdivision. McCloud Avenue transects the current site, west-southwest to east-northeast, where the proposed North Tower Addition is planned.

The site is relatively flat. According to the USGS *Topographic Map of the Stockton West Quadrangle*, California (2021), the surface of the site is located at approximately +20 feet relative to mean sea level (msl).

At the time of our field explorations in November and December of 2021, the site consisted mainly of asphalt concrete paved parking lot with concrete curbs, medians, street lighting, and landscaping north of McCloud Avenue. The existing hospital was still in use south of McCloud Avenue. The facility's central utility plant is located in the northeastern portion of the property. Numerous underground utilities were identified within the site by Underground Service Alert (USA) member personnel and a private utility locating service retained to assist with the subsurface exploration performed.

Historical Aerial Photographic Review

We reviewed historical aerial photographs of the site available from the Historicaerials.com website and Google Earth. Available photographs were taken in 1967, 1982, 1993, 1998, 2002, 2004 through 2006, and 2009 through 2020. Review of the 1967 aerial photograph reveals the main hospital buildings south of McCloud Avenue had been constructed, while the northern portion of the site, north of McCloud Avenue appears to be developed with residential housing. The 1982 photograph reveals the residential housing appears to have been replaced by a parking north of McCloud Avenue. The 1993 photograph reveals the maintenance buildings to be present along the northeastern portion of the site. The 2009 photograph reveals additional buildings north of the maintenance buildings. Since 2009, the site has remained essentially unchanged until the time of our field exploration in November and December of 2021.

Site Geology

The site is located within the Great Valley geomorphic province of California, a 500-mile, northwest-trending structural trough, generally constrained to the west by the Coast Ranges and

to the east by the foothills of the Sierra Nevada Range[1]. The Great Valley consists of two valleys lying end-to-end, with the Sacramento Valley to the north and the San Joaquin Valley to the south.

The Sacramento and San Joaquin Valleys have been filled to their present elevations with thick sequences of sediment derived from both marine and terrestrial sources. The sedimentary deposits range in thickness from relatively thin deposits along the eastern valley edge to more than 25,000 feet in the south-central portion of the Great Valley. The sedimentary geologic formations of the Great Valley Province vary in age from Jurassic to Quaternary, with the older deposits being primarily marine in origin. Younger sediments are continentally derived and were typically deposited in lacustrine, fluvial, and alluvial environments with their primary source being the Sierra Nevada Range.

According to the California Division of Mines and Geology publication, *Geologic map of the San Francisco-San Jose quadrangle, California, 1:250,000*[2], the area underlying the site is identified as the Pleistocene-aged Modesto formation (Qm). The geologic materials that comprise the Modesto formation are "Arkosic alluvium, sand with minor gravel and silt, forming low terraces, high floodplains, and alluvial fans along the Consumnes and Mokelumne Rivers".

The mapped geology was found to be consistent with the subsurface soil conditions encountered within our borings performed at the site, which revealed clay deposits overlying similar Modesto Formation deposits of sands, silts and clays, to the maximum explored depth of approximately 101½ feet below existing site grades.

[1] Norris, Robert M., and Webb, Robert W.,1990, Geology of California, John Wiley & Sons, New York.

[2] Wagner, David L., Bortugno, Edward J, and McJunkin, R.D., 1990, Geologic map of the San Francisco-San Jose quadrangle, California Department of Conservation, Division of Mines and Geology.

Soil Conditions

Four exploratory borings (D1 through D4) were performed on December 20 and December 21, 2021. Three CPT soundings were performed on November 30, 2021. The borings and CPTs were performed at the approximate locations shown on the attached Site Plan (Figure 2). The borings revealed approximately 2 to 3½ inches of asphalt concrete underlain by approximately 4½ to 6 inches of aggregate base. Beneath the pavements, the native subsurface soil conditions encountered at the boring locations generally consisted of very stiff to hard, variably cemented, lean clay and sandy lean clay to ranging from about three to 15 feet below the ground surface (BGS). The degree of cementation typically decreased with depth. Interbedded layers of silty sand and lean clays were encountered beneath the upper clay soils to the explored depths of approximately 20 to 101½ feet BGS.

Data collected from the CPT soundings was processed using the CPeT-IT software by Geologismiki (Version 3.0). Normalized soil behavior types generally consisted of very stiff/dense soil in the upper 5 to 10 feet BGS, underlain by silty sand and sandy silt to about 20 feet BGS. The silty sand and sandy silt layers were underlain by lean clay to the maximum explored depth of 100½ feet BGS.

For specific information regarding the soil conditions at a specific location, please refer to the Logs of Soil Borings (Figures 3 through 6), and the CPT Logs (Appendix B).

At the completion of the boring and CPT activities, the borings were backfilled with a slurry of neat cement, bentonite, and water as required by the San Joaquin County Environmental Health Department (SJCEHD).

Groundwater

Groundwater was not encountered in the borings drilled at the site between the period from December 20 to 21, 2021, to the explored 21½ foot depths BGS. We were unable to determine groundwater depth in the deeper mud rotary boring(D2) due to the use of drilling fluids. Pore pressure dissipation testing performed at the CPT locations revealed static groundwater levels of about 25 to 29 feet BGS.

To supplement the groundwater data, we reviewed available groundwater data published by the California Department of Water Resources (DWR) from a monitoring well (01N06E02C001M) located approximately ¼-mile southeast of the site. DWR has monitored water levels in the well from 1968 to at least 2021. Ground surface elevation at the well is indicated to be about +21

feet relative to the North American Vertical Datum of 1988 (NAVD 88) which is similar to the subject property's elevation. Groundwater measurements at the DWR well have fluctuated from a "high" of about -2 feet (NAVD 88) in June of 2018 to a "low" of about -67 feet (NAVD 88) in October of 1977. Based on this data, groundwater elevations at the site have fluctuated from about 23 to 88 feet below the well surface elevation between 1968 and 2021.

In addition, we reviewed currently available groundwater information provided by the California Department of Water Resources indicates that regional groundwater beneath the site is generally present at a depth of approximately 30 to 40 feet below the existing ground surface (https://gis.water.ca.gov/app/gicima/).

Investigation Derived Waste (IDW)

No visual or olfactory evidence of environmental contaminants (e.g., petroleum hydrocarbons) were noted in the soil samples collected from the borings performed for this study. We also monitored soil sample headspace for the presence of volatile organic compounds using a portable photoionization detector (PID). PID readings obtained during the drilling operations varied from 0.0 to 2.9 parts per million (ppm) but were generally less than 0.1 ppm.

The Investigation Derived Waste (IDW) from our borings (soil cuttings) was placed in labeled 55-gallon, steel drums and temporarily stored at the site. Representative soil samples of the IDW were collected into laboratory-provided, sterile glass jars and sealed with a Teflon-lined lid. The collected IDW samples were preserved on ice and transported to California Laboratory Services of Rancho Cordova, California for the following analyses: Volatile Organic Compounds (VOCs) by EPA Method 8260B; California Assessment Manual (CAM) 17 metals by EPA Methods 6010B; Total Petroleum Hydrocarbons (TPH) gasoline by EPA Method 8260B, TPH as diesel and motor oil by EPA Method 8015M; Polychlorinated biphenyls (PCBs) by EPA Method 8082; and, Organochlorine pesticides by EPA Method 8081A. The results of the environmental laboratory testing are included in Appendix C.

The results of the environmental laboratory testing performed on the IDW indicates the soil encountered by the borings is considered non-hazardous. The IDW drums were removed from the site on January 27, 2022 by Belshire Environmental Services, Inc. of Novato, California, and was properly disposed at an appropriate landfill based on the non-hazardous designation.

CONCLUSIONS

Building Support

In our opinion, undisturbed native soils are capable of supporting the proposed north tower addition and supportive buildings and associated improvements. Engineered fill that is properly placed and compacted during earthwork also would be suitable to support concrete flatwork and asphalt pavements.

Shallow conventional foundations or mat foundations bearing on undisturbed native soils and/or engineered fill are considered suitable for lightly loaded structures up to three stories in height. However, the proposed multi-story tower and parking garage will likely require deep foundations to support heavy column loads such as drilled, auger cast-in-place (ACIP) piles or drilled cast-in-place reinforced concrete piers (drilled piers).

The selection of the most appropriate foundation system or systems will depend on the actual loads and configurations (i.e., at grade, below-grade, partially below-grade, etc.) of the structures, the acceptable amount of settlement for the structure, and the construction constraints (i.e., vibrations, noise, equipment access, etc.), and the results of additional subsurface exploration and laboratory testing performed for the design-level report. A discussion of each foundation type is provided as follows.

Shallow or Mat Foundations on Undisturbed Native Soils and/or Engineered Fill

Shallow and/or mat foundations bearing on undisturbed native soils and/or engineered fill are both considered suitable for support of the supportive buildings. The depth of the lowest floor (i.e., at-grade or below-grade) level will determine the soil conditions that will support the mat or shallow foundations. The soil conditions anticipated at the depth of the foundations will determine the bearing capacity and settlement of those foundation systems.

Drilled Auger Cast-in-Place Piles

Based on the soil conditions encountered at the site, deep foundations consisting of ACIP piles extending into the relatively dense soils below the site are considered feasible to support heavy column loads. ACIP piles have been used as an alternative to driven piling to reduce detrimental vibration, noise, and other problems associated with driving piles, and can achieve similar bearing, uplift, and lateral resistance of the driven piles.

Drilled, Cast-in-Place, Reinforced Concrete Piers

Drilled piers could be used to support the heavy, multi-story structures. If drilled piers are considered, excavations could extend below the groundwater table during construction and would require wet construction techniques (i.e., casing and/or drilling slurry). We anticipate drilled piers will extend into the dense soils encountered at the site.

Seismic Site Class

The soil conditions encountered at the boring locations indicates the site is underlain by the Pleistocene-aged (10,000 to 700,000 years before present) upper member of the Modesto Formation. Standard Penetration Test (SPT) blow counts obtained within the upper 101½ feet at Boring D2 varied from 17 to 65 blows per foot. Shear wave velocities obtained from the CPT soundings ranged from 633 to 1325 feet per second.

Based on the soil conditions encountered at the boring locations, the shear wave velocities described above and SPT blow counts obtained within the upper 101½ feet of the boring and CPTs, and the documented site geology, it is our opinion that a Site Class D is applicable to the St. Joseph's Medical Center site, in accordance with Table 20.3-1 of ASCE 7-16 and the 2019 *California Building Code* (CBC).

2019 CBC/ASCE 7-22 Seismic Design Parameters

The 2019 CBC references the American Society of Civil Engineers (ASCE) Standard 7 for seismic design. ASCE 7-22 was recently published to supersede ASCE 7-16. At the time this report was prepared, the specific version governing design had not been determined. Therefore, we are providing the following seismic design parameters, in Tables 1 and 2, based on both ASCE 7-16 and ASCE 7-22 to assist with the structural design of this project.

The seismic design parameters provided in Table 1 were determined based on a Site Class D and the latitude and longitude for the central portion of the site using the web interface developed by the *Structural Engineers Association of California* (SEAOC) and *California Department of Health Care Access and Information* (HCAi). Since S_1 is greater than 0.2 g, the coefficient values F_v, S_{M1}, and S_{D1} presented in Table 1 are valid for this project, provided the requirements in Exception Note No. 2 of Section 11.4.8 of *ASCE 7-16* apply. If not, a site-specific ground motion hazard analysis is required for this project. Based on our experience with similar projects, we anticipate the proposed structures will meet the exception. However, the project structural engineer should verify the exception is met

Table 1: ASCE 7-16 Seismic Design Parameters

Parameters	ASCE 7-16 Table/Figure	2019 CBC Table/Figure	Factor/Coefficient	Value
0.2-second Period MCE	Figure 22-1	Figure 1613.2.1(1)	S_S	0.717 g
1.0-second Period MCE	Figure 22-2	Figure 1613.2.1(2)	S_1	0.281 g
Soil Class	Table 20.3-1	Section 1613.2.2	Site Class	D
Site Coefficient	Table 11.4-1	Table 1613.2.3(1)	F_a	1.226
Site Coefficient	Table 11.4-2	Table 1613.2.3(2)	F_v	2.038*
Adjusted MCE Spectral Response Parameters	Equation 11.4-1	Equation 16-36	S_{MS}	0.879 g
	Equation 11.4-2	Equation 16-37	S_{M1}	0.572 g*
Design Spectral Acceleration Parameters	Equation 11.4-3	Equation 16-38	S_{DS}	0.586 g
	Equation 11.4-4	Equation 16-39	S_{D1}	0.382 g*
Seismic Design Category	Table 11.6-1	Table 1613.2.5(1)	Risk Category I – IV	D
	Table 11.6-2	Table 1613.2.5(2)	Risk Category I – IV	D

Notes: MCE = Maximum Considered Earthquake; g = gravity
* The value is valid provided the requirements in Exception Note No. 2 in Section 11.4.8 of ASCE 7-16 are met. If not, a site-specific ground motion hazard analysis is required.

The seismic design parameters provided in Table 2 have been determined based on the site location and the web interface developed by ASCE (https://asce7hazardtool.online/).

Table 2: ASCE 7-22 Seismic Design Parameters

Parameters	ASCE 7-22 Table/Figure	Factor/ Coefficient	ASCE 7-22 Values
0.2-second Period MCE_R	N/A	S_S	0.83 g
1.0 second Period MCE_R	N/A	S_1	0.27 g
Soil Class	Table 20.2-1	Site Class	D
Adjusted MCE_R Spectral Response Parameters	N/A	S_{MS}	1.16 g
	N/A	S_{M1}	0.73 g
Design Spectral Acceleration Parameters	Equation 11.4-1	S_{DS}	0.77 g
	Equation 11.4-2	S_{D1}	0.48 g
Seismic Design Category	Table 11.6-1	Risk Category I to IV	D
	Table 11.6-2	Risk Category I to IV	D

Notes: MCE_R = Risk-Targeted Maximum Considered Earthquake; g = gravity

Liquefaction Potential

Liquefaction is a soil strength loss phenomenon that typically occurs in loose, saturated cohesionless soils as a result of strong ground shaking during earthquakes. The potential for liquefaction at a site usually is determined based on the results of a subsurface soil investigation and the groundwater conditions beneath the site. Hazards to buildings associated with liquefaction include shallow and deep foundation bearing capacity failure, lateral spreading of soil, and differential settlement of soils below foundations, all of which can contribute to structural damage or collapse.

Subsurface soil conditions in the area consist primarily of very stiff to hard, variably cemented, lean clay and sandy lean clay underlain by interbedded layers of silty sand and lean clays of the Pleistocene-age Modesto formation, which are generally not considered susceptible to liquefaction. Regional groundwater in this area is anticipated to be about 23 feet below site grades. Based on the high penetration resistance of the soils below the site and depth to groundwater, it is our opinion that liquefaction of soils beneath the proposed structures is not likely.

A liquefaction analysis to determine factors of safety against liquefaction was performed for the soil and groundwater conditions encountered at CPT-01 through CPT-03 and Boring D2 performed during our field explorations.

Seismic Settlement (Liquefaction and Dry Sand Settlement) Analysis and Results

We performed a liquefaction analysis of data obtained from CPT-01 through CPT-03 and Boring D2, using a conservative historic "high" groundwater level of 23 feet below the ground surface during a seismic event. The analysis was performed using soil liquefaction assessment software developed by GeoLogismiki, including Cliq (Version 3.0) for the CPTs and and LiqSVS (Version 2.0) for Boring D2. The software utilizes data collected from CPT soundings and soil borings to determine factors of safety against liquefaction for varying earthquake input energies and uses the results of the National Center for Earthquake Engineering Research (NCEER) liquefaction evaluation methods summarized by Youd, et al (2001). Input values were obtained using the results of the CPTs and Boring D2 referenced above.

A conservative peak ground acceleration (PGA_M) of 0.41 g was used in the liquefaction analysis based on Section 11.8.3 of American Society of Civil Engineers (ASCE) 7-22. A mode magnitude earthquake of 6.5 was used for this analysis based on the 2014 USGS National Seismic Hazard Mapping Project (NSHMP) Probabilistic Seismic Hazard Analysis (PSHA)

Interactive Deaggregation web site. The results of the liquefaction analysis indicate that the majority of the cohesive clay layers below the site have a factor of safety against liquefaction of at least 1.0, while several discrete layers of silt and sand have a factor of safety less than 1.0.

Liquefaction potential at the site was also evaluated based on the Liquefaction Potential Index (LPI). The LPI is a measure of the liquefaction potential based on an analysis of the entire vertical soil profile, and not just discrete layers[3]. Factors taken into consideration for the LPI calculations include: thickness of the liquefied layer; proximity of the liquefied layer to the surface; and the factor of safety. The LPI ranges from 0 to 100 with the value zero representing no liquefaction potential. Surface manifestations of liquefaction occur at LPI ≥ 5. The LPI's for the soil conditions at the CPTs and boring D2 were calculated to be zero, indicating no potential for liquefaction during the design seismic event (mode magnitude earthquake of 6.5 and a PGA of 0.41g).

Based on the results of our analysis, the depth to the liquefiable layers, and the presence of clay soils which predominate the site subsurface, it is our opinion that the site is not susceptible to significant liquefaction-induced settlement or loss of bearing capacity.

The potential for dry sand seismic settlement was also evaluated for soils above the groundwater table. However, the on-site soils above the theoretical high groundwater table consist of relatively stiff cohesive soils and relatively dense granular soils, which are not susceptible to seismically induced dry settlement.

Based on the conservative historic high groundwater depth of 23 feet below the ground surface and the predominantly clayey soils encountered from depths of about 20 to 101 feet below ground surface, it is our opinion that the potential for loss of bearing capacity (strength) beneath the prepared building pads is very low and does not need to be further mitigated in the design of the structure, provided the buildings are properly designed.

In addition, there are no mitigation measures necessary for liquefaction, lateral spreading, or seismically induced settlement on this site. Copies of the output files for the liquefaction analysis, including the results of the 2014 USGS NSHMP PSHA Interactive Deaggregation are provided in Appendix D.

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[3] Iwasaki, T., 1986. Soil liquefaction studies in Japan: state of the art. *Soil Dyn. Earthquake Eng*., 5 (1): 1-71.
Toprak, S., Holzer, T.L., 2003. Liquefaction Potential Index: Field Assessment, *J. of Geotech. And Geoenvironmental Eng.,* 129 (4): 315-322.

Faulting

The project site is not located across a mapped trace of a fault, and the site is not located within an Alquist-Priolo Earthquake Fault Zone (Division of Mines and Geology Special Publication No. 42, 2007). The nearest Alquist-Priolo Earthquake Fault Zone is the Cleveland Hill Fault located approximately 53 miles north of the site.

According to the *Fault Activity Map of California*, prepared by the California Geological Survey[4], the closest fault to the site is indicated to be the Bear Mountain Fault Zone, located approximately four miles east of the site. The nearest fault exhibiting activity during the Holocene (the last 11,700 years) is a short fault located near Dunnigan Hills about 45 miles west of the site.

Excavation Conditions

The soils at the site are anticipated to be excavatable with conventional earthwork and trenching equipment. Standard size backhoes and excavators should be suitable to excavate foundation and shallow utility trenches at this site. However, subsurface remnants from existing and/or previous development of the site, if any, may be encountered, as well as variably cemented soils, and can be slow to excavate with a standard, rubber-tired backhoe; however, experience has shown that excavators can remove these materials with moderate effort.

Based on the soil conditions encountered at the site and our experience, excavations associated with foundations, shallow trenches for utilities, and other excavations less than five feet deep associated with the proposed construction, should stand vertically for short periods of time (i.e., less than one day) required for construction, unless cohesionless, saturated or disturbed soils are encountered. These unstable conditions may result in caving or sloughing; therefore, the contractor should be prepared to brace or shore the excavations, if necessary.

Excavations or trenches exceeding five feet in depth that will be entered by workers should be sloped, braced or shored to conform to current the Cal/OSHA jurisdiction requirements. The contractor must provide an adequately constructed and braced shoring system in accordance

[4] Jennings, C.W. and Bryant, W.A, 2010, 150th Anniversary fault activity map of California: California Geological Survey Map No. 6, scale 1:750,000.

with federal, state and local safety regulations for individuals working in an excavation that may expose them to the danger of moving ground.

Excavated materials should not be stockpiled directly adjacent to an open excavation to prevent surcharge loading of the excavation sidewalls. Excessive truck and equipment traffic should be avoided near excavations. If material is stored or heavy equipment is stationed and/or operated near an excavation, a shoring system must be designed to resist the additional pressure due to the superimposed loads.

Basement Excavations

If the lower level of the north tower addition and/or supportive buildings will be constructed with an open-cut excavation, a temporary slope will be required. Temporary slopes of no steeper than one foot horizontal to one foot vertical (1H:1V) extending within the native soils may hold for a short period of time (one to two days or less). However, we do not recommend this steep of a temporary excavation even for short periods if the excavation sidewalls will extend close to existing improvements (e.g., pavements, utilities, etc.). For deeper excavations or those excavations open for a longer period, the maximum temporary slope inclination during construction should not be constructed steeper than 1½H:1V. However, the actual configuration of temporary slopes and existing structures should be further evaluated, in the design-level geotechnical report and prior to construction to verify the proposed excavation is stable.

Some caving/sloughing of exposed slope faces of temporary excavations should be anticipated, especially during period(s) of wet weather when precipitation and/or surface runoff flows over the exposed subgrade. The contractor should be prepared to maintain temporary slope faces, where required. A contingency plan should be included in the project budget for maintenance of temporary earthen slope faces. In addition, sufficient space at the bottom of slopes should be provided so that any sloughing/caving does not adversely affect construction operations.

Care should be taken to avoid damaging existing structures (i.e., pavements, utilities, etc.) during construction. The contractor should be aware of the locations of existing structures in the area before excavating and should be prepared to brace any such excavations near the structures, as required. Additional preliminary comments for temporary shoring are provided in the following subsections.

To minimize disturbance to the existing buildings and medical center operations, we recommend temporary retaining systems be installed by drilling rather than driving methods. Such systems generally consist of either pre-drilled soldier piles and wood lagging walls or

tangential secant pile walls. Each of these wall types could be used, if properly designed.

For the soldier pile wall with lagging (e.g., wood, concrete panels, etc), the soldier piles would be installed by pre-drilling an over-sized hole at each pile location. Once the hole is drilled, the H-pile is typically positioned in the center of the hole, and the hole is backfilled with lean concrete. Excavation proceeds from the top down as lagging is placed between the soldier piles to form a continuous wall. Tangential auger cast walls typically consist of 14- to 24-inch-diameter auger cast piles placed in a continuous line with a slight overlap to form a continuous wall. Steel sections (e.g., H-piles) are placed in the wet column of grout to provide the required bending capacity for the wall. The main advantage of this type of wall is that lagging is not required. In addition, auger cast walls are typically stiffer than soldier pile and lagging walls and will tend to have less lateral movements.

Either type of wall described above may be constructed as a cantilever wall or a braced wall (i.e., with lateral support). A cantilevered wall relies on the bending strength of the wall to resist the lateral loads with the maximum deflection of the wall occurring at the top. Such walls are generally limited to an unsupported height of about 10 to 12 feet to keep the top deflections to one inch or less. For increased depths and/or to reduce the lateral deflections, additional lateral support can be provided. The lateral support can be in the form or steel struts or rakers (internal support) or with the use of ground anchors or tiebacks (external support). The internal supports require some type of reaction on the inside of the excavation and their presence can complicate the construction. External supports are installed by drilling the tiebacks or anchors into the soils behind the walls from inside the excavation. Since the anchors or tiebacks do not extend in front of the wall (except for minor anchorage features such as bearing plates, lock nuts, and potentially walers), external supports provide a relatively open excavation for other construction activities.

The final temporary earth retention system chosen should be designed by a professional engineer and the design reviewed by the project team for compliance with the performance specifications and overall project requirements. The design-level geotechnical report should evaluate the most appropriate temporary earth retention at the site.

Soil Expansion Potential

Laboratory testing revealed the upper three feet of clay soil across the site were found to be moderately plastic when tested in accordance with the American Society of Testing and Materials (ASTM) D4318 (see Figure A1). Additional laboratory test results also revealed these clay soils possess a "low" to "medium" expansion potential when tested in accordance with

ASTM D4829 (see Figures A2 and A3). Based on these test results, the surface and near-surface clay soils are considered capable of exerting significant expansion pressures on concrete foundation slabs, exterior flatwork, and pavements.

Pavement Subgrade Quality

The anticipated pavement subgrade soils consist of lean clay with silt and sand, which is considered relatively poor-quality material for support of asphalt concrete pavements. Laboratory testing of near-surface clay revealed the near-surface clay soils possess a Resistance value (R-value) of 5 when tested in accordance with California Test 301 (Figure A4). Based on these results and our experience with the near-surface clay soils in the local area, it is our opinion an R-value of 5 is considered appropriate for design of pavements at the site supported on untreated subgrades.

Based on our experience with similar soil conditions in the vicinity of the site, we anticipate lime-treatment of the clay soil can improve its support quality and reduce the required base material thickness for pavement sections. Preliminary recommendations regarding lime-treatment of the pavement subgrade soils are provided in the Pavement Design section of this report. However, additional laboratory testing should be performed to confirm the effectiveness of lime-treatment.

Soil Suitability for Engineered Fill Construction

The on-site native soils encountered at the boring locations are considered suitable for use in engineered fill construction, provided these materials do not contain significant organics, rubble, and other deleterious debris, and are at moisture contents capable of achieving the desired degree of compaction.

Existing asphalt concrete pavements that are not incorporated into the new design may be pulverized and mixed with the underlying base materials and used as engineered fill or aggregate base provided it is processed into fragments less than three inches in largest dimension and is mixed with the soil to form a compactable mixture. Pulverized asphalt concrete may be used as engineered fill within building pad areas provided authorization is given by St. Joseph's Medical Center prior to its use. Concrete generated from the removal of sidewalks and curb and gutter should be removed from the site unless it can be process into fragments less than three inches in largest dimension.

Preliminary Soil Corrosion Potential

Two samples of near-surface soil were submitted to Sunland Analytical Lab for testing to determine pH, chloride and sulfate concentrations, and minimum resistivity to help evaluate the potential for corrosive attack upon buried concrete. The results of the corrosivity testing are summarized in Table 3. Copies of the analytical test reports are presented in Figures A5 and A6.

Table 3 - Soil Corrosivity Testing

Analyte	Test Method	Sample Identification	
		D1 (1'-3')	D4 (1'-3')
pH	CA DOT 643 Modified*	6.93	7.14
Minimum Resistivity	CA DOT 643 Modified*	270 Ω-cm	1,260 Ω-cm
Chloride	CA DOT 417	57.6 ppm	3.8 ppm
Sulfate	CA DOT 422	1458.8 ppm	52.2 ppm

Notes: * = Small cell method; Ω-cm = Ohm-centimeters; ppm = Parts per million; mg/kg=ppm

The California Department of Transportation Corrosion and Structural Concrete Field Investigation Branch, 2021 Corrosion Guidelines (Version 3.2), considers a site to be corrosive to foundation elements if one or more of the following conditions exists for the representative soil and/or water samples taken: has a chloride concentration greater than or equal to 500 ppm, sulfate concentration greater than or equal to 1500 ppm, or the pH is 5.5 or less. Based on this criterion, the on-site soils tested are not considered corrosive to steel reinforcement properly embedded within Portland cement concrete (PCC). However, the low resistivity may indicate a higher corrosion potential to metal in direct contact with soil.

Table 19.3.1.1 – Exposure Categories and Classes, of American Concrete Institute (ACI) 318-19, Section 19.3 – Concrete Design and Durability Requirements, as referenced in Section 1904.1 of the 2019 CBC, indicates the severity of sulfate exposure for the sample tested is Exposure Class *S1 - Moderate*. Ordinary Type I-II Portland cement is considered suitable for use on this project, assuming a minimum concrete cover as detailed in ACI 318-11, Section 7.7 is maintained for all reinforcement. The project structural engineer should evaluate the requirements of ACI 318-14 and determine their applicability to the site.

Wallace-Kuhl & Associates are not corrosion engineers. Therefore, if it is desired to further define the soil corrosion potential at the site, a corrosion engineer should be consulted.

Groundwater and Seasonal Moisture

Based upon the depth of groundwater encountered at the site and the published information regarding groundwater elevations in the vicinity, we conclude that a permanent groundwater level should not be a significant factor in the design or construction of the proposed structures or underground utilities that are deeper than 25 feet of the existing ground surface.

However, perched groundwater may be encountered at the site. Therefore, temporary steel casings may be necessary to prevent sloughing of fill and/or infiltration of groundwater into mass excavations and/or utility excavations. Standard sump pit and pumping procedures are anticipated to removed perched groundwater from excavations above 20 feet at the site. Excavations extending deeper than about 25 feet at the site may require localized dewatering efforts to control groundwater.

Infiltrating surface run-off water from seasonal moisture during the winter and spring months may create saturated surface soil conditions due to the impervious nature of the underlying dense soils. It is probable that grading operations attempted following the onset of winter rains and prior to prolonged drying periods will be hampered by high soil moisture contents.

Soils located beneath pavements will likely be at elevated moisture contents regardless of the time of year of construction. Such soils, intended for use as engineered fill, will require a prolonged period of dry weather and/or considerable aeration to reach a moisture content suitable to achieve proper compaction. Wet soils should be anticipated and considered in the construction schedule for this project.

PRELIMINARY RECOMMENDATIONS

Earthwork Considerations

Future geotechnical engineering studies should be performed to develop site-specific grading recommendations.

Areas designated to receive fill and at-grade areas are typically scarified to depths of about 6 to 12 inches, thoroughly moisture conditioned to above optimum moisture contents, and uniformly compacted. Areas that previously supported structures would typically be ripped and cross-ripped to a depth of about 12 inches to help uncover buried building remnants, utilities, etc. Standard fill construction and compaction procedures, including uniform moisture conditioning,

placement of fill in thin lifts and uniformly compacted to at least 90 percent of the maximum dry density, would likely be suitable for support of structures and pavements.

Building Foundations

As noted previously, the north tower addition and supportive buildings may be supported on several foundation systems, depending on loading, building configuration, tolerable settlements, constructability of the foundation system, etc.

The selection of the most appropriate foundation system or systems will depend on the actual loads and configurations (i.e., at grade, below-grade, partially below-grade, etc.) of the structures, the acceptable amount of settlement for the structure, and the construction constraints (i.e., vibrations, noise, equipment access, etc.), and the results of additional subsurface exploration and laboratory testing performed for the design-level report.

Settlement of spread and/or mat foundations would typically be on the order of ¾- to 1-inch for total settlement and about ½-inch for differential settlement over 50 lineal feet or the least dimension of the structure, whichever is less. Settlement of deep foundations would typically be on the order of ½-inch for total settlement and about ¼-inch for differential settlement over 50 lineal feet or the least dimension of the structure, whichever is less.

Our preliminary recommendations for mat or shallow spread foundations, drilled ACIP piles, drilled piers, and shallow foundations are provided in the following sections.

Shallow Spread or Mat Foundations

The lightly-loaded supportive buildings may be supported upon continuous and/or isolated spread foundations extending to the undisturbed, relatively dense soil layer and/or properly placed and compacted engineered fill. Based on the soil conditions encountered at the boring locations and our experience in the area, we anticipate relatively dense soils will be encountered at depths within the upper five feet below the existing ground surface.

We anticipate allowable bearing capacities on the order of 3000 to 10,000 pounds per square foot (psf) for dead plus live loads will be applicable to structures supported on undisturbed native materials and/or properly placed and compacted engineered fill.

Auger Cast-in-Place (ACIP) Concrete Piles

The proposed tower and parking garage also may be supported upon ACIP concrete piles. ACIP concrete piles are installed using special equipment equipped with hollow-stem augers. Once the pile hole has been drilled, grout/concrete is injected under pressure through the auger to displace the soil and provide positive contact with the surrounding soils. Reinforcement is placed into the grouted shaft after withdrawal of the auger.

Piles for the structure should extend to relatively dense soils below the structure. Based on our experience in the area, we anticipate allowable pile capacities on the order of 100 to 250 tons for dead plus live loads can be achieved for 18- to 24-inch-diameter ACIP piles. Higher capacities can be achieved by increasing the pile diameter and/or increasing the pile depths.

The lateral resistance of individual piles and the passive resistance of the pile cap against the soil can be combined to provide lateral resistance. Resistance to lateral loads for ACIP piles can be determined using a lateral pile analysis program when final size design information is known and if required to further aid in the structural design.

The design-level geotechnical report should address final ACIP design information, if considered necessary.

A pile load test program will be necessary to determine the correct length of the ACIP piles to achieve the specified capacities.

Drilled Cast-in-Place Concrete Piers

Drilled piers may be used to support the proposed structure. Drilled piers are typically at least 24 inches in diameter and should extend to relatively dense soils below the site. We anticipate allowable bearing capacities on the order of 5,000 to 10,000 psf or allowable skin friction values of 200 to 500 psf may be achieved for drilled piers supported on relatively dense, undisturbed native materials.

Due to the anticipated depth of groundwater and anticipated drilled pier depths, the contractor should be prepared to construct the drilled piers using wet drilling methods (i.e., casing, slurry, etc.) for drilled piers extending deeper than about 25 feet below the existing ground surface.

Lateral resistance of drilled piers can also be evaluated by determining the shear, moment and deflection of the pier using a computer model of the pier and soil (i.e., LPILE). Such an analysis should be performed for the design-level geotechnical report after the dimensions of the piers and loading conditions are known, if applicable.

Interior Floor Slab Support

Interior slab-on-grade concrete lower floors would be suitable for this project provided the slabs are properly designed and constructed with regard to moisture penetration resistance and the slabs are adequately reinforced. Typical slab thickness would vary from four- to six-inches and reinforcement for slabs constructed on non-expansive soils would consist of chaired reinforcing steel bars placed near mid-depth of the slab. A typical capillary break (at least four inches of free-draining crushed rock) and a moisture vapor retarder membrane (at least 10-mils thick meeting the minimum specifications for water vapor retarders as defined by ASTM E1745 standards) with an optional sand layer should underlie interior slabs-on-grade.

Below-Grade Walls and Drainage

Below-grade basement walls will likely be restrained at the top or rigid enough so that it does not rotate sufficiently to reach the active earth pressure condition. Therefore, below-grade walls should be designed using "at rest" earth pressures. The earth pressures provided in the design-level report include the effect of hydrostatic forces unless the wall backfill is fully drained or free water cannot collect behind the walls.

Below-grade wall design should also account for additional surcharge loading if equipment and/or existing structures are within a one horizontal to one vertical (1H:1V) projection from the bottom of the excavation. Surcharge loading under these circumstances will need to be evaluated on a case-by-case basis.

The calculated modified peak ground acceleration (PGA_M) of the site is 0.38g from the web interface developed by the SEAOC. Based on recent research[5], the seismic increment of earth pressure may be neglected if the maximum ground acceleration is 0.4g or less. Therefore, the seismic increment of lateral earth pressure may be neglected.

If the walls are drained, wall drainage should consist of permeable material at least one foot wide extending from the base of wall to within one foot of the top of the wall. The top foot above the drainage layer should consist of engineered fill. Perforated pipe should be provided at the base of the wall to collect accumulated water. Drainpipes, if used, should slope to discharge at no less than a one percent fall to a suitable sump system or drainage facilities.

[5] Lew, M., Sitar, N., and Al Atik, L. (2010). "Seismic Earth Pressures: Fact or Fiction." Invited Keynote Paper, Earth Retention Conference, ER 2010, ASCE, Seattle.

Open-graded ½- to ¾-inch crushed rock may be used if the rock and drainpipe are completely enveloped in an approved non-woven geotextile filter fabric. Alternatively, geotextile drainage composites may be used in lieu of the drain rock layer. If used, geocomposite drain panels should be installed in accordance with the manufacturer's recommendations.

If effloresence (discoloration of the wall face) or moisture penetration of the wall is not acceptable, waterproofing measures should be applied to the back face of the wall. A specialist in protection against moisture penetration should be consulted to determine specific waterproofing measures.

Structural backfill materials for retaining walls should be placed and compacted as noted in the design-level geotechnical report. Pea gravel and crushed rock are not considered suitable backfill materials for retaining walls.

Preliminary Pavement Design

Based on laboratory test results for the surface and near-surface soils present at the site, we used a Resistance ("R") value of 5 for untreated pavement subgrades. An assumed R-value of 40 was used for lime-treated pavement subgrades. Pavement sections presented in Table 4 have been calculated using the above R-values and traffic indices (TIs) assumed to be appropriate for this project. The procedures used for pavement design are in general conformance with Chapters 600 to 670 of the *California Highway Design Manual*, dated July 1, 2020. The project civil engineer should determine the appropriate traffic index for pavements based on anticipated traffic conditions. If needed, we can provide additional pavement sections for different traffic indices.

Table 4 – On-site Pavement Design Alternatives

Traffic Index (TI)	Pavement Use	Untreated Subgrades R-value = 5			Lime-Treated Subgrades Soils (a) R-value = 40		
		Type A Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)	Portland Cement Concrete (inches)	Type A Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)	Portland Cement Concrete (inches)
4.5	Automobile Parking Only	2½*	10	--	2½*	4	--
		--	8	4	--	4	4
6.0	Automobile, Light to Moderate Truck Traffic, and Fire Lanes	3	14	--	3	7	--
		3½*	13	--	3½*	6	--
		--	8	5	--	4	5
7.0	Moderate Truck Traffic, Trash Enclosures, Loading Areas, and Entryways	3	18	--	3	9	--
		4*	16	--	4*	7	--
		--	10	6	--	6	6

Notes: * = Asphalt concrete thickness contains the Caltrans safety factor.
(a) = Lime-treated subgrade should be at least 12 inches thick and possess a minimum R-value of 40 when testing in accordance with California Test 301.

We emphasize that the performance of pavement is critically dependent upon uniform and adequate compaction of the soil subgrade, as well as all engineered fill and utility trench backfill within the limits of the pavements. We recommend that pavement subgrade preparation (i.e. scarification, moisture conditioning and compaction) be performed after underground utility construction is completed and just prior to aggregate base placement. The upper six (6) inches of untreated pavement subgrade soils and upper 12 inches of lime-treated subgrade soils should be compacted to at least 95 percent relative compaction at no less than two (2) percent above the optimum moisture content. All aggregate base should be compacted to at least 95 percent relative compaction.

Pavement subgrades should be stable and unyielding under heavy wheel loads of construction equipment. To help identify unstable subgrades within the pavement limits, a proof-roll should be performed with a fully loaded water truck (or equivalent) on the exposed subgrades prior to placement of aggregate base. The proof-roll should be observed by the Geotechnical Engineer's representative.

In the summer heat, high axle loads coupled with shear stresses induced by sharply turning tire movements can lead to failure in asphalt concrete pavements. Therefore, we recommend that consideration be given to using PCC pavements in areas subjected to concentrated heavy wheel loading, such as entry driveways and in front of trash enclosures. The PCC pavements should be at least six inches thick, supported on at least 10 inches of compacted Class 2 aggregate base over untreated subgrade (R-value = 5); or, six inches of PCC pavement, supported on at least six inches of compacted Class 2 aggregate base over lime-treated subgrade (R-value = 40). All aggregate base should be compacted to at least 95 percent relative compaction.

We recommend the concrete slabs be constructed with thickened edges in accordance with American Concrete Institute (ACI) design standards, latest edition. Reinforcing for crack control, if desired, should be provided in accordance with ACI guidelines. Reinforcement must be located at mid-slab depth to be effective. Joint spacing and details should conform to the current PCA or ACI guidelines. PCC should achieve a minimum compressive strength of 3,500 pounds per square inch at 28 days.

All pavement materials and construction methods of structural pavement sections should conform to the applicable provisions of the *Caltrans Standard Specifications*, latest edition.

Lime-treatment of Pavement Subgrade Soils

The native clay soils are anticipated to react well with the addition of quicklime (high-calcium or dolomitic) and could enhance the support characteristics of the subgrade and allow for a reduction in the aggregate base section. If lime-treatment of subgrade soils is selected, the lime-treatment of subgrade soils should be performed in general conformance with the *Caltrans Standard Specifications,* latest edition. Additional testing should be performed during construction to verify that the design parameters are achieved in the field.

For preliminary budget purposes only, we suggest a minimum spread rate of at least 4½ pounds of quicklime per square foot of treated soil, at a depth sufficient to produce a compacted lime-treated layer 12 inches thick. Initially, the quicklime should be thoroughly mixed using a rotary mixer capable of achieving the desired mixing depth. Following a typical minimum "mellowing" period of 36 hours, the lime/soil mixture should be thoroughly re-mixed to achieve a blended uniform mixture with no streaks or pockets of lime. The lime-treated soil should be uniformly compacted to not less than 95 percent relative compaction at a moisture content at least two to three percent over optimum conditions. Compaction should be accomplished by using a heavy, self-propelled sheepsfoot compactor (Rex or equivalent). Mixing and compaction should be in

general accordance with the applicable sections of the *Caltrans Standard Specifications*, latest edition.

Pavement Drainage

Efficient drainage of all surface water to avoid infiltration and saturation of the supporting aggregate base and subgrade soils is important to pavement performance. Weep holes should be provided at drainage inlets, located at the subgrade-base interface, to allow accumulated water to drain from beneath the pavements.

Consideration should be given to using full-depth curbs between landscaped areas and pavements to serve as a cut off for water that could migrate into the pavement base materials or subgrade soils.

Site Drainage

Performance of the building foundations, slab-on-grade floor and exterior flatwork is dependent upon proper control of surface water at the site. Site drainage should be accomplished to provide positive drainage of surface water away from buildings and prevent ponding of water adjacent to foundations. The grades adjacent to structures should be sloped away from foundations at a minimum two percent. We suggest consideration be given to connecting all roof downspouts to solid drainage pipes that convey water away from buildings to available drainage features or discharging downspouts onto concrete or asphalt surfaces that slope away from structures.

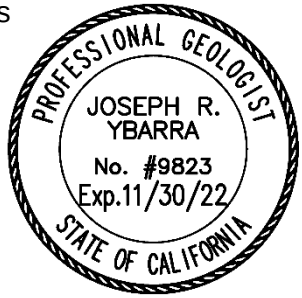
Future Geotechnical Engineering Studies

Prior to final design and the commencement of site grading, a detailed geotechnical investigation of this property must be conducted that includes additional subsurface exploration, with soil sampling, laboratory testing, and additional engineering evaluation. The final report should present geotechnical engineering conclusions and specific recommendations regarding site preparation, foundation alternates, floor support, site drainage, and pavement design.

LIMITATIONS

Our preliminary recommendations are based upon the information provided regarding the proposed project, combined with our analysis of site conditions revealed by the field exploration and laboratory testing programs. We have used our engineering judgment based upon the information provided and the data generated from our investigation. This report has been prepared in substantial compliance with generally accepted geotechnical engineering practices that exist in the area of the project at the time the report was prepared. No warranty, either express or implied, is provided.

Wallace - Kuhl & Associates





Joseph R. Ybarra
Project Geologist

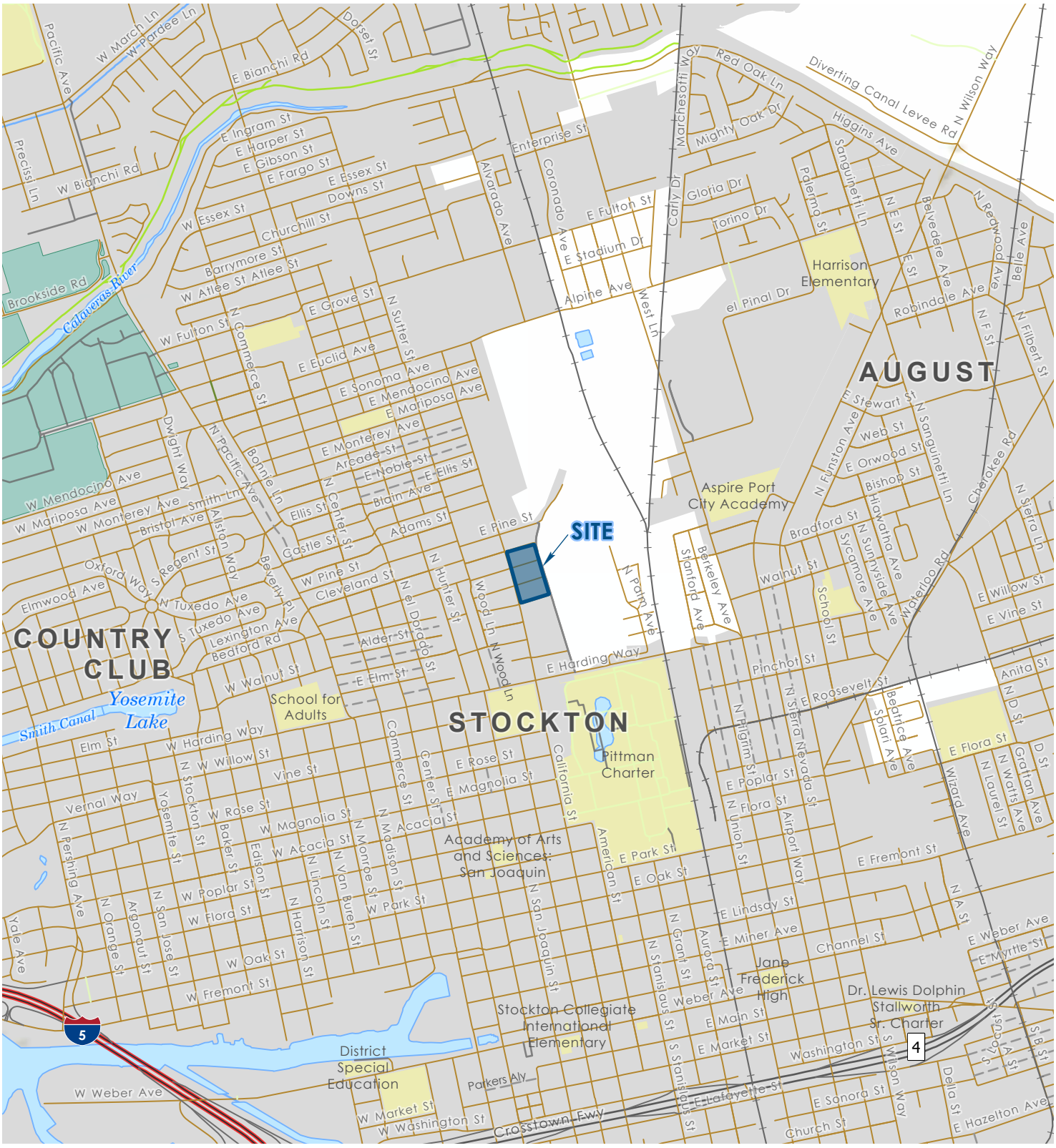
Tom C. DeSimone
Senior Engineering Geologist



Michael M. Watari
Principal Engineer

JRY:TCD:MMW:/jry

FIGURES



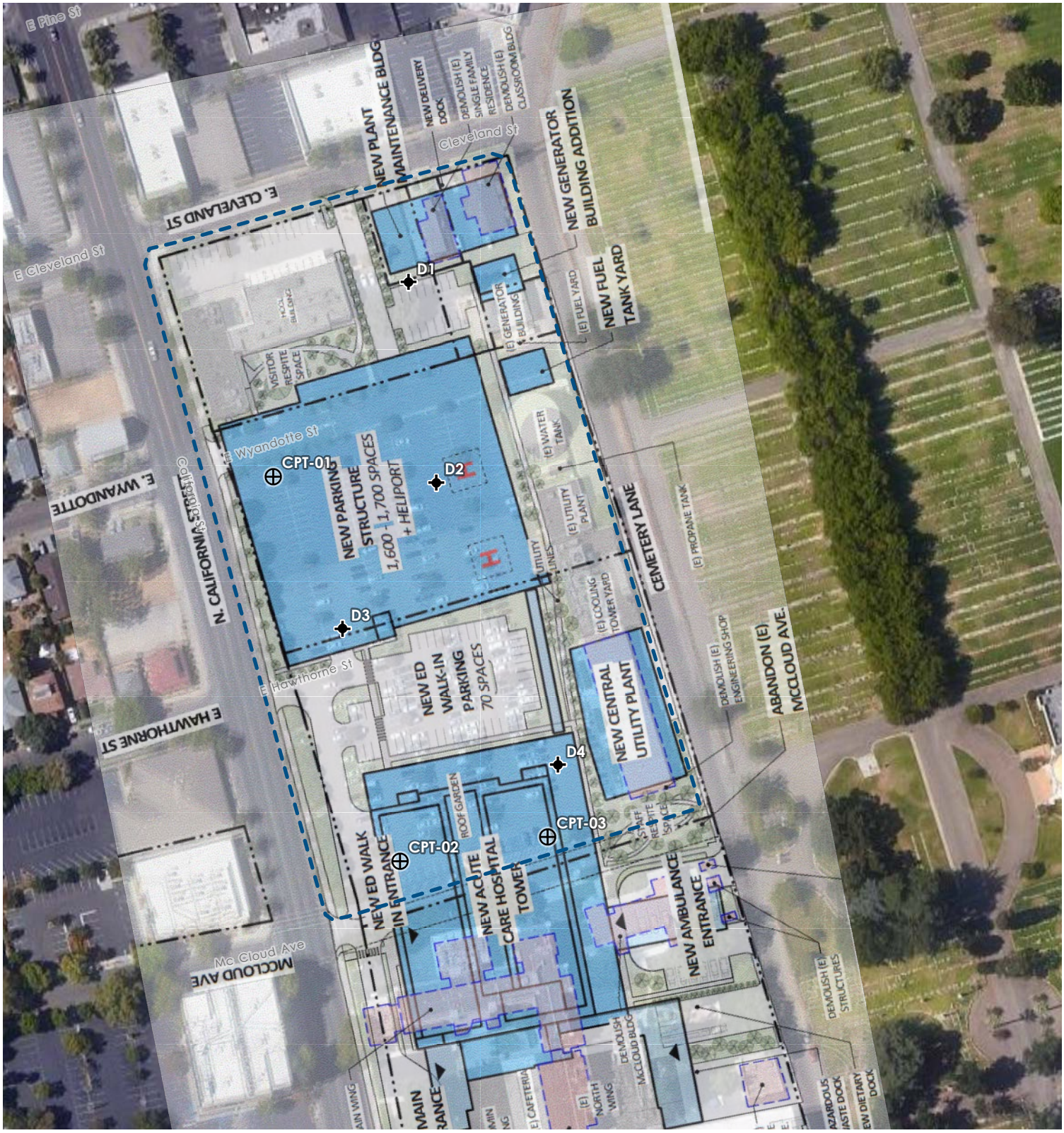
Spatial Data provided by Esri, NOAA, and USGS.
Projection: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US

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VICINITY MAP

ST. JOSEPH'S MEDICAL CENTER
NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS
Stockton, California

FIGURE	1
DRAWN BY	RWO
CHECKED BY	JRY
PROJECT MGR	MMW
DATE	01/2022
4630.2100220.0000	



⊕ Approximate CPT Location

✦ Approximate Soil Boring Location

Approximate Site Boundary

N

0 75 150

Feet

Aerial imagery provided by Esri.
Projection: NAD 1983 2011 StatePlane California III FIPS 0403 Ft US

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SITE PLAN

ST. JOSEPH'S MEDICAL CENTER
NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS
Stockton, California

FIGURE	2
DRAWN BY	RWO
CHECKED BY	JRY
PROJECT MGR	MMW
DATE	02/2022
4630.2100220.0000	

Project: St. Joseph's Medical Center
Project Location: Stockton, California
WKA Number: 4630.2100220.0000

LOG OF SOIL BORING D1

Sheet 1 of 1

Date(s) Drilled	**12/21/21**	Logged By	**KRL**	Checked By	**JRY**
Drilling Method	**Solid Flight Auger**	Drilling Contractor	**V&W Drilling**	Total Depth of Drill Hole	**21.5 feet**
Drill Rig Type	**CME 55 HT**	Diameter(s) of Hole, inches	**6**	Approx. Surface Elevation, ft MSL	
Groundwater Depth [Elevation], feet	**Not Encountered**	Sampling Method(s)	**2.0" Modified California with 6-inch sleeve**	Drill Hole Backfill	**Neat Cement**
Remarks	**Bulk (1'-3'); PI=21, EI=44, RV=5**			Driving Method and Drop	**140lb auto. hammer with 30" drop**

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA: SAMPLE	SAMPLE NUMBER	NUMBER OF BLOWS	TEST DATA: MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
			Approximately 3½ inches of Asphalt Concrete						
			Approximately 6 inches of Aggregate Base						
			Dark brown, moist, very stiff, lean CLAY (CL)						
					D1-1I	15	17	82	PP=2.5 PID=2.5
	5		yellowish brown, decreased moisture content		D1-2I	27	21	89	PP=2.75 PID=0.5
	10		Dark yellowish brown, moist, medium dense, silty fine to medium SAND (SM)		D1-3I	26	12	96	PID=0.3
	15		olive brown with yellowish brown, fine grained sand		D1-4I	34			PID=0.1
	20				D1-5I	35			PID=0.1
			Gray, moist, medium dense, silty fine GRAVEL (GP)						
			Boring was terminated at approximately 21½ feet below existing ground surface. Groundwater was not encountered.						

BORING LOG 4630.2100220.0000 - ST. JOSEPH'S MEDICAL CENTER NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS.GPJ WKA.GDT 1/17/22 2:29 PM

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FIGURE 3

Project: St. Joseph's Medical Center
Project Location: Stockton, California
WKA Number: 4630.2100220.0000

LOG OF SOIL BORING D2

Sheet 1 of 3

Date(s) Drilled	**12/20/21**	Logged By	**KRL**	Checked By	**JRY**
Drilling Method	**Rotary Wash**	Drilling Contractor	**V&W Drilling**	Total Depth of Drill Hole	**101.5 feet**
Drill Rig Type	**CME 55 HT**	Diameter(s) of Hole, inches	**4**	Approx. Surface Elevation, ft MSL	
Groundwater Depth [Elevation], feet	**N/A**	Sampling Method(s)	**2.0" Modified California with 6-inch sleeve**	Drill Hole Backfill	**Neat Cement**
Remarks				Driving Method and Drop	**140lb auto. hammer with 30" drop**

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA: SAMPLE	SAMPLE NUMBER	NUMBER OF BLOWS	TEST DATA: MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
			Approximately 2½ inches of Asphalt Concrete						
			Approximately 4½ inches of Aggregate Base						
			Dark brown, moist, hard, lean CLAY (CL); with calcification, variably cemented		D2-1I	48			PP=4.0 PID=2.3
	5		sandy, not cemented		D2-2	32			PID=0.1
	10				D2-3	30			PP>4.5 PID=0
	15		Gray, moist, medium dense, silty fine to medium SAND (SM); with iron oxide staining		D2-4	24			PID=0.5
	20		fine to coarse grained sand		D2-5	17			PID=0
	25		Brown, moist, stiff, sandy lean CLAY (CL)		D2-6	20			PP=1.75 PID=0.1

BORING LOG 4630.2100220.0000 - ST. JOSEPH'S MEDICAL CENTER NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS.GPJ WKA.GDT 1/17/22 2:29 PM

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FIGURE 4

Project: St. Joseph's Medical Center
Project Location: Stockton, California
WKA Number: 4630.2100220.0000

LOG OF SOIL BORING D2

Sheet 2 of 3

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA: SAMPLE	SAMPLE NUMBER	NUMBER OF BLOWS	TEST DATA: MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
			dark reddish brown						
			Dark reddish brown, moist, medium dense, silty fine to medium SAND (SM)		D2-7	22			PID=0
	35		Reddish brown, moist, hard, sandy lean CLAY (CL)		D2-8	20			PP=4.25 PID=4.25
	40		olive gray, very stiff, with iron oxide staining		D2-9	29			PP=2.25 PID=0
	45		At approximately 45½ feet, 2 inch lense of gray, silty fine to coarse sand gray with calcification		D2-10	29			PP=4.0 PID=0
	50		brown, with calcification		D2-11	46			PP=4.0 PID=0
	55		Brown, moist, medium dense, silty fine to coarse SAND (SM); trace clay, with calcification, variably cemented		D2-12	21			PID=0
	60		Brown and black, moist, very stiff, lean CLAY (CL)		D2-13	29			PP=3.5 PID=0
	65		Brown with light reddish brown mottling, hard		D2-14	55			PP>4.5 PID=0

BORING LOG 4630.2100220.0000 - ST. JOSEPH'S MEDICAL CENTER NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS.GPJ WKA.GDT 1/17/22 2:29 PM

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FIGURE 4

Project: St. Joseph's Medical Center
Project Location: Stockton, California
WKA Number: 4630.2100220.0000

LOG OF SOIL BORING D2

Sheet 3 of 3

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA: SAMPLE	SAMPLE DATA: SAMPLE NUMBER	SAMPLE DATA: NUMBER OF BLOWS	TEST DATA: MOISTURE CONTENT, %	TEST DATA: DRY UNIT WEIGHT, pcf	TEST DATA: ADDITIONAL TESTS
	70		brown, with calcification		D2-15	43			PP>4.5 PID=0
	75		brown with light red mottling		D2-16	47			PID=0
	80				D2-17	37			PP=4.25 PID=0
	85		very stiff		D2-18	58			PP=3.5 PID=0
	90		with sand, hard, with iron oxide staining		D2-19	51			PP=4.25 PID=0
	95		light reddish brown, very stiff		D2-20	65			PP=3.25 PID=0
	100		hard		D2-21	26			PP=4.25 PID=0
			Boring was terminated at approximately 101½ feet below existing ground surface. Groundwater was undetermined, due to use of mud rotary.						

BORING LOG 4630.2100220.0000 - ST. JOSEPH'S MEDICAL CENTER NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS.GPJ WKA.GDT 1/17/22 2:29 PM

Wallace Kuhl & ASSOCIATES

FIGURE 4

Project: St. Joseph's Medical Center
Project Location: Stockton, California
WKA Number: 4630.2100220.0000

LOG OF SOIL BORING D3

Sheet 1 of 1

Date(s) Drilled	**12/21/21**	Logged By	**KRL**	Checked By	**JRY**
Drilling Method	**Solid Flight Auger**	Drilling Contractor	**V&W Drilling**	Total Depth of Drill Hole	**21.5 feet**
Drill Rig Type	**CME 55 HT**	Diameter(s) of Hole, inches	**6**	Approx. Surface Elevation, ft MSL	
Groundwater Depth [Elevation], feet	**Not Encountered**	Sampling Method(s)	**2.0" Modified California with 6-inch sleeve**	Drill Hole Backfill	**Neat Cement**
Remarks	**Bulk (1'-3')**			Driving Method and Drop	**140lb auto. hammer with 30" drop**

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA: SAMPLE	SAMPLE NUMBER	NUMBER OF BLOWS	TEST DATA: MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
			Approximately 2 inches of Asphalt Concrete						
			Approximately 5½ inches of Aggregate Base						
			Yellowish brown, moist, hard, sandy lean CLAY (CL); with calcification		D3-1I	59	23	94	PP>4.5 PID=0.3
	5		Yellowish brown, moist, medium dense, silty fine SAND (SM); with calcification		D3-2I	16	14	93	PID=0.1
	10		with iron oxide staining		D3-3I	30	15	96	PID=0.1
	15				D3-4I	24			PID=0.1
			with gravel						
	20		olive brown		D3-5I	28			PID=0.1
			Boring was terminated at approximately 21½ feet below existing ground surface. Groundwater was not encountered.						

BORING LOG 4630.2100220.0000 - ST. JOSEPH'S MEDICAL CENTER NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS.GPJ WKA.GDT 1/17/22 2:29 PM

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FIGURE 5

Project: St. Joseph's Medical Center
Project Location: Stockton, California
WKA Number: 4630.2100220.0000

LOG OF SOIL BORING D4

Sheet 1 of 1

Date(s) Drilled	**12/21/21**	Logged By	**KRL**	Checked By	**JRY**
Drilling Method	**Solid Flight Auger**	Drilling Contractor	**V&W Drilling**	Total Depth of Drill Hole	**20.0 feet**
Drill Rig Type	**CME 55 HT**	Diameter(s) of Hole, inches	**6**	Approx. Surface Elevation, ft MSL	
Groundwater Depth [Elevation], feet	**Not Encountered**	Sampling Method(s)	**2.0" Modified California with 6-inch sleeve**	Drill Hole Backfill	**Neat Cement**
Remarks	**Bulk (1'-3'); PI=27, EI=83**			Driving Method and Drop	**140lb auto. hammer with 30" drop**

ELEVATION, feet	DEPTH, feet	GRAPHIC LOG	ENGINEERING CLASSIFICATION AND DESCRIPTION	SAMPLE DATA: SAMPLE	SAMPLE NUMBER	NUMBER OF BLOWS	TEST DATA: MOISTURE CONTENT, %	DRY UNIT WEIGHT, pcf	ADDITIONAL TESTS
			Approximately 3 inches of Asphalt Concrete						
			Approximately 6 inches of Aggregate Base						
			Dark brown, moist, very stiff, lean CLAY (CL)		D4-1I	24	21	94	PP=3.25 PID=0.1
			Reddish brown, moist, dense, silty fine SAND (SM); with calcification		D4-2I	46	26	81	PID=2.9
	5								
			yellowish brown, medium dense, trace clay		D4-3I	21	23	82	PID=1.2
	10								
			brown to yellowish brown		D4-4I	26			PID=1.0
	15								
			fine to medium grained sand, with iron oxide staining		D4-5I	17			PID=0.3
	20		Boring was terminated at approximately 20 feet below existing ground surface. Groundwater was not encountered.						

BORING LOG 4630.2100220.0000 - ST. JOSEPH'S MEDICAL CENTER NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS.GPJ WKA.GDT 1/17/22 2:29 PM

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FIGURE 6

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487)

MAJOR DIVISIONS		USCS[4]	CODE	CHARACTERISTICS
COARSE GRAINED SOILS (More than 50% of soil > no. 200 sieve size)	GRAVELS[1] (More than 50% of coarse fraction > no. 4 sieve size)	GW		Well-graded gravels or gravel - sand mixtures, trace or no fines
		GP		Poorly graded gravels or gravel - sand mixtures, trace or no fines
		GM		Silty gravels, gravel - sand - silt mixtures, containing little to some fines[2]
		GC		Clayey gravels, gravel - sand - clay mixtures, containing little to some fines[2]
	SANDS[1] (50% or more of coarse fraction < no. 4 sieve size)	SW		Well-graded sands or sand - gravel mixtures, trace or no fines
		SP		Poorly graded sands or sand - gravel mixtures, trace or no fines
		SM		Silty sands, sand - gravel - silt mixtures, containing little to some fines[2]
		SC		Clayey sands, sand - gravel - clay mixtures, containing little to some fines[2]
FINE GRAINED SOILS (50% or more of soil < no. 200 sieve size)	SILTS & CLAYS LL < 50	ML		Inorganic silts, gravely silts, and sandy silts that are non-plastic or with low plasticity
		CL		Inorganic lean clays, gravelly lean clays, sandy lean clays of low to medium plasticity[3]
		OL		Organic silts, organic lean clays, and organic silty clays
	SILTS & CLAYS LL ≥ 50	MH		Inorganic elastic silts, gravelly elastic silts, and sandy elastic silts
		CH		Inorganic fat clays, gravelly fat clays, sandy fat clays of medium to high plasticity
		OH		Organic fat clays, gravelly fat clays, sandy fat clays of medium to high plasticity
HIGHLY ORGANIC SOILS		PT		Peat
ROCK		RX		Rocks, weathered to fresh
FILL		FILL		Artificially placed fill material

OTHER SYMBOLS

- = Drive Sample: 2-1/2" O.D. Modified California sampler
- = Drive Sampler: no recovery
- = SPT Sampler
- = Initial Water Level
- = Final Water Level
- — — — = Estimated or gradational material change line
- ——— = Observed material change line

Laboratory Tests

CR = Corrosion
PI = Plasticity Index
EI = Expansion Index
UCC = Unconfined Compression Test (TSF)
TR = Triaxial Compression Test
GR = Gradational Analysis (Sieve/Hydro)
FC = Wash (Fines Content)
PP = Pocket Penetrometer Test (TSF)
PID = Photo Ionization Detector Test (PPM)
RV = Resistance ("R") Value

REF = Refusal (>50 blows in 6 inches)

GRAIN SIZE CLASSIFICATION

CLASSIFICATION	RANGE OF GRAIN SIZES	
	U.S. Standard Sieve Size	Grain Size in Millimeters
BOULDERS (b)	Above 12"	Above 300
COBBLES (c)	12" to 3"	300 to 75
GRAVEL (g) coarse fine	3" to No. 4 3" to 3/4" 3/4" to No. 4	75 to 4.75 75 to 19 19 to 4.75
SAND coarse medium fine	No. 4 to No. 200 No. 4 to No. 10 No. 10 to No. 40 No. 40 to No. 200	4.75 to 0.075 4.75 to 2.00 2.00 to 0.425 0.425 to 0.075
SILT & CLAY	Below No. 200	Below 0.075

Trace - Less than 5 percent
Few - 5 to 10 percent
Little - 15 to 25 percent
Some - 35 to 45 percent
Mostly - 50 to 100 percent

* Percents as given in ASTM D2488

NOTES:

1. Coarse grained soils containing 5% to 12% fines, use dual classification symbol (ex. SP-SM).
2. If fines classify as CL-ML (4<PI<7), use dual symbol (ex. SC-SM).
3. Silty Clays, use dual symbol (CL-ML).
4. Borderline soils with uncertain classification list both classifications (ex. CL/ML).

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UNIFIED SOIL CLASSIFICATION SYSTEM
ST. JOSEPH'S MEDICAL CENTER
NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS
Stockton, California

FIGURE	7
DRAWN BY	RWO
CHECKED BY	JRY
PROJECT MGR	MMW
DATE	01/2022
4630.2100220.0000	

APPENDICES

APPENDIX A
General Information, Field and Laboratory Testing

APPENDIX A

A. GENERAL INFORMATION

The performance of a preliminary geotechnical engineering study for the proposed St. Joseph's Medical Center North Tower Addition and Supportive Buildings to be constructed at 1800 North California Street in Stockton, California was authorized by Mr. Joseph Viola on October 1, 2021. Authorization was for a study as described in our proposal letter dated August 17, 2021, sent to our client, Common Spirit Health, National Real Estate Services, whose mailing address is 10901 Gold Center Drive, Suite 300 in Rancho Cordova, California.

During the preparation of this preliminary study, we made reference to a Site Master Plan, dated October 7, 2021, provided by Dignity Health.

B. FIELD EXPLORATION

As part of our study for the proposed improvements, our field explorations included the drilling and sampling of four borings (D1 through D4), and the advancement of three Cone Penetration Test (CPT) soundings (CPT-01 through CPT-03) at the approximate locations shown in Figure 2.

The borings were performed on December 20and 21, 2021, to depths ranging about 20 to 101½ feet below existing site grades utilizing a CME-55HT truck-mounted drilling rig equipped with six-inch-diameter, solid flight augers. At various intervals soil samples were recovered with a 2½-inch outside diameter (O.D.), 2-inch inside diameter (I.D.), modified California split-spoon sampler and a 2-inch O.D., 1⅜-inch I.D., Standard Penetration Test (SPT) split-spoon sampler. Both samplers were driven by an automatic 140-pound hammer freely falling 30 inches. The number of blows of the hammer required to drive the 18-inch-long samplers each six-inch-interval were recorded. The sum of the blows required to drive the sampler the lower 12-inch-interval, or portion thereof, is designated the penetration resistance or "blow count" for that particular drive.

The modified California samples were retained in 2-inch-diameter by 6-inch-long, thin walled, brass tubes contained within the sampler. The SPT samples were retained in plastic zip-lock bags. After recovery, the field representative visually classified the soil recovered in the tubes and plastic bags. After the samples were classified, the ends of the tubes and plastic bags were sealed to preserve the natural moisture contents.

In addition to the driven samples, representative bulk samples of near-surface soils also were collected and retained in plastic bags. Driven and bulk samples were taken to our laboratory for additional soil classification and selection of samples for testing.

During drilling, we monitored soil sample headspace for the presence of volatile organic compounds by using a portable photoionization detector (PID). We placed selected soil samples in a resealable plastic and allowed the filled bag to rest in a warm area for at least 15 minutes, which promoted chemical concentrations in soil and soil vapor to approach equilibrium with air also in the bag. The PID probe was then carefully inserted through a small opening into the bag. PID readings were recorded during the drilling operations and are noted on the Logs of Soil Borings.

The Logs of Soil Borings containing descriptions of the soils encountered in each boring are presented as Figures 3 through 6. A Legend explaining the Unified Soil Classification System and the symbols used on the logs is contained in Figure 7.

The CPT soundings were completed on November 30, 2021 and were advanced at a rate of about two centimeters per second using a 10-square-centimeter, cone penetrometer at the locations shown in Figure 2. The CPT's were advanced by using a 25-ton, truck-mounted CPT rig provided by Middle Earth Geo Testing, Inc. of Hayward, California. The CPT soundings were advanced to penetration depths of about 78 to 100½ feet below existing grades. Data was collected from the CPT's at approximate depth intervals of five centimeters (or about two inches), with shear wave velocity measurements obtained at approximately five-foot intervals. Pore pressure dissipation testing was also performed to measure existing groundwater levels at the CPT locations. Copies of the CPT logs are presented in Appendix C.

LABORATORY TESTING

Selected undisturbed soil samples were tested to determine in-situ dry unit weight (ASTM D2937) and natural moisture content (ASTM D2216). The results of these tests are included on the boring logs at the depth each tested sample was obtained.

Two soil samples were tested to determine the Atterberg Limits (ASTM D4318). The results of these tests are presented in Figure A1.

Two representative samples of the near-surface soil were subjected to Expansion Index testing (ASTM D4829). The results of these tests are presented in Figures A2 and A3.

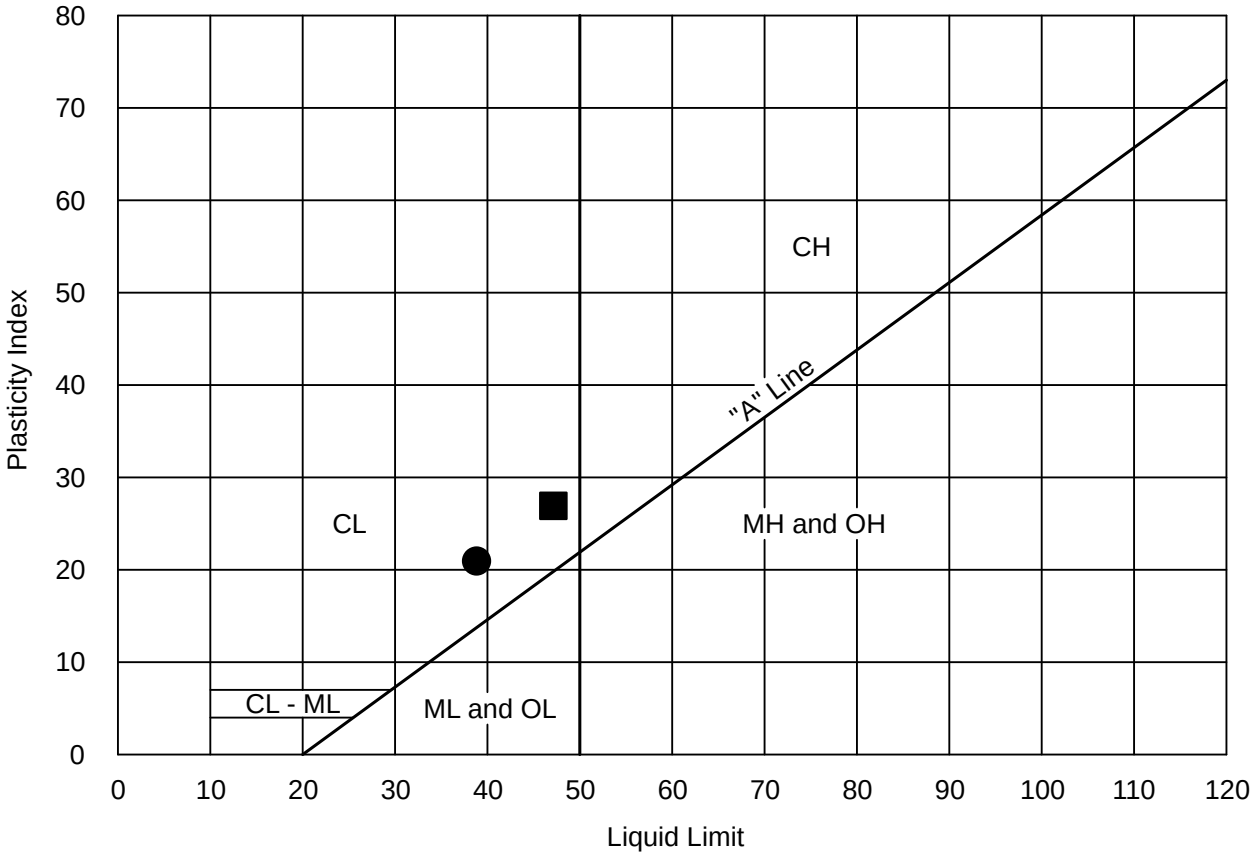
One bulk sample of near-surface soil was subjected to Resistance-value ("R") testing in accordance with California Test 301. The results of the R-value test, which was used in the pavement design, is presented in Figure A4.

Two samples of representative near-surface soil were submitted to Sunland Analytical to determine the soil pH and minimum resistivity (California Test 643), Sulfate concentration (California Test 417) and Chloride concentration (California Test 422). The test results are presented in Figures A5 and A6.

Representative soil samples of the Investigation Derived Waste (IDW) were collected into laboratory-provided, glass jars and sealed with a Teflon-lined lid. The collected IDW samples were preserved on ice and transported to California Laboratory Services of Rancho Cordova, California for the following analyses: Volatile Organic Compounds (VOCs) by EPA Method 8260B; California Assessment Manual (CAM) 17 metals by EPA Methods 6010B; Total Petroleum Hydrocarbons (TPH) gasoline by EPA Method 8260B, TPH as diesel and motor oil by EPA Method 8015M; Polychlorinated biphenyls (PCBs) by EPA Method 8082; and, Organochlorine pesticides by EPA Method 8081A. The results of the environmental laboratory analyses are included in Appendix D.

ATTERBERG LIMITS

ASTM D4318



KEY SYMBOL	LOCATION	SAMPLE DEPTH	NATURAL WATER CONTENT (%)	ATTERBERG LIMITS		PASSING No. 200 SIEVE (%)	UNIFIED SOIL CLASSIFI-CATION SYMBOL
				LIQUID LIMIT (%)	PLASTICITY INDEX (%)		
●	D1	1.0'-3.0'	---	39	21	---	CL
■	D4	1.0'-3.0'	---	47	27	---	CL

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ATTERBERG LIMITS

ST. JOSEPH'S MEDICAL CENTER
NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS
Stockton, California

FIGURE	A1
DRAWN BY	RWO
CHECKED BY	JRY
PROJECT MGR	MMW
DATE	01/2022
4630.2100220.0000	

EXPANSION INDEX TEST RESULTS

ASTM D4829

MATERIAL DESCRIPTION: Dark brown, lean clay

LOCATION: D1

Sample Depth	Pre-Test Moisture (%)	Post-Test Moisture (%)	Dry Density (pcf)	Expansion Index
1' - 3'	11.6	23.3	105	**44**

CLASSIFICATION OF EXPANSIVE SOIL *

EXPANSION INDEX	POTENTIAL EXPANSION
0 - 20	Very Low
21 - 50	**Low**
51 - 90	Medium
91 - 130	High
Above 130	Very High

* From ASTM D4829, Table 1

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EXPANSION INDEX
ST. JOSEPH'S MEDICAL CENTER
NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS
Stockton, California

FIGURE	A2
DRAWN BY	RWO
CHECKED BY	JRY
PROJECT MGR	MMW
DATE	01/2022
4630.2100220.0000	

EXPANSION INDEX TEST RESULTS

ASTM D4829

MATERIAL DESCRIPTION: Dark brown, lean clay

LOCATION: D4

Sample Depth	Pre-Test Moisture (%)	Post-Test Moisture (%)	Dry Density (pcf)	Expansion Index
1’ - 3’	11.3	27.8	105	**83**

CLASSIFICATION OF EXPANSIVE SOIL *

EXPANSION INDEX	POTENTIAL EXPANSION
0 - 20	Very Low
21 - 50	Low
51 - 90	**Medium**
91 - 130	High
Above 130	Very High

* From ASTM D4829, Table 1

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EXPANSION INDEX
ST. JOSEPH’S MEDICAL CENTER
NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS
Stockton, California

FIGURE	A3
DRAWN BY	RWO
CHECKED BY	JRY
PROJECT MGR	MMW
DATE	01/2022
4630.2100220.0000	

RESISTANCE VALUE TEST RESULTS

(California Test 301)

MATERIAL DESCRIPTION: Dark brown, lean clay

LOCATION: D1 (1' - 3')

Specimen No.	Dry Unit Weight (pcf)	Moisture @ Compaction (%)	Exudation Pressure (psi)	Expansion (dial, inches x 1000)	Expansion (psf)	R Value
1	117	12.0	386	0	0	*

*Sample extruded, therefore R-Value = 5

WallaceKuhl & Associates — A Universal Engineering Sciences Company	**RESISTANCE VALUE TEST RESULTS** ST. JOSEPH'S MEDICAL CENTER NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS Stockton, California	FIGURE A4 DRAWN BY RWO CHECKED BY JRY PROJECT MGR MMW DATE 01/2022 4630.2100220.0000

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 01/05/2022
Date Submitted 12/23/2021

To: Kylie Lim
Wallace-Kuhl & Assoc.
3050 Industrial Blvd
West Sacramento, CA 95691

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 4630.2100220.0000 Site ID : D1 (1-3).
Thank you for your business.

* For future reference to this analysis please use SUN # 86364-179907.

EVALUATION FOR SOIL CORROSION

Soil pH	6.93	
Minimum Resistivity	0.27 ohm-cm (x1000)	
Chloride	57.6 ppm	00.00576 %
Sulfate	1458.8 ppm	00.14588 %

METHODS
pH and Min.Resistivity CA DOT Test #643
Sulfate CA DOT Test #417, Chloride CA DOT Test #422m

WallaceKuhl & Associates — A Universal Engineering Sciences Company

CORROSION TEST RESULTS
ST. JOSEPH'S MEDICAL CENTER
NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS
Stockton, California

FIGURE	A5
DRAWN BY	RWO
CHECKED BY	JRY
PROJECT MGR	MMW
DATE	01/2022
4630.2100220.0000	

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 01/05/2022
Date Submitted 12/23/2021

To: Kylie Lim
Wallace-Kuhl & Assoc.
3050 Industrial Blvd
West Sacramento, CA 95691

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 4630.2100220.0000 Site ID : D4 (1-3).
Thank you for your business.

* For future reference to this analysis please use SUN # 86364-179908.

EVALUATION FOR SOIL CORROSION

Soil pH	7.14	
Minimum Resistivity	1.26 ohm-cm (x1000)	
Chloride	3.8 ppm	00.00038 %
Sulfate	52.2 ppm	00.00522 %

METHODS
pH and Min.Resistivity CA DOT Test #643
Sulfate CA DOT Test #417, Chloride CA DOT Test #422m

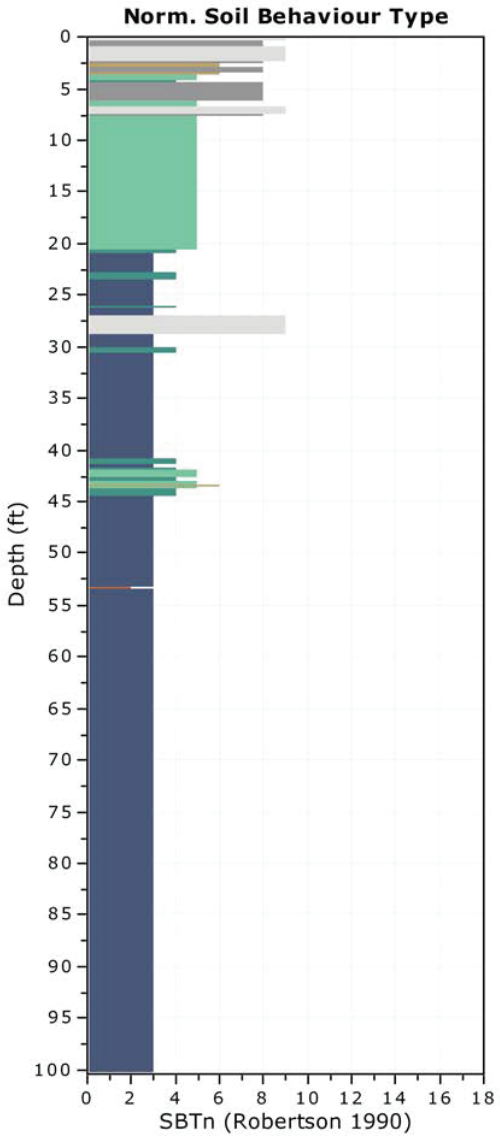
WallaceKuhl & Associates — A Universal Engineering Sciences Company	**CORROSION TEST RESULTS** ST. JOSEPH'S MEDICAL CENTER NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS Stockton, California	FIGURE A6 DRAWN BY RWO CHECKED BY JRY PROJECT MGR MMW DATE 01/2022 4630.2100220.0000

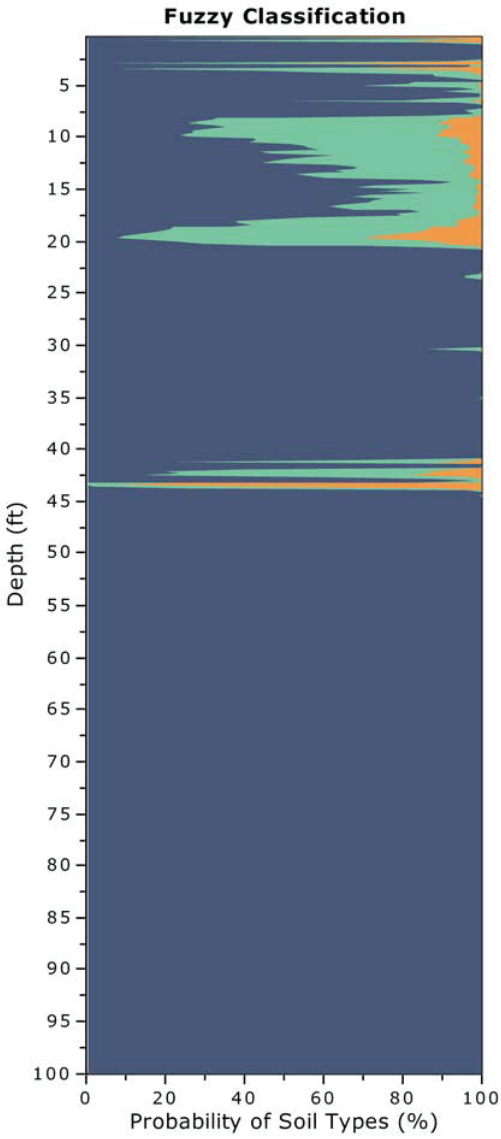
APPENDIX B
Results of CPT Soundings

Wallace-Kuhl & Associates
3050 Industrial Blvd
West Sacramento, CA 95691
http://www.wallace-kuhl.com

CPT: CPT-01
Total depth: 100.07 ft, Date: 1/19/2022
Surface Elevation: 0.00 ft
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project: **ST. JOSEPH'S MEDICAL CENTER - NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS**
Location: **Stockton, CA**



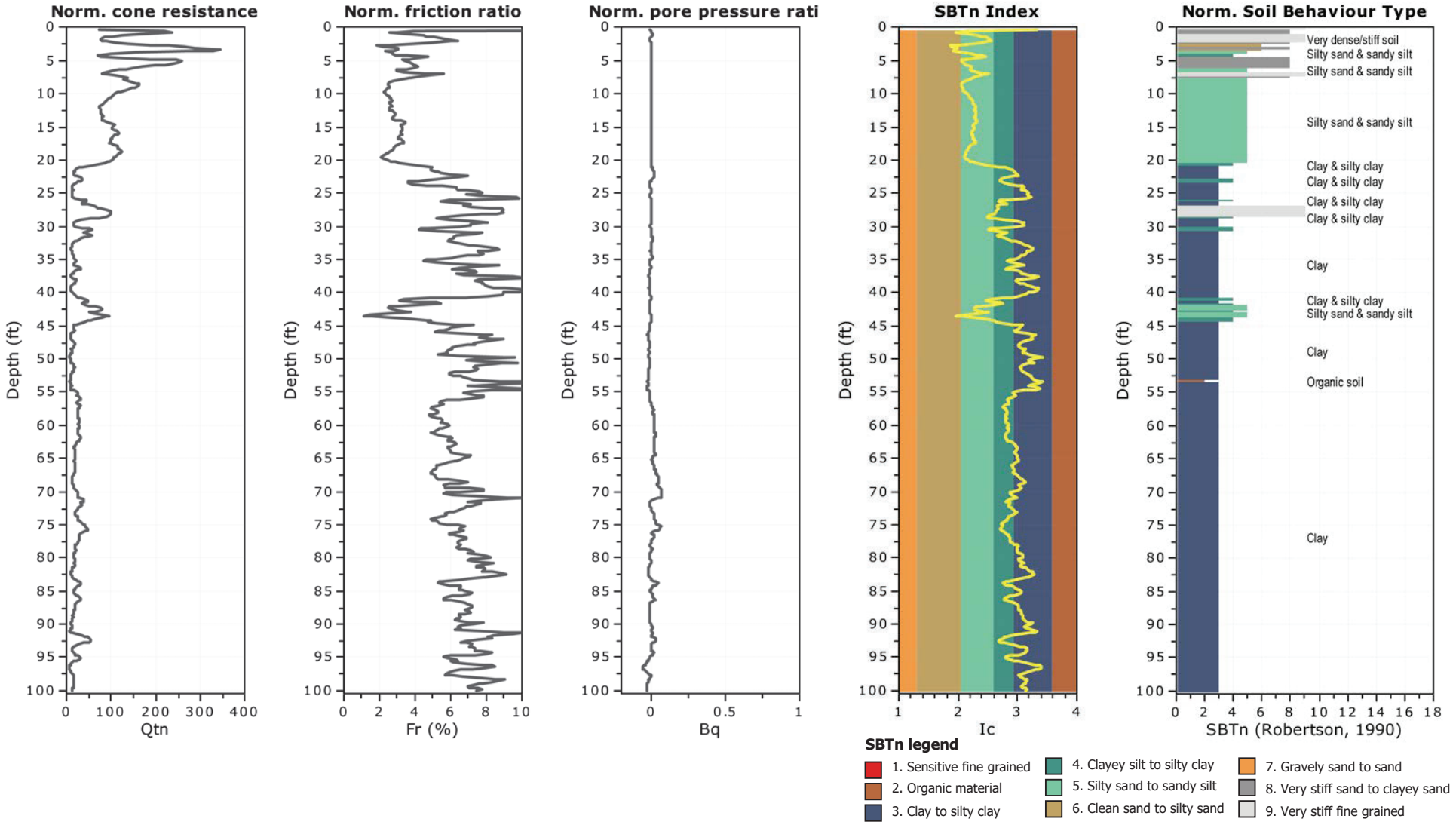


Fuzzy classifiaction legend
- Highly probable clayey soil
- Highly probable mixture soil
- Highly probable sandy soil

Wallace-Kuhl & Associates
3050 Industrial Blvd
West Sacramento, CA 95691
http://www.wallace-kuhl.com

CPT: CPT-01
Total depth: 100.07 ft, Date: 1/19/2022
Surface Elevation: 0.00 ft
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

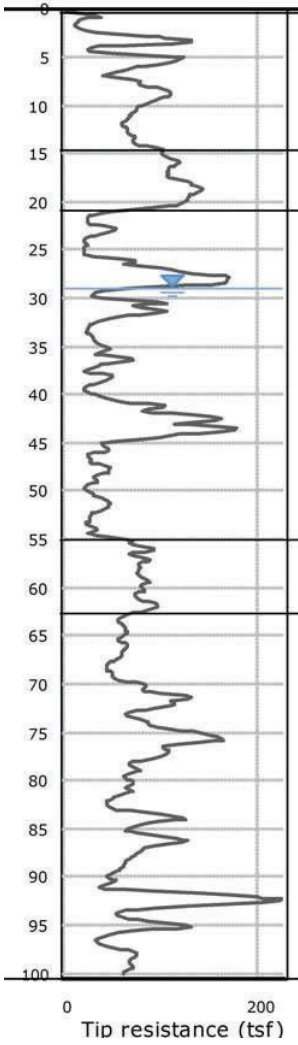
Project: **ST. JOSEPH'S MEDICAL CENTER - NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS**
Location: **Stockton, CA**

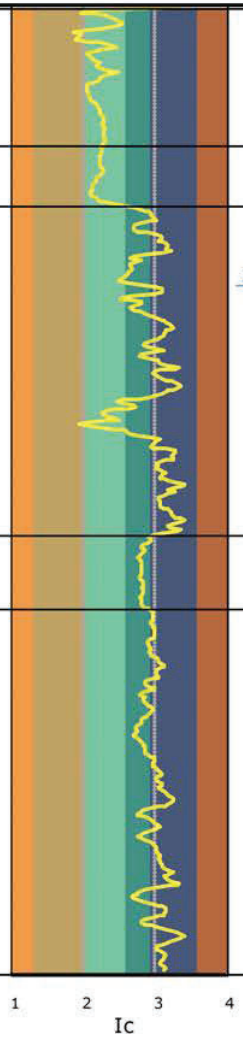


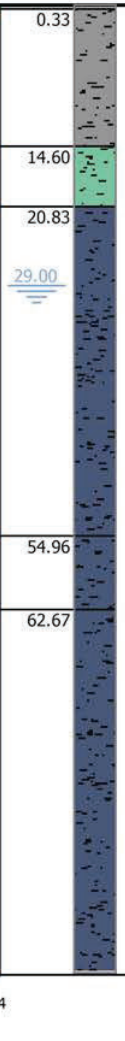
Wallace-Kuhl & Associates
3050 Industrial Blvd
West Sacramento, CA 95691
http://www.wallace-kuhl.com

CPT: CPT-01
Total depth: 100.07 ft, Date: 1/19/2022
Surface Elevation: 0.00 ft
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

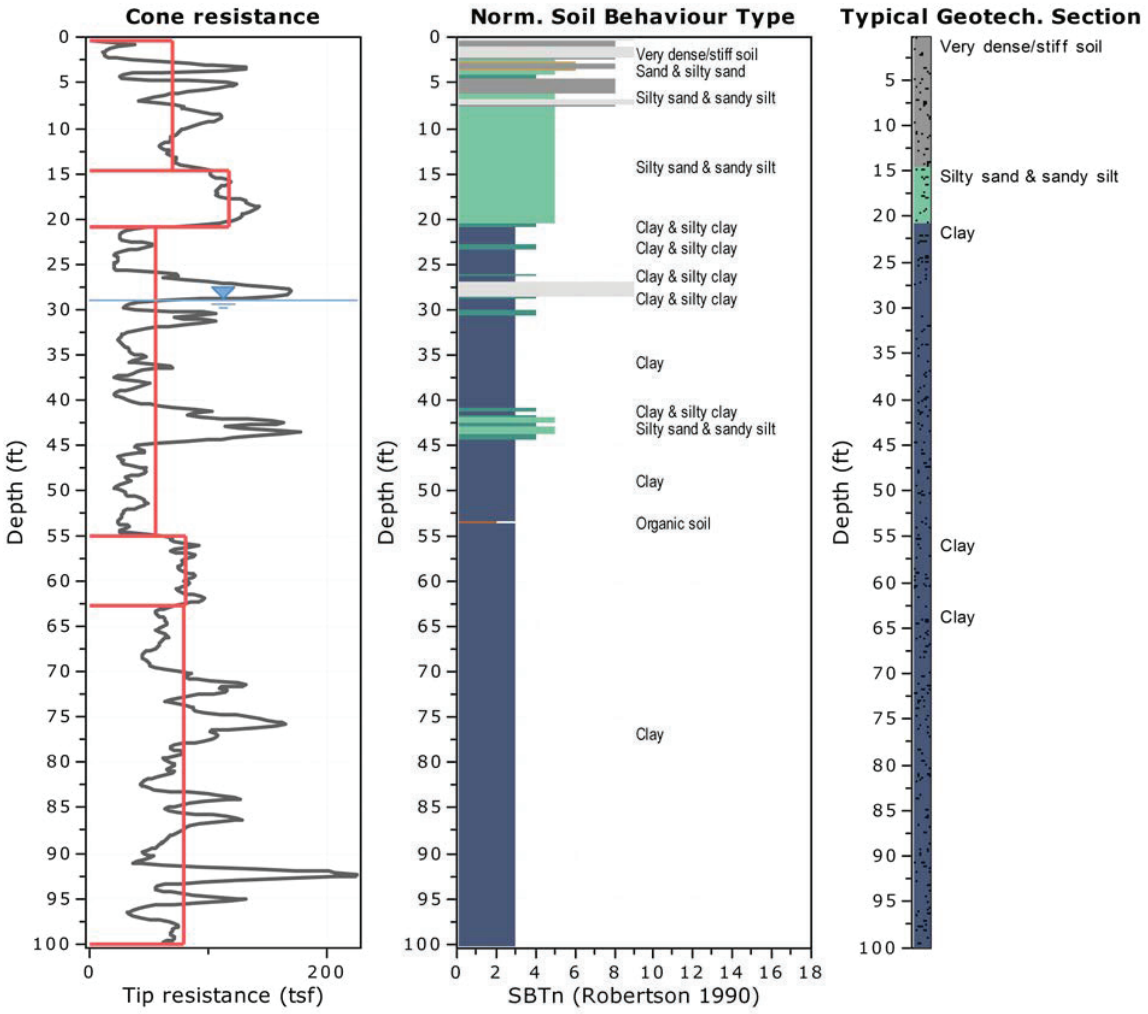
Project: **ST. JOSEPH'S MEDICAL CENTER - NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS**
Location: **Stockton, CA**







Depth (ft)	Description	qt (tsf)	Ksbt (ft/s)	N60	Es (tsf)	Dr	Phi (°)	M (tsf)	Go (tsf)	Su (tsf)	Su ratio	OCR	Gamma (pcf)
0.33	Very dense/stiff soil	69.4	9.47E-6	20.1	861.4	62.1	41.8	903.2	1044.3	-	-	-	124.9
14.60	Silty sand & sandy silt	116.7	5.77E-6	34.7	1383.6	55.5	40.8	1600.1	1902.2	-	-	-	130.8
20.83	Clay	55.4	4.70E-7	24.1	-	-	-	712.3	1844.1	3.5	1.8	8.2	126.7
54.96	Clay	80.3	7.38E-8	35.7	-	-	-	1072.5	2766.9	5.5	2.0	9.0	131.8
62.67	Clay	79.9	3.69E-8	38.3	-	-	-	1024.8	3159.0	5.3	1.5	6.9	131.7



Tabular results

.:: Layer No: 1 ::.

Code: Layer_1 **Start depth:** 0.33 (ft), **End depth:** 14.60 (ft)

Description: Very dense/stiff soil

Basic results	Estimation results	
Total cone resistance: 69.43 ±31.43 tsf	Permeability: 9.47E-06 ±1.20E-05 ft/s	Constrained Mod.: 903.20 ±377.35 tsf
Sleeve friction: 2.11 ±1.00 tsf	N_{60}: 20.09 ±8.12 blows	Go: 1044.27 ±414.46 tsf
Ic: 2.23 ±0.19	Es: 861.36 ±229.37 tsf	Su: 0.00 ±0.00 tsf
SBT_n: 8	Dr (%): 62.10 ±14.25	Su ratio: 0.00 ±0.00
SBTn description: Very dense/stiff soil	φ (degrees): 41.77 ±2.18 °	O.C.R.: 0.00 ±0.00
	Unit weight: 124.92 ±5.22 pcf	

.:: Layer No: 2 ::.

Code: Layer_2 **Start depth:** 14.60 (ft), **End depth:** 20.83 (ft)

Description: Silty sand & sandy silt

Basic results	Estimation results	
Total cone resistance: 116.68 ±15.23 tsf	Permeability: 5.77E-06 ±2.84E-06 ft/s	Constrained Mod.: 1600.14 ±195.35 tsf
Sleeve friction: 3.38 ±0.33 tsf	N_{60}: 34.69 ±3.04 blows	Go: 1902.22 ±114.62 tsf
Ic: 2.23 ±0.08	Es: 1383.60 ±75.15 tsf	Su: 0.00 ±0.00 tsf
SBT_n: 5	Dr (%): 55.46 ±2.25	Su ratio: 0.00 ±0.00
SBTn description: Silty sand & sandy silt	φ (degrees): 40.81 ±0.49 °	O.C.R.: 0.00 ±0.00
	Unit weight: 130.81 ±0.79 pcf	

.:: Layer No: 3 ::.

Code: Layer_3 **Start depth:** 20.83 (ft), **End depth:** 54.96 (ft)

Description: Clay

Basic results	Estimation results	
Total cone resistance: 55.35 ±40.16 tsf	Permeability: 4.70E-07 ±2.68E-06 ft/s	Constrained Mod.: 712.30 ±569.51 tsf
Sleeve friction: 3.16 ±2.42 tsf	N_{60}: 24.09 ±12.26 blows	Go: 1844.09 ±775.32 tsf
Ic: 2.95 ±0.28	Es: 0.00 ±0.00 tsf	Su: 3.46 ±2.48 tsf
SBT_n: 3	Dr (%): 0.00 ±0.00	Su ratio: 1.78 ±1.44
SBTn description: Clay	φ (degrees): 0.00 ±0.00 °	O.C.R.: 8.22 ±6.64
	Unit weight: 126.70 ±4.79 pcf	

.:: Layer No: 4 ::.

Code: Layer_4 **Start depth:** 54.96 (ft), **End depth:** 62.67 (ft)

Description: Clay

Basic results	Estimation results	
Total cone resistance: 80.34 ±7.89 tsf	Permeability: 7.38E-08 ±2.05E-08 ft/s	Constrained Mod.: 1072.54 ±109.58 tsf
Sleeve friction: 4.39 ±0.82 tsf	N_{60}: 35.73 ±2.92 blows	Go: 2766.90 ±245.27 tsf
Ic: 2.84 ±0.05	Es: 0.00 ±0.00 tsf	Su: 5.47 ±0.56 tsf
SBT_n: 3	Dr (%): 0.00 ±0.00	Su ratio: 1.95 ±0.19
SBTn description: Clay	φ (degrees): 0.00 ±0.00 °	O.C.R.: 9.02 ±0.86
	Unit weight: 131.76 ±1.30 pcf	

.:: Layer No: 5 ::.

Code: Layer_5 **Start depth:** 62.67 (ft), **End depth:** 100.07 (ft)

Description: Clay

Basic results	Estimation results	
Total cone resistance: 79.91 ±34.65 tsf	Permeability: 3.69E-08 ±3.79E-08 ft/s	Constrained Mod.: 1024.78 ±508.49 tsf
Sleeve friction: 5.04 ±2.62 tsf	N_{60}: 38.28 ±12.97 blows	Go: 3158.98 ±980.78 tsf
Ic: 3.00 ±0.15	Es: 0.00 ±0.00 tsf	Su: 5.34 ±2.47 tsf
SBT_n: 3	Dr (%): 0.00 ±0.00	Su ratio: 1.50 ±0.68
SBTn description: Clay	φ (degrees): 0.00 ±0.00 °	O.C.R.: 6.94 ±3.12
	Unit weight: 131.72 ±3.44 pcf	

Wallace-Kuhl & Associates
3050 Industrial Blvd
West Sacramento, CA 95691
http://www.wallace-kuhl.com

CPT: CPT-01
Total depth: 100.07 ft, Date: 1/19/2022
Surface Elevation: 0.00 ft
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project: **ST. JOSEPH'S MEDICAL CENTER - NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS**
Location: **Stockton, CA**

Summary table of mean values

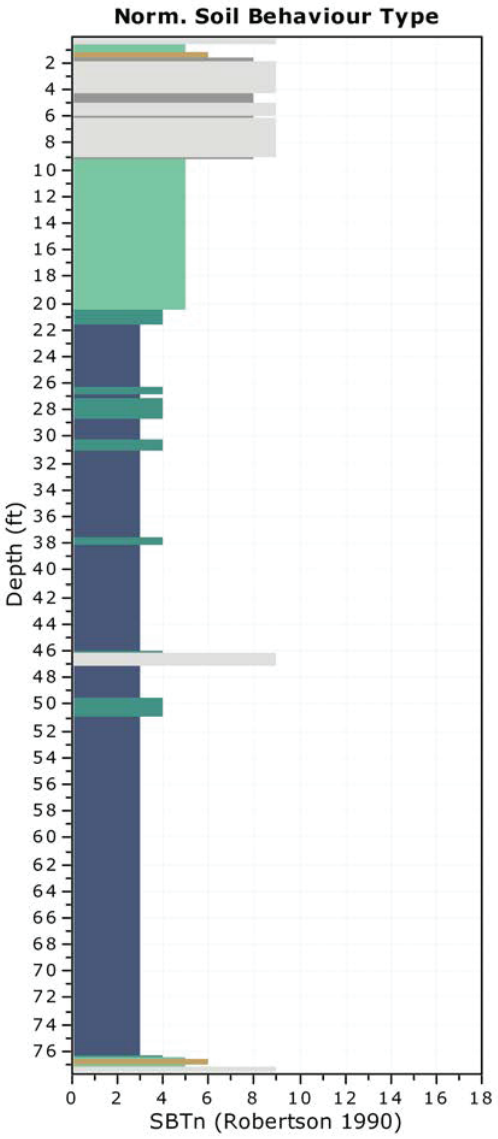
From depth To depth (ft)	Thickness (ft)	Permeability (ft/s)	SPT_{N60} (blows/ft)	E_s (tsf)	D_r (%)	Friction angle	Constrained modulus, M (tsf)	Shear modulus, G_O (tsf)	Undrained strength, S_U (tsf)	Undrained strength ratio	OCR	Unit weight (pcf)
0.33	14.27	9.47E-06	20.1	861.4	62.1	41.8	903.2	1044.3	0.0	0.0	0.0	124.9
14.60		(±1.20E-05)	(±8.1)	(±229.4)	(±14.2)	(±2.2)	(±377.3)	(±414.5)	(±0.0)	(±0.0)	(±0.0)	(±5.2)
14.60	6.23	5.77E-06	34.7	1383.6	55.5	40.8	1600.1	1902.2	0.0	0.0	0.0	130.8
20.83		(±2.84E-06)	(±3.0)	(±75.1)	(±2.3)	(±0.5)	(±195.3)	(±114.6)	(±0.0)	(±0.0)	(±0.0)	(±0.8)
20.83	34.13	4.70E-07	24.1	0.0	0.0	0.0	712.3	1844.1	3.5	1.8	8.2	126.7
54.96		(±2.68E-06)	(±12.3)	(±0.0)	(±0.0)	(±0.0)	(±569.5)	(±775.3)	(±2.5)	(±1.4)	(±6.6)	(±4.8)
54.96	7.71	7.38E-08	35.7	0.0	0.0	0.0	1072.5	2766.9	5.5	2.0	9.0	131.8
62.67		(±2.05E-08)	(±2.9)	(±0.0)	(±0.0)	(±0.0)	(±109.6)	(±245.3)	(±0.6)	(±0.2)	(±0.9)	(±1.3)
62.67	37.40	3.69E-08	38.3	0.0	0.0	0.0	1024.8	3159.0	5.3	1.5	6.9	131.7
100.07		(±3.79E-08)	(±13.0)	(±0.0)	(±0.0)	(±0.0)	(±508.5)	(±980.8)	(±2.5)	(±0.7)	(±3.1)	(±3.4)

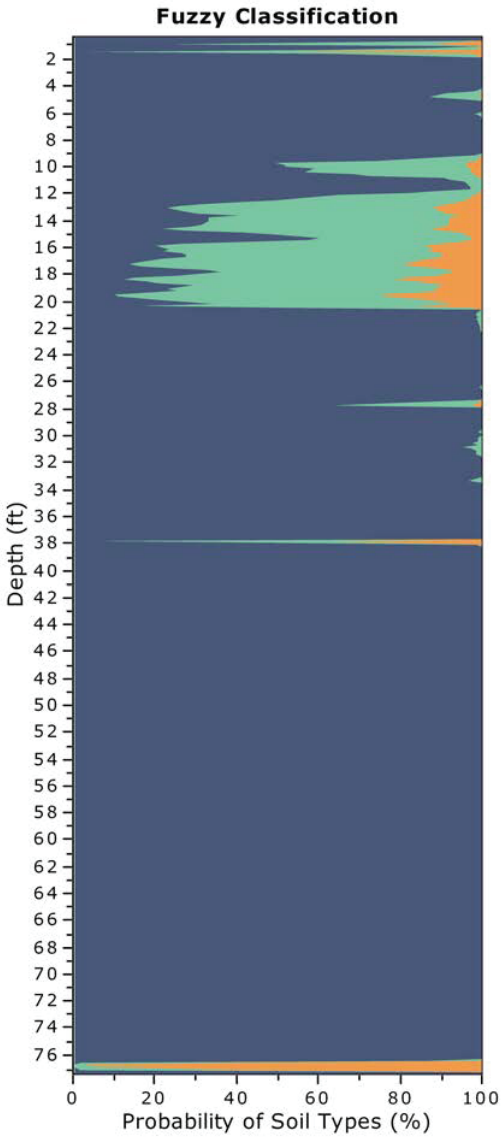
Depth values presented in this table are measured from free ground surface

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West Sacramento, CA 95691
http://www.wallace-kuhl.com

CPT: CPT-02
Total depth: 77.43 ft, Date: 1/19/2022
Surface Elevation: 0.00 ft
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project: **ST. JOSEPH'S MEDICAL CENTER - NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS**
Location: **Stockton, CA**



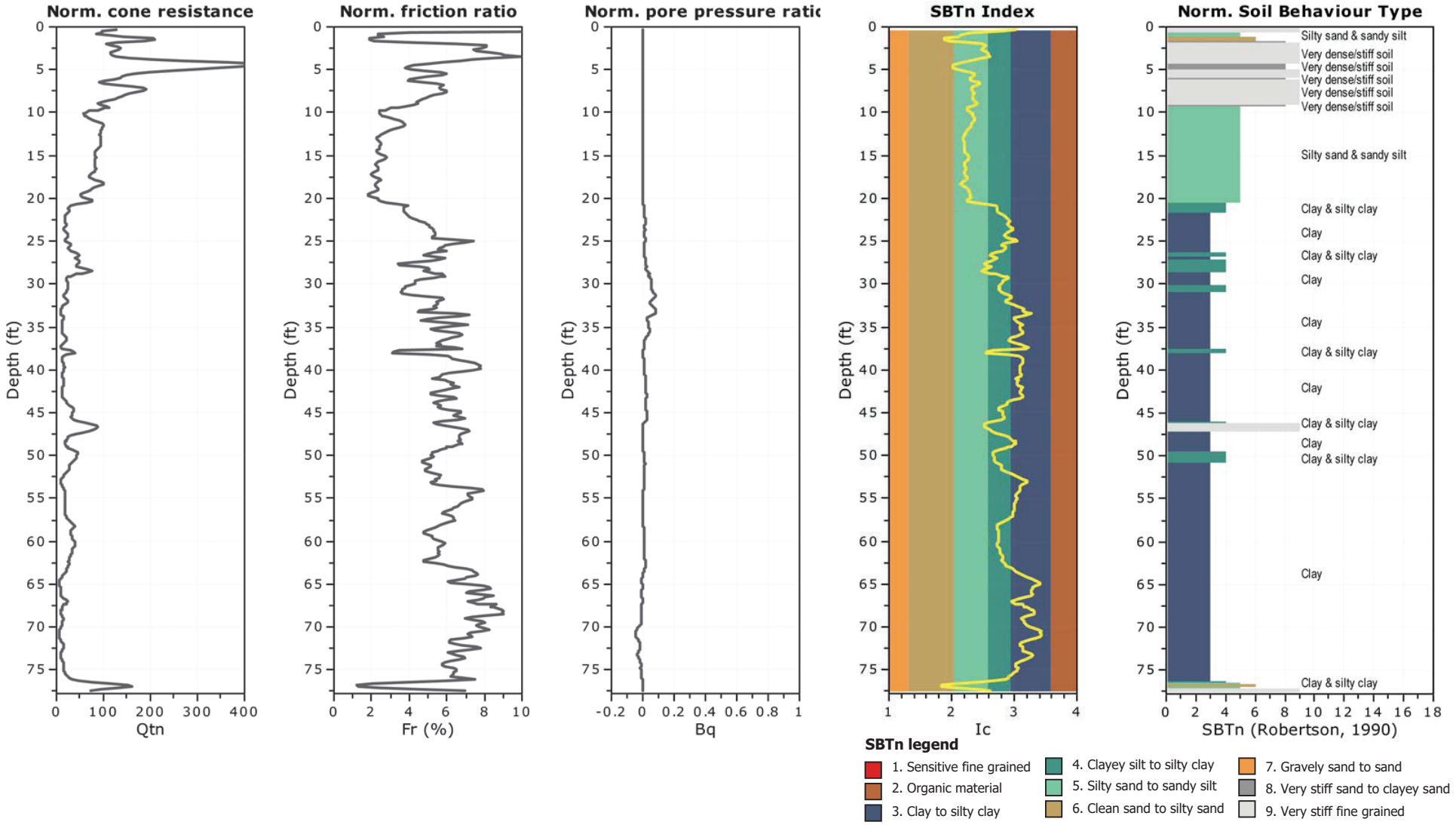


Fuzzy classifiaction legend
- Highly probable clayey soil
- Highly probable mixture soil
- Highly probable sandy soil

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http://www.wallace-kuhl.com

CPT: CPT-02
Total depth: 77.43 ft, Date: 1/19/2022
Surface Elevation: 0.00 ft
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

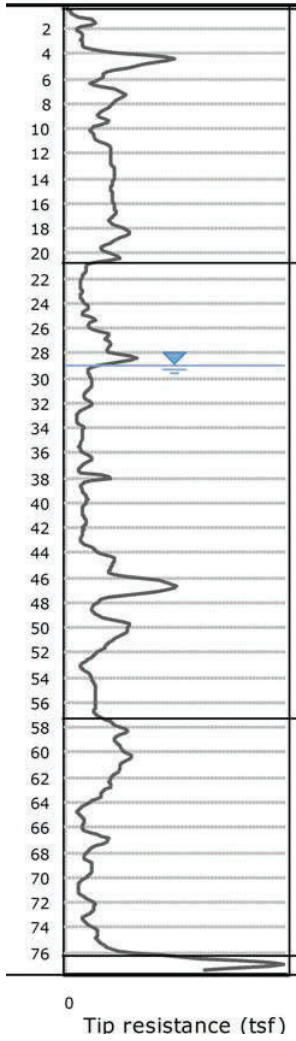
Project: **ST. JOSEPH'S MEDICAL CENTER - NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS**
Location: **Stockton, CA**



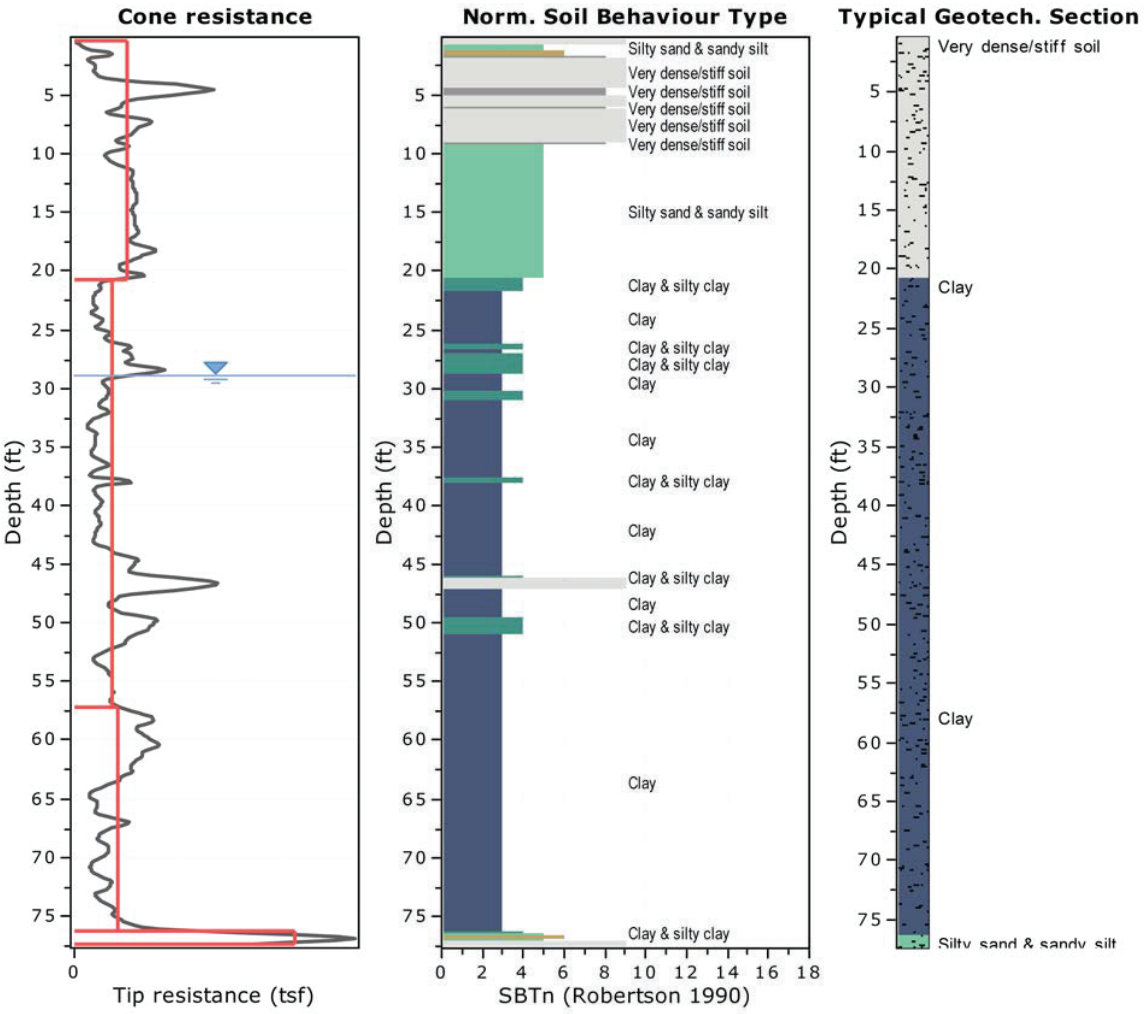
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West Sacramento, CA 95691
http://www.wallace-kuhl.com

CPT: CPT-02
Total depth: 77.43 ft, Date: 1/19/2022
Surface Elevation: 0.00 ft
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project: **ST. JOSEPH'S MEDICAL CENTER - NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS**
Location: **Stockton, CA**



Depth (ft)	Description	qt (tsf)	Ksbt (ft/s)	N60	Es (tsf)	Dr	Phi (°)	M (tsf)	Go (tsf)	Su (tsf)	Su ratio	OCR	Gamma (pcf)
0.33	Very dense/stiff soil	73.7	5.23E-6	22.5	-	-	-	1006.0	1239.8	4.5	10.7	49.3	126.3
20.67	Clay	53.6	9.68E-8	23.8	-	-	-	704.9	1818.0	3.7	1.8	8.2	126.2
29.00													
57.25	Clay	60.4	4.18E-8	29.2	-	-	-	737.2	2373.4	4.0	1.3	6.2	128.6
76.28	Silty sand & sandy silt	306.5	2.67E-5	87.3	3056.1	63.0	40.8	3582.4	4905.3	-	-	-	137.0



Tabular results

.:: Layer No: 1 ::.

Code: Layer_1 **Start depth:** 0.33 (ft), **End depth:** 20.67 (ft)

Description: Very dense/stiff soil

Basic results	Estimation results	
Total cone resistance: 73.68 ±32.29 tsf	Permeability: 5.23E-06 ±7.72E-06 ft/s	Constrained Mod.: 1006.03 ±419.42 tsf
Sleeve friction: 2.62 ±1.68 tsf	N_{60}: 22.50 ±8.77 blows	Go: 1239.77 ±476.41 tsf
Ic: 2.29 ±0.15	Es: 0.00 ±0.00 tsf	Su: 4.48 ±2.62 tsf
SBT_n: 9	Dr (%): 0.00 ±0.00	Su ratio: 10.67 ±4.96
SBTn description: Very dense/stiff soil	φ (degrees): 0.00 ±0.00 °	O.C.R.: 49.31 ±22.93
	Unit weight: 126.25 ±5.61 pcf	

.:: Layer No: 2 ::.

Code: Layer_2 **Start depth:** 20.67 (ft), **End depth:** 57.25 (ft)

Description: Clay

Basic results	Estimation results	
Total cone resistance: 53.64 ±32.72 tsf	Permeability: 9.68E-08 ±1.45E-07 ft/s	Constrained Mod.: 704.92 ±466.24 tsf
Sleeve friction: 2.91 ±2.07 tsf	N_{60}: 23.83 ±11.57 blows	Go: 1817.95 ±814.73 tsf
Ic: 2.91 ±0.18	Es: 0.00 ±0.00 tsf	Su: 3.66 ±2.32 tsf
SBT_n: 3	Dr (%): 0.00 ±0.00	Su ratio: 1.77 ±1.08
SBTn description: Clay	φ (degrees): 0.00 ±0.00 °	O.C.R.: 8.16 ±4.98
	Unit weight: 126.18 ±5.01 pcf	

.:: Layer No: 3 ::.

Code: Layer_3 **Start depth:** 57.25 (ft), **End depth:** 76.28 (ft)

Description: Clay

Basic results	Estimation results	
Total cone resistance: 60.42 ±29.64 tsf	Permeability: 4.18E-08 ±5.23E-08 ft/s	Constrained Mod.: 737.22 ±467.79 tsf
Sleeve friction: 3.58 ±1.68 tsf	N_{60}: 29.21 ±10.45 blows	Go: 2373.42 ±733.72 tsf
Ic: 3.05 ±0.22	Es: 0.00 ±0.00 tsf	Su: 4.01 ±2.13 tsf
SBT_n: 3	Dr (%): 0.00 ±0.00	Su ratio: 1.34 ±0.75
SBTn description: Clay	φ (degrees): 0.00 ±0.00 °	O.C.R.: 6.20 ±3.48
	Unit weight: 128.61 ±4.56 pcf	

.:: Layer No: 4 ::.

Code: Layer_4 **Start depth:** 76.28 (ft), **End depth:** 77.43 (ft)

Description: Silty sand & sandy silt

Basic results	Estimation results	
Total cone resistance: 306.54 ±78.12 tsf	Permeability: 2.67E-05 ±3.60E-05 ft/s	Constrained Mod.: 3582.38 ±722.66 tsf
Sleeve friction: 8.16 ±4.25 tsf	N_{60}: 87.29 ±10.97 blows	Go: 4905.30 ±892.81 tsf
Ic: 2.19 ±0.32	Es: 3056.14 ±452.57 tsf	Su: 0.00 ±0.00 tsf
SBT_n: 5	Dr (%): 62.98 ±4.55	Su ratio: 0.00 ±0.00
SBTn description: Silty sand & sandy silt	φ (degrees): 40.81 ±0.53 °	O.C.R.: 0.00 ±0.00
	Unit weight: 136.99 ±0.72 pcf	

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CPT: CPT-02
Total depth: 77.43 ft, Date: 1/19/2022
Surface Elevation: 0.00 ft
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project: **ST. JOSEPH'S MEDICAL CENTER - NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS**
Location: **Stockton, CA**

Summary table of mean values

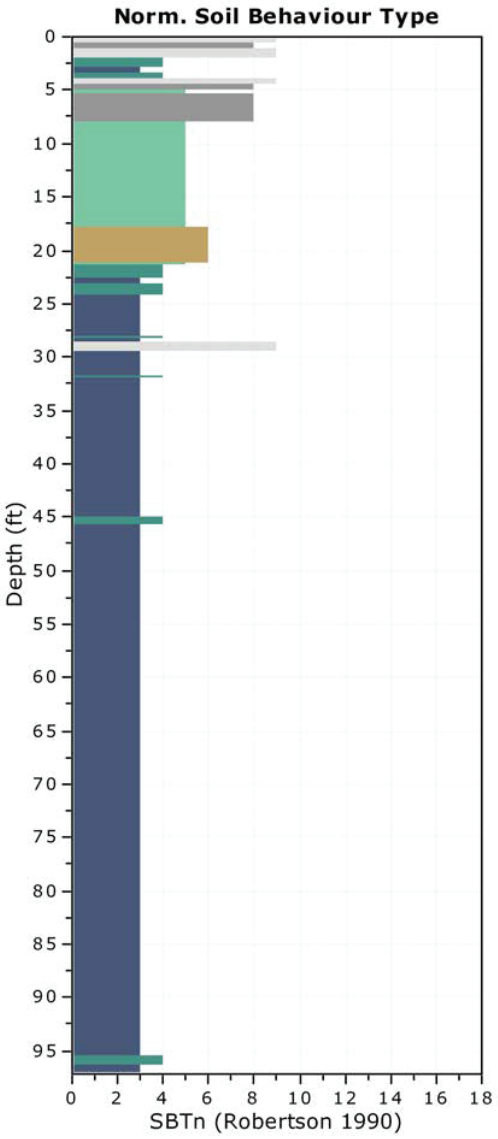
From depth To depth (ft)	Thickness (ft)	Permeability (ft/s)	SPT_{N60} (blows/ft)	E_s (tsf)	D_r (%)	Friction angle	Constrained modulus, M (tsf)	Shear modulus, G_O (tsf)	Undrained strength, S_U (tsf)	Undrained strength ratio	OCR	Unit weight (pcf)
0.33 20.67	20.34	5.23E-06 (±7.72E-06)	22.5 (±8.8)	0.0 (±0.0)	0.0 (±0.0)	0.0 (±0.0)	1006.0 (±419.4)	1239.8 (±476.4)	4.5 (±2.6)	10.7 (±5.0)	49.3 (±22.9)	126.3 (±5.6)
20.67 57.25	36.58	9.68E-08 (±1.45E-07)	23.8 (±11.6)	0.0 (±0.0)	0.0 (±0.0)	0.0 (±0.0)	704.9 (±466.2)	1818.0 (±814.7)	3.7 (±2.3)	1.8 (±1.1)	8.2 (±5.0)	126.2 (±5.0)
57.25 76.28	19.03	4.18E-08 (±5.23E-08)	29.2 (±10.5)	0.0 (±0.0)	0.0 (±0.0)	0.0 (±0.0)	737.2 (±467.8)	2373.4 (±733.7)	4.0 (±2.1)	1.3 (±0.8)	6.2 (±3.5)	128.6 (±4.6)
76.28 77.43	1.15	2.67E-05 (±3.60E-05)	87.3 (±11.0)	3056.1 (±452.6)	63.0 (±4.6)	40.8 (±0.5)	3582.4 (±722.7)	4905.3 (±892.8)	0.0 (±0.0)	0.0 (±0.0)	0.0 (±0.0)	137.0 (±0.7)

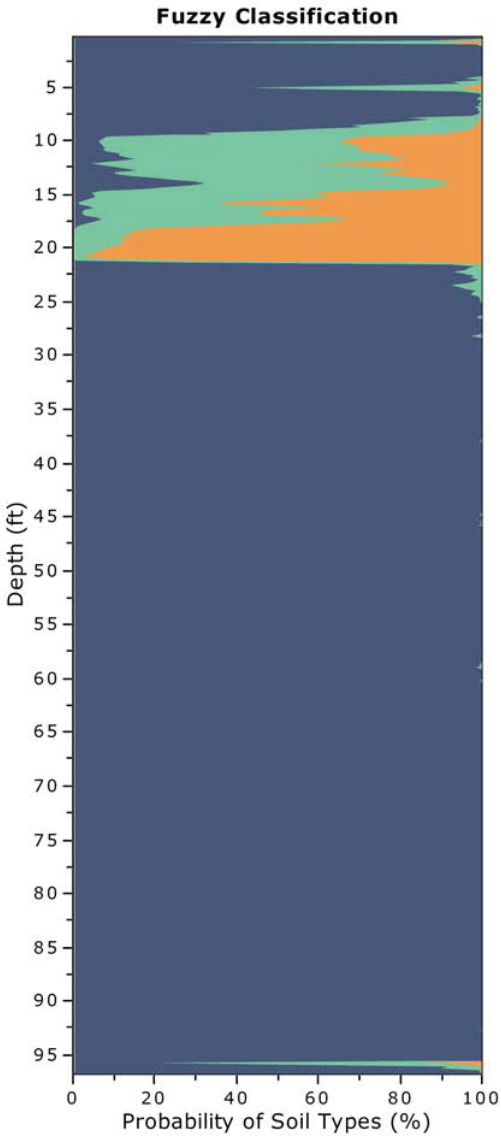
Depth values presented in this table are measured from free ground surface

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CPT: CPT-03
Total depth: 96.79 ft, Date: 1/19/2022
Surface Elevation: 0.00 ft
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project: **ST. JOSEPH'S MEDICAL CENTER - NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS**
Location: **Stockton, CA**



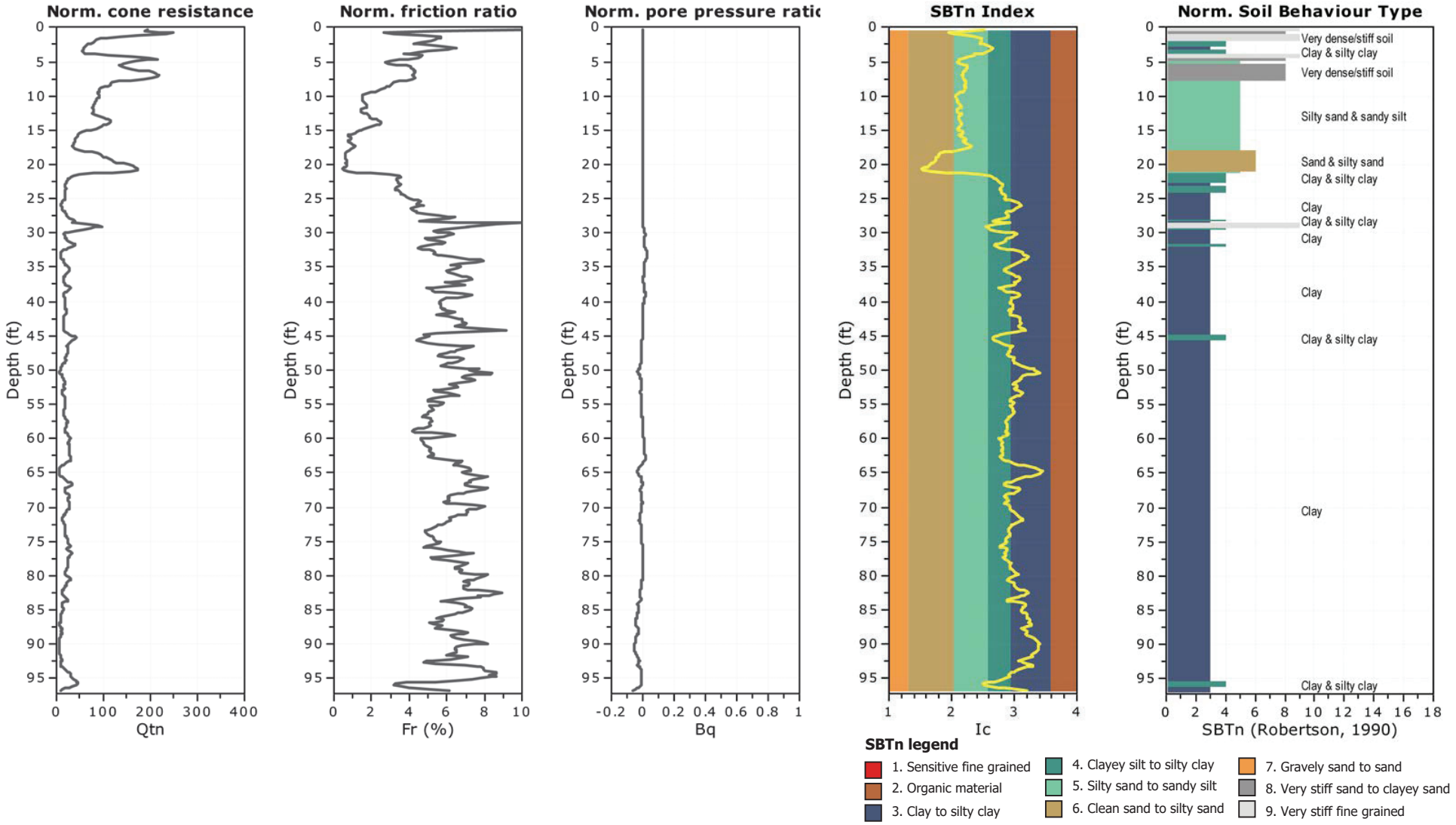


Fuzzy classifiaction legend
- Highly probable clayey soil
- Highly probable mixture soil
- Highly probable sandy soil

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CPT: CPT-03
Total depth: 96.79 ft, Date: 1/19/2022
Surface Elevation: 0.00 ft
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

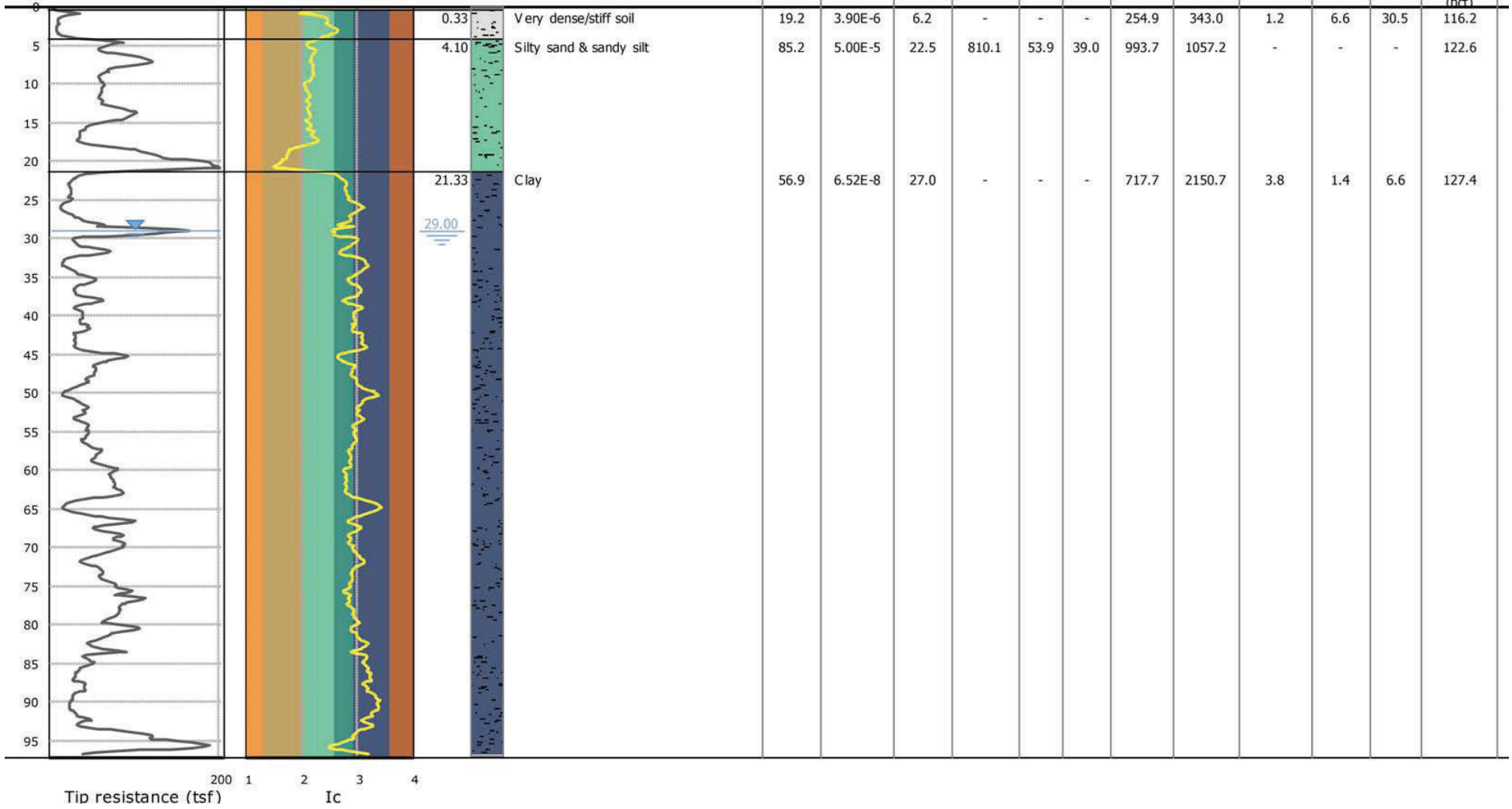
Project: **ST. JOSEPH'S MEDICAL CENTER - NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS**
Location: **Stockton, CA**



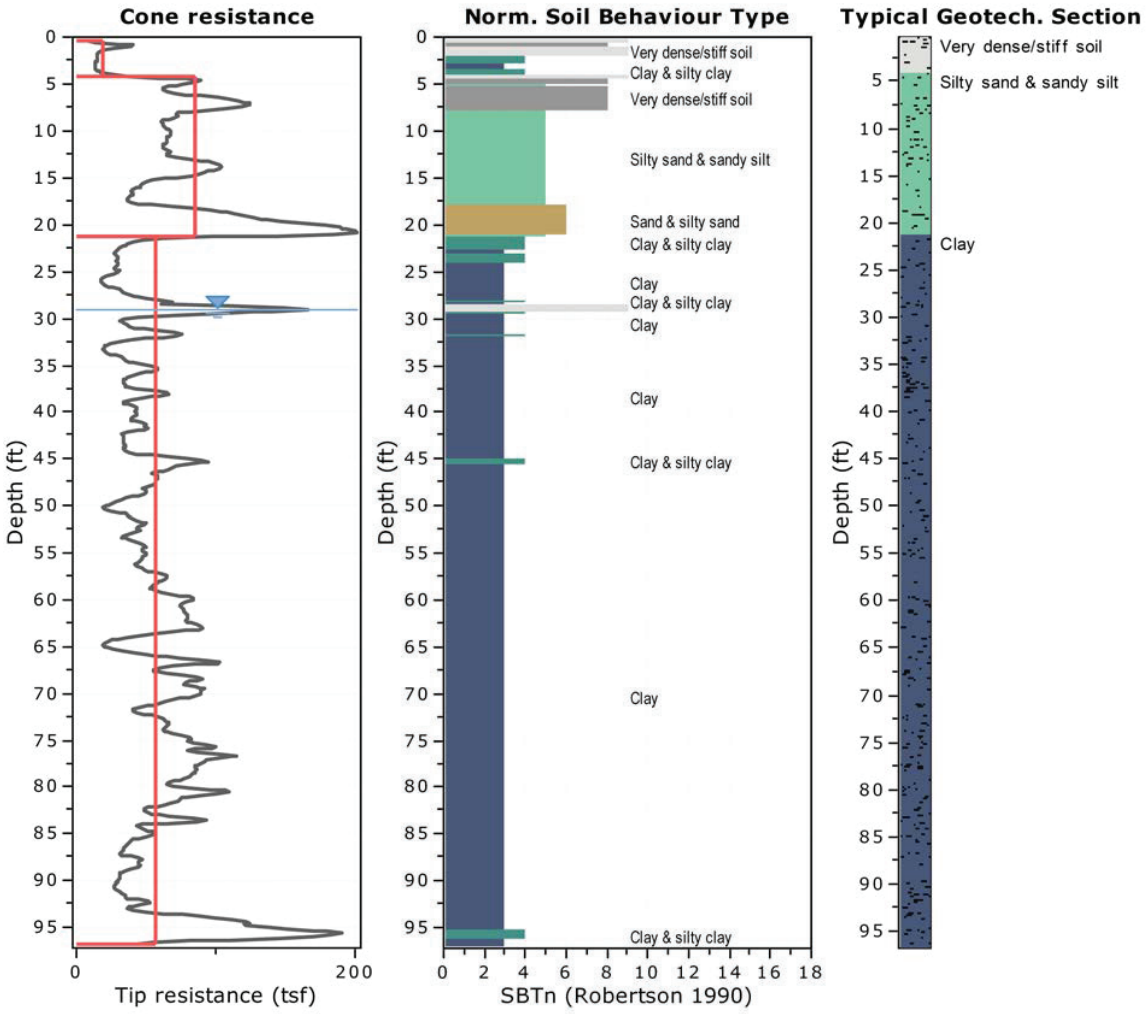
Wallace-Kuhl & Associates
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West Sacramento, CA 95691
http://www.wallace-kuhl.com

CPT: CPT-03
Total depth: 96.79 ft, Date: 1/19/2022
Surface Elevation: 0.00 ft
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project: **ST. JOSEPH'S MEDICAL CENTER - NORTH TOWER ADDITION AND SUPPORTIVE BUILDINGS**
Location: **Stockton, CA**



Depth (ft)	Description	qt (tsf)	Ksbt (ft/s)	N60	Es (tsf)	Dr	Phi (°)	M (tsf)	Go (tsf)	Su (tsf)	Su ratio	OCR	Gamma (pcf)
0.33	Very dense/stiff soil	19.2	3.90E-6	6.2	-	-	-	254.9	343.0	1.2	6.6	30.5	116.2
4.10	Silty sand & sandy silt	85.2	5.00E-5	22.5	810.1	53.9	39.0	993.7	1057.2	-	-	-	122.6
21.33	Clay	56.9	6.52E-8	27.0	-	-	-	717.7	2150.7	3.8	1.4	6.6	127.4



Tabular results

.:: Layer No: 1 ::.

Code: Layer_1 **Start depth:** 0.33 (ft), **End depth:** 4.10 (ft)

Description: Very dense/stiff soil

Basic results	Estimation results	
Total cone resistance: 19.15 ±8.97 tsf	Permeability: 3.90E-06 ±7.89E-06 ft/s	Constrained Mod.: 254.85 ±103.91 tsf
Sleeve friction: 0.86 ±0.24 tsf	N_{60}: 6.17 ±2.18 blows	Go: 342.99 ±101.95 tsf
Ic: 2.43 ±0.19	Es: 0.00 ±0.00 tsf	Su: 1.18 ±0.45 tsf
SBT_n: 9	Dr (%): 0.00 ±0.00	Su ratio: 6.60 ±3.18
SBTn description: Very dense/stiff soil	φ (degrees): 0.00 ±0.00 °	O.C.R.: 30.49 ±14.69
	Unit weight: 116.15 ±2.56 pcf	

.:: Layer No: 2 ::.

Code: Layer_2 **Start depth:** 4.10 (ft), **End depth:** 21.33 (ft)

Description: Silty sand & sandy silt

Basic results	Estimation results	
Total cone resistance: 85.20 ±39.00 tsf	Permeability: 5.00E-05 ±1.20E-04 ft/s	Constrained Mod.: 993.69 ±301.70 tsf
Sleeve friction: 1.65 ±1.28 tsf	N_{60}: 22.51 ±7.56 blows	Go: 1057.20 ±354.42 tsf
Ic: 2.08 ±0.19	Es: 810.14 ±236.82 tsf	Su: 0.00 ±0.00 tsf
SBT_n: 5	Dr (%): 53.86 ±12.72	Su ratio: 0.00 ±0.00
SBTn description: Silty sand & sandy silt	φ (degrees): 39.05 ±3.20 °	O.C.R.: 0.00 ±0.00
	Unit weight: 122.65 ±6.08 pcf	

.:: Layer No: 3 ::.

Code: Layer_3 **Start depth:** 21.33 (ft), **End depth:** 96.79 (ft)

Description: Clay

Basic results	Estimation results	
Total cone resistance: 56.89 ±28.33 tsf	Permeability: 6.52E-08 ±3.10E-07 ft/s	Constrained Mod.: 717.71 ±417.00 tsf
Sleeve friction: 3.24 ±1.95 tsf	N_{60}: 26.98 ±11.16 blows	Go: 2150.70 ±889.76 tsf
Ic: 2.98 ±0.18	Es: 0.00 ±0.00 tsf	Su: 3.80 ±1.99 tsf
SBT_n: 3	Dr (%): 0.00 ±0.00	Su ratio: 1.44 ±0.74
SBTn description: Clay	φ (degrees): 0.00 ±0.00 °	O.C.R.: 6.64 ±3.44
	Unit weight: 127.39 ±4.96 pcf	

Summary table of mean values

From depth To depth (ft)	Thickness (ft)	Permeability (ft/s)	SPT_{N60} (blows/ft)	E_s (tsf)	D_r (%)	Friction angle	Constrained modulus, M (tsf)	Shear modulus, G_O (tsf)	Undrained strength, S_U (tsf)	Undrained strength ratio	OCR	Unit weight (pcf)
0.33	3.77	3.90E-06	6.2	0.0	0.0	0.0	254.9	343.0	1.2	6.6	30.5	116.2
4.10		(±7.89E-06)	(±2.2)	(±0.0)	(±0.0)	(±0.0)	(±103.9)	(±101.9)	(±0.4)	(±3.2)	(±14.7)	(±2.6)
4.10	17.23	5.00E-05	22.5	810.1	53.9	39.0	993.7	1057.2	0.0	0.0	0.0	122.6
21.33		(±1.20E-04)	(±7.6)	(±236.8)	(±12.7)	(±3.2)	(±301.7)	(±354.4)	(±0.0)	(±0.0)	(±0.0)	(±6.1)
21.33	75.46	6.52E-08	27.0	0.0	0.0	0.0	717.7	2150.7	3.8	1.4	6.6	127.4
96.79		(±3.10E-07)	(±11.2)	(±0.0)	(±0.0)	(±0.0)	(±417.0)	(±889.8)	(±2.0)	(±0.7)	(±3.4)	(±5.0)

Depth values presented in this table are measured from free ground surface

APPENDIX C
Environmental Laboratory Test Results

Wallace-Kuhl & Associates
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West Sacramento, CA 95691
http://www.wallace-kuhl.com

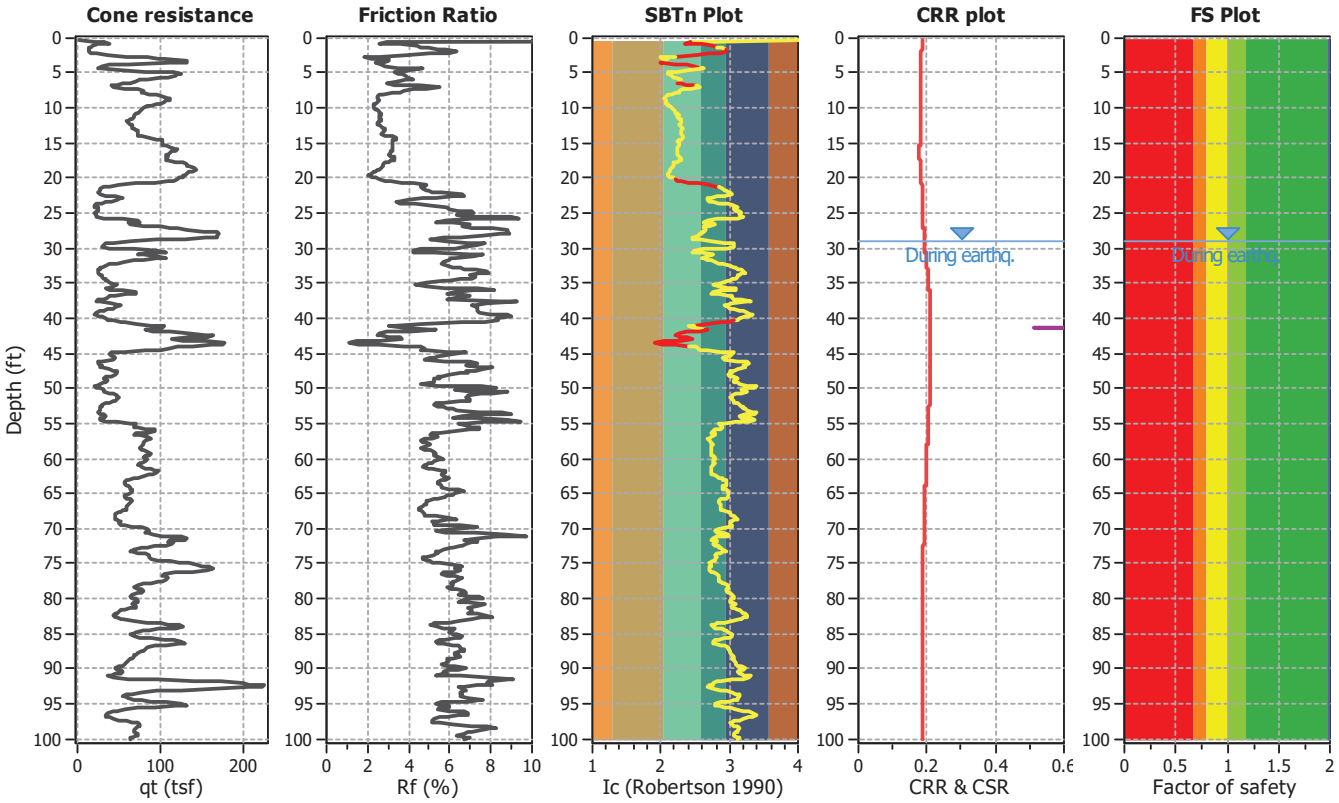
LIQUEFACTION ANALYSIS REPORT

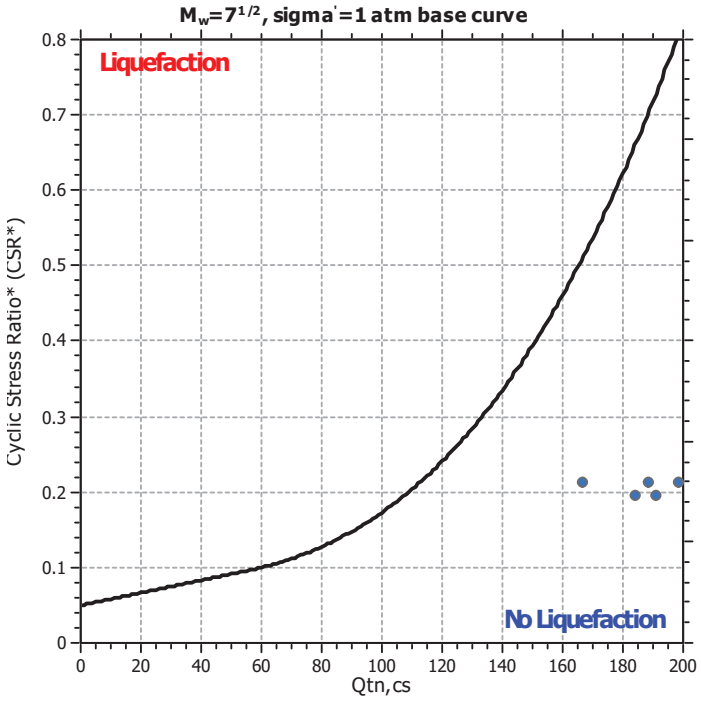
Project title : ST. JOSEPH'S MEDICAL CENTER **Location : Stockton, CA**

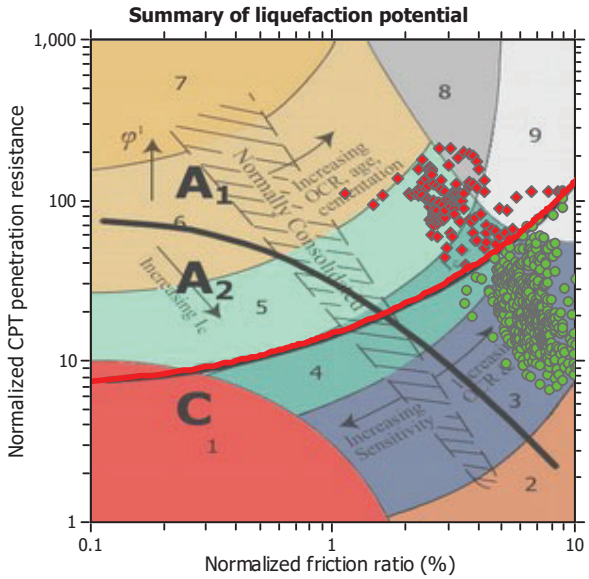
CPT file : CPT-01

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	23.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	29.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	6.50	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.41	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

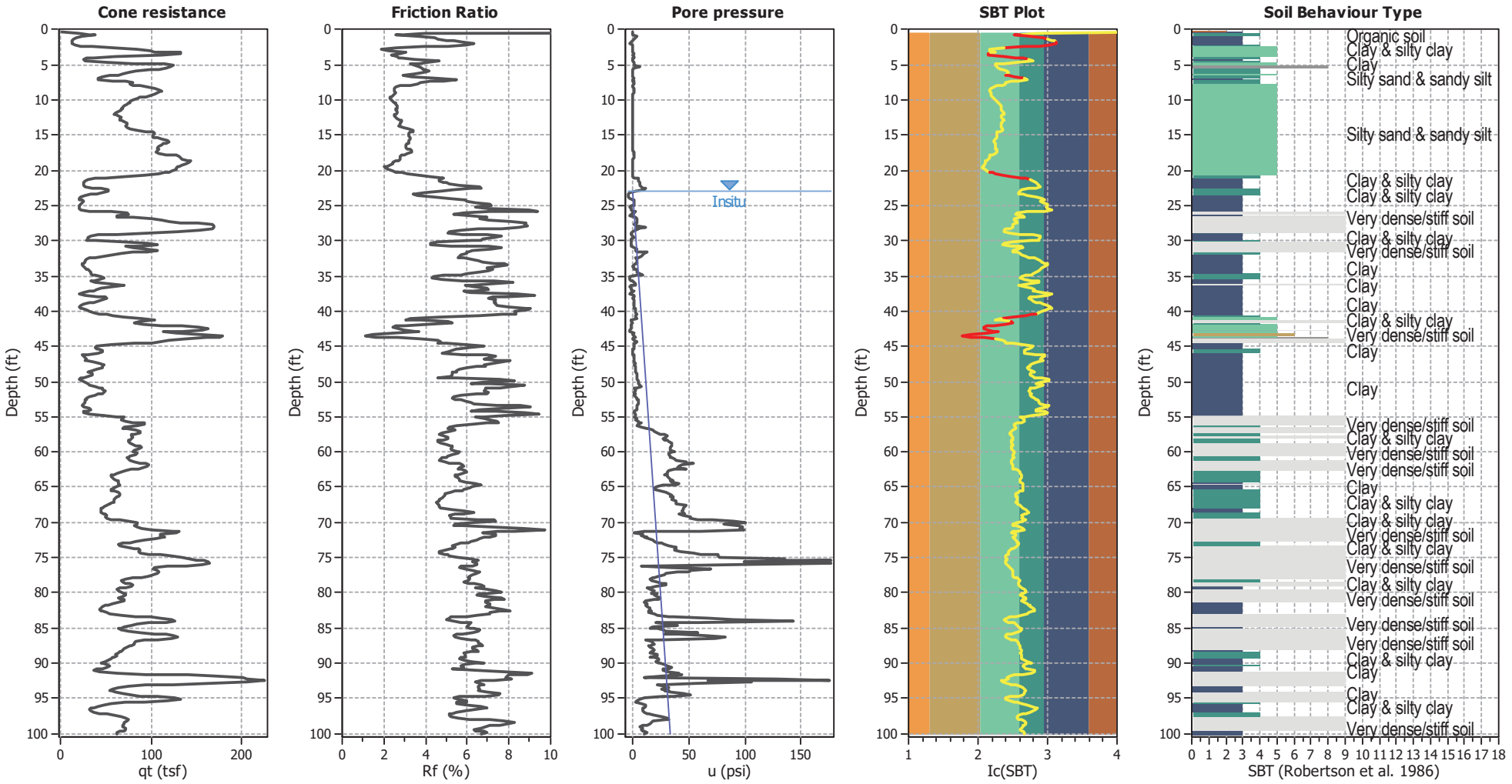






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



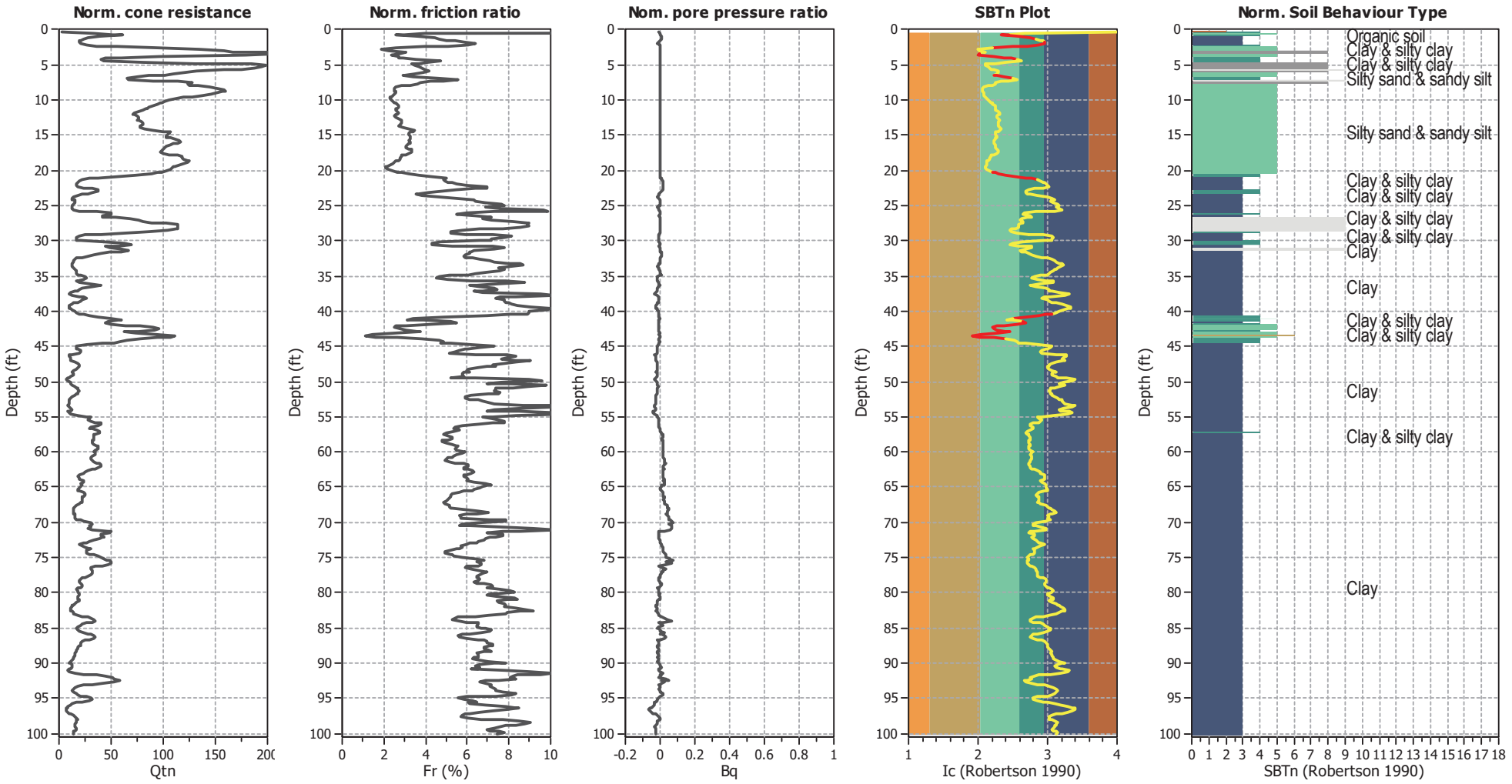
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

CPT basic interpretation plots (normalized)



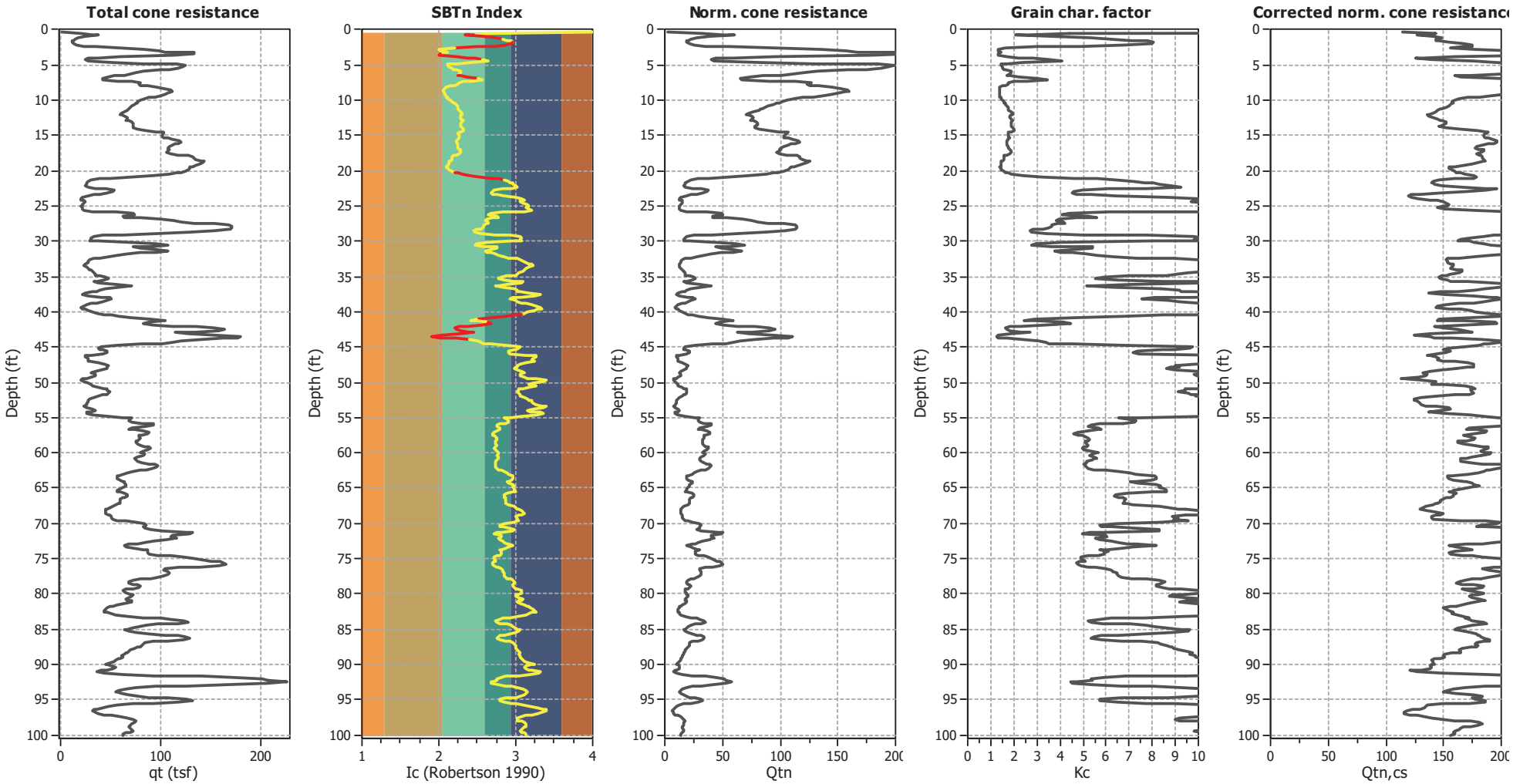
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

SBTn legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

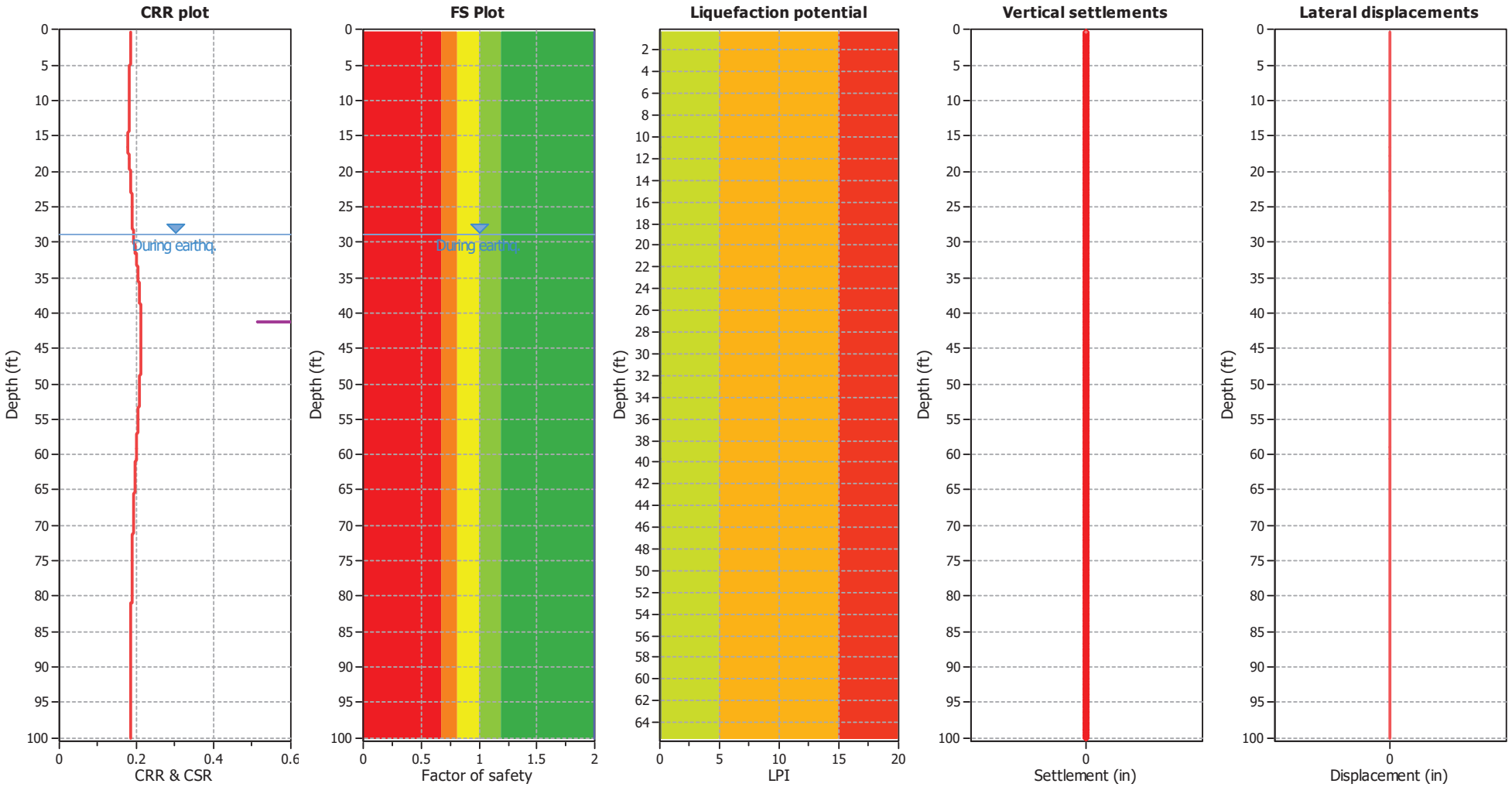
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

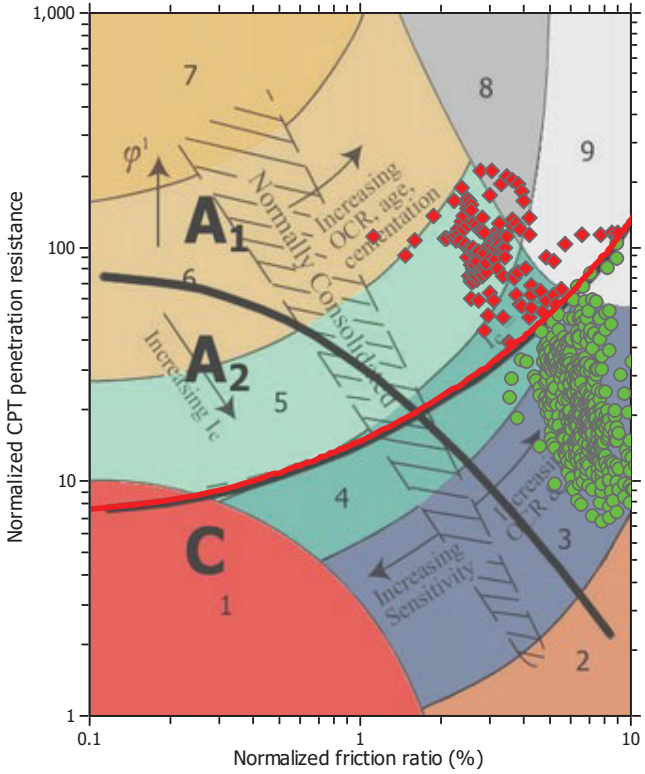
F.S. color scheme

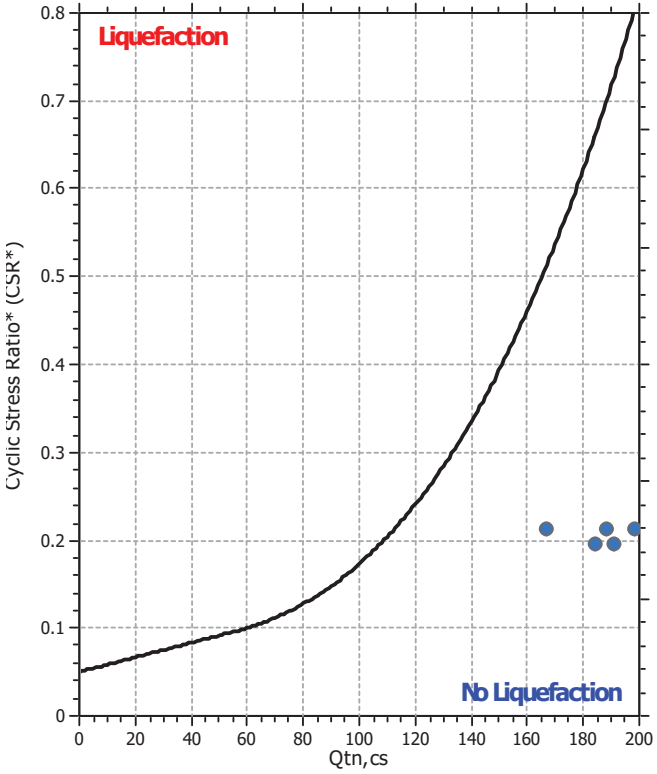
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

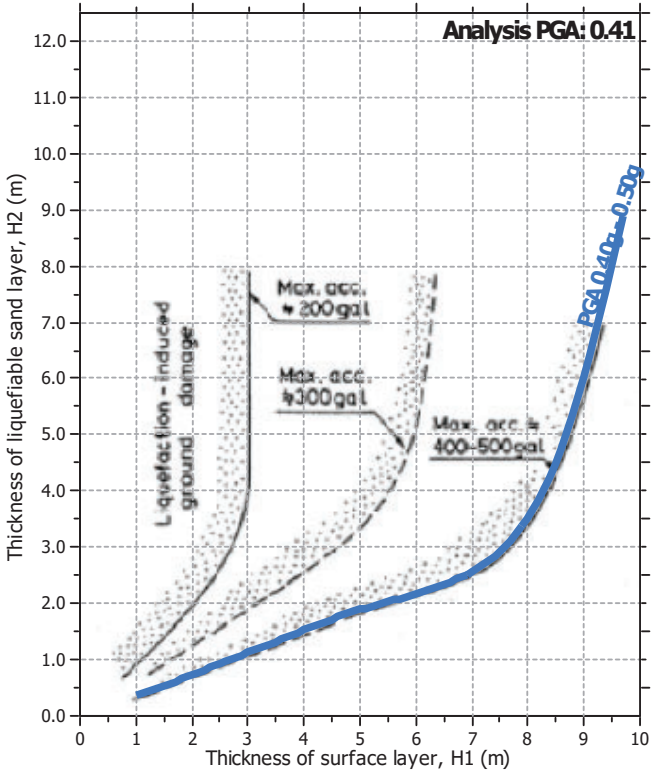
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



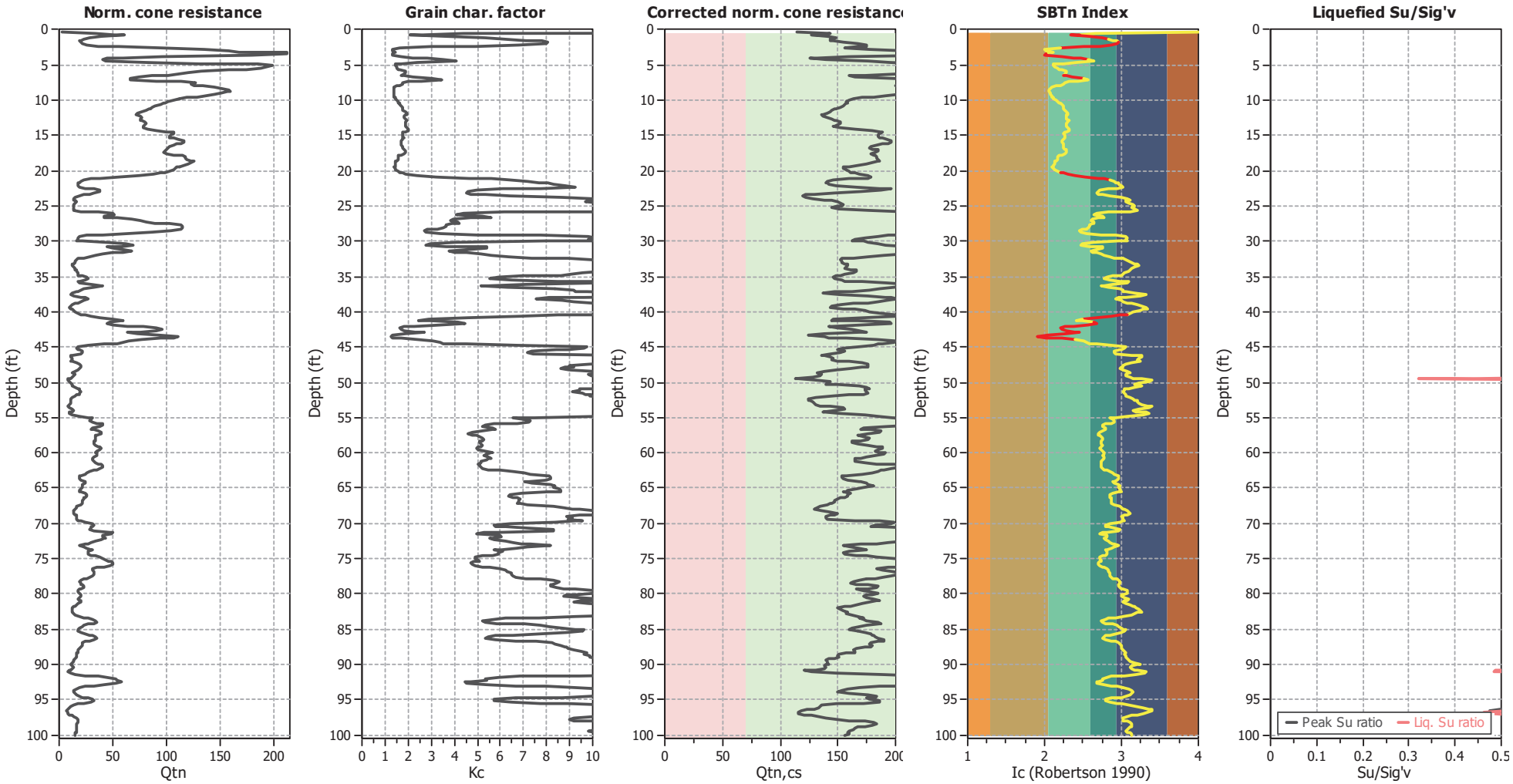




Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

Check for strength loss plots (Robertson (2010))



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
0.33	2.00	0.00	0.00	0.16	0.00	0.49	2.00	0.00	0.00	0.16	0.00
0.66	2.00	0.00	0.00	0.17	0.00	0.82	2.00	0.00	0.00	0.16	0.00
0.98	2.00	0.00	0.00	0.16	0.00	1.15	2.00	0.00	0.00	0.17	0.00
1.31	2.00	0.00	0.00	0.16	0.00	1.48	2.00	0.00	0.00	0.17	0.00
1.64	2.00	0.00	0.00	0.16	0.00	1.80	2.00	0.00	0.00	0.16	0.00
1.97	2.00	0.00	0.00	0.17	0.00	2.13	2.00	0.00	0.00	0.16	0.00
2.30	2.00	0.00	0.00	0.17	0.00	2.46	2.00	0.00	0.00	0.16	0.00
2.62	2.00	0.00	0.00	0.16	0.00	2.79	2.00	0.00	0.00	0.17	0.00
2.95	2.00	0.00	0.00	0.16	0.00	3.12	2.00	0.00	0.00	0.17	0.00
3.28	2.00	0.00	0.00	0.16	0.00	3.45	2.00	0.00	0.00	0.17	0.00
3.61	2.00	0.00	0.00	0.16	0.00	3.77	2.00	0.00	0.00	0.16	0.00
3.94	2.00	0.00	0.00	0.17	0.00	4.10	2.00	0.00	0.00	0.16	0.00
4.27	2.00	0.00	0.00	0.17	0.00	4.43	2.00	0.00	0.00	0.16	0.00
4.59	2.00	0.00	0.00	0.16	0.00	4.76	2.00	0.00	0.00	0.17	0.00
4.92	2.00	0.00	0.00	0.16	0.00	5.09	2.00	0.00	0.00	0.17	0.00
5.25	2.00	0.00	0.00	0.16	0.00	5.41	2.00	0.00	0.00	0.16	0.00
5.58	2.00	0.00	0.00	0.17	0.00	5.74	2.00	0.00	0.00	0.16	0.00
5.91	2.00	0.00	0.00	0.17	0.00	6.07	2.00	0.00	0.00	0.16	0.00
6.23	2.00	0.00	0.00	0.16	0.00	6.40	2.00	0.00	0.00	0.17	0.00
6.56	2.00	0.00	0.00	0.16	0.00	6.73	2.00	0.00	0.00	0.17	0.00
6.89	2.00	0.00	0.00	0.16	0.00	7.05	2.00	0.00	0.00	0.16	0.00
7.22	2.00	0.00	0.00	0.17	0.00	7.38	2.00	0.00	0.00	0.16	0.00
7.55	2.00	0.00	0.00	0.17	0.00	7.71	2.00	0.00	0.00	0.16	0.00
7.87	2.00	0.00	0.00	0.16	0.00	8.04	2.00	0.00	0.00	0.17	0.00
8.20	2.00	0.00	0.00	0.16	0.00	8.37	2.00	0.00	0.00	0.17	0.00
8.53	2.00	0.00	0.00	0.16	0.00	8.69	2.00	0.00	0.00	0.16	0.00
8.86	2.00	0.00	0.00	0.17	0.00	9.02	2.00	0.00	0.00	0.16	0.00
9.19	2.00	0.00	0.00	0.17	0.00	9.35	2.00	0.00	0.00	0.16	0.00
9.51	2.00	0.00	0.00	0.16	0.00	9.68	2.00	0.00	0.00	0.17	0.00
9.84	2.00	0.00	0.00	0.16	0.00	10.01	2.00	0.00	0.00	0.17	0.00
10.17	2.00	0.00	0.00	0.16	0.00	10.34	2.00	0.00	0.00	0.17	0.00
10.50	2.00	0.00	0.00	0.16	0.00	10.66	2.00	0.00	0.00	0.16	0.00
10.83	2.00	0.00	0.00	0.17	0.00	10.99	2.00	0.00	0.00	0.16	0.00
11.16	2.00	0.00	0.00	0.17	0.00	11.32	2.00	0.00	0.00	0.16	0.00
11.48	2.00	0.00	0.00	0.16	0.00	11.65	2.00	0.00	0.00	0.17	0.00
11.81	2.00	0.00	0.00	0.16	0.00	11.98	2.00	0.00	0.00	0.17	0.00
12.14	2.00	0.00	0.00	0.16	0.00	12.30	2.00	0.00	0.00	0.16	0.00
12.47	2.00	0.00	0.00	0.17	0.00	12.63	2.00	0.00	0.00	0.16	0.00
12.80	2.00	0.00	0.00	0.17	0.00	12.96	2.00	0.00	0.00	0.16	0.00
13.12	2.00	0.00	0.00	0.16	0.00	13.29	2.00	0.00	0.00	0.17	0.00
13.45	2.00	0.00	0.00	0.16	0.00	13.62	2.00	0.00	0.00	0.17	0.00
13.78	2.00	0.00	0.00	0.16	0.00	13.94	2.00	0.00	0.00	0.16	0.00
14.11	2.00	0.00	0.00	0.17	0.00	14.27	2.00	0.00	0.00	0.16	0.00
14.44	2.00	0.00	0.00	0.17	0.00	14.60	2.00	0.00	0.00	0.16	0.00
14.76	2.00	0.00	0.00	0.16	0.00	14.93	2.00	0.00	0.00	0.17	0.00
15.09	2.00	0.00	0.00	0.16	0.00	15.26	2.00	0.00	0.00	0.17	0.00
15.42	2.00	0.00	0.00	0.16	0.00	15.58	2.00	0.00	0.00	0.16	0.00
15.75	2.00	0.00	0.00	0.17	0.00	15.91	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
16.08	2.00	0.00	0.00	0.17	0.00	16.24	2.00	0.00	0.00	0.16	0.00
16.40	2.00	0.00	0.00	0.16	0.00	16.57	2.00	0.00	0.00	0.17	0.00
16.73	2.00	0.00	0.00	0.16	0.00	16.90	2.00	0.00	0.00	0.17	0.00
17.06	2.00	0.00	0.00	0.16	0.00	17.23	2.00	0.00	0.00	0.17	0.00
17.39	2.00	0.00	0.00	0.16	0.00	17.55	2.00	0.00	0.00	0.16	0.00
17.72	2.00	0.00	0.00	0.17	0.00	17.88	2.00	0.00	0.00	0.16	0.00
18.05	2.00	0.00	0.00	0.17	0.00	18.21	2.00	0.00	0.00	0.16	0.00
18.37	2.00	0.00	0.00	0.16	0.00	18.54	2.00	0.00	0.00	0.17	0.00
18.70	2.00	0.00	0.00	0.16	0.00	18.87	2.00	0.00	0.00	0.17	0.00
19.03	2.00	0.00	0.00	0.16	0.00	19.19	2.00	0.00	0.00	0.16	0.00
19.36	2.00	0.00	0.00	0.17	0.00	19.52	2.00	0.00	0.00	0.16	0.00
19.69	2.00	0.00	0.00	0.17	0.00	19.85	2.00	0.00	0.00	0.16	0.00
20.01	2.00	0.00	0.00	0.16	0.00	20.18	2.00	0.00	0.00	0.17	0.00
20.34	2.00	0.00	0.00	0.16	0.00	20.51	2.00	0.00	0.00	0.17	0.00
20.67	2.00	0.00	0.00	0.16	0.00	20.83	2.00	0.00	0.00	0.16	0.00
21.00	2.00	0.00	0.00	0.17	0.00	21.16	2.00	0.00	0.00	0.16	0.00
21.33	2.00	0.00	0.00	0.17	0.00	21.49	2.00	0.00	0.00	0.16	0.00
21.65	2.00	0.00	0.00	0.16	0.00	21.82	2.00	0.00	0.00	0.17	0.00
21.98	2.00	0.00	0.00	0.16	0.00	22.15	2.00	0.00	0.00	0.17	0.00
22.31	2.00	0.00	0.00	0.16	0.00	22.47	2.00	0.00	0.00	0.16	0.00
22.64	2.00	0.00	0.00	0.17	0.00	22.80	2.00	0.00	0.00	0.16	0.00
22.97	2.00	0.00	0.00	0.17	0.00	23.13	2.00	0.00	0.00	0.16	0.00
23.30	2.00	0.00	0.00	0.17	0.00	23.46	2.00	0.00	0.00	0.16	0.00
23.62	2.00	0.00	0.00	0.16	0.00	23.79	2.00	0.00	0.00	0.17	0.00
23.95	2.00	0.00	0.00	0.16	0.00	24.12	2.00	0.00	0.00	0.17	0.00
24.28	2.00	0.00	0.00	0.16	0.00	24.44	2.00	0.00	0.00	0.16	0.00
24.61	2.00	0.00	0.00	0.17	0.00	24.77	2.00	0.00	0.00	0.16	0.00
24.94	2.00	0.00	0.00	0.17	0.00	25.10	2.00	0.00	0.00	0.16	0.00
25.26	2.00	0.00	0.00	0.16	0.00	25.43	2.00	0.00	0.00	0.17	0.00
25.59	2.00	0.00	0.00	0.16	0.00	25.76	2.00	0.00	0.00	0.17	0.00
25.92	2.00	0.00	0.00	0.16	0.00	26.08	2.00	0.00	0.00	0.16	0.00
26.25	2.00	0.00	0.00	0.17	0.00	26.41	2.00	0.00	0.00	0.16	0.00
26.58	2.00	0.00	0.00	0.17	0.00	26.74	2.00	0.00	0.00	0.16	0.00
26.90	2.00	0.00	0.00	0.16	0.00	27.07	2.00	0.00	0.00	0.17	0.00
27.23	2.00	0.00	0.00	0.16	0.00	27.40	2.00	0.00	0.00	0.17	0.00
27.56	2.00	0.00	0.00	0.16	0.00	27.72	2.00	0.00	0.00	0.16	0.00
27.89	2.00	0.00	0.00	0.17	0.00	28.05	2.00	0.00	0.00	0.16	0.00
28.22	2.00	0.00	0.00	0.17	0.00	28.38	2.00	0.00	0.00	0.16	0.00
28.54	2.00	0.00	0.00	0.16	0.00	28.71	2.00	0.00	0.00	0.17	0.00
28.87	2.00	0.00	0.00	0.16	0.00	29.04	2.00	0.00	0.00	0.17	0.00
29.20	2.00	0.00	0.00	0.16	0.00	29.36	2.00	0.00	0.00	0.16	0.00
29.53	2.00	0.00	0.00	0.17	0.00	29.69	2.00	0.00	0.00	0.16	0.00
29.86	2.00	0.00	0.00	0.17	0.00	30.02	2.00	0.00	0.00	0.16	0.00
30.19	2.00	0.00	0.00	0.17	0.00	30.35	2.00	0.00	0.00	0.16	0.00
30.51	2.00	0.00	0.00	0.16	0.00	30.68	2.00	0.00	0.00	0.17	0.00
30.84	2.00	0.00	0.00	0.16	0.00	31.01	2.00	0.00	0.00	0.17	0.00
31.17	2.00	0.00	0.00	0.16	0.00	31.33	2.00	0.00	0.00	0.16	0.00
31.50	2.00	0.00	0.00	0.17	0.00	31.66	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
31.83	2.00	0.00	0.00	0.17	0.00	31.99	2.00	0.00	0.00	0.16	0.00
32.15	2.00	0.00	0.00	0.16	0.00	32.32	2.00	0.00	0.00	0.17	0.00
32.48	2.00	0.00	0.00	0.16	0.00	32.65	2.00	0.00	0.00	0.17	0.00
32.81	2.00	0.00	0.00	0.16	0.00	32.97	2.00	0.00	0.00	0.16	0.00
33.14	2.00	0.00	0.00	0.17	0.00	33.30	2.00	0.00	0.00	0.16	0.00
33.47	2.00	0.00	0.00	0.17	0.00	33.63	2.00	0.00	0.00	0.16	0.00
33.79	2.00	0.00	0.00	0.16	0.00	33.96	2.00	0.00	0.00	0.17	0.00
34.12	2.00	0.00	0.00	0.16	0.00	34.29	2.00	0.00	0.00	0.17	0.00
34.45	2.00	0.00	0.00	0.16	0.00	34.61	2.00	0.00	0.00	0.16	0.00
34.78	2.00	0.00	0.00	0.17	0.00	34.94	2.00	0.00	0.00	0.16	0.00
35.11	2.00	0.00	0.00	0.17	0.00	35.27	2.00	0.00	0.00	0.16	0.00
35.43	2.00	0.00	0.00	0.16	0.00	35.60	2.00	0.00	0.00	0.17	0.00
35.76	2.00	0.00	0.00	0.16	0.00	35.93	2.00	0.00	0.00	0.17	0.00
36.09	2.00	0.00	0.00	0.16	0.00	36.26	2.00	0.00	0.00	0.17	0.00
36.42	2.00	0.00	0.00	0.16	0.00	36.58	2.00	0.00	0.00	0.16	0.00
36.75	2.00	0.00	0.00	0.17	0.00	36.91	2.00	0.00	0.00	0.16	0.00
37.08	2.00	0.00	0.00	0.17	0.00	37.24	2.00	0.00	0.00	0.16	0.00
37.40	2.00	0.00	0.00	0.16	0.00	37.57	2.00	0.00	0.00	0.17	0.00
37.73	2.00	0.00	0.00	0.16	0.00	37.90	2.00	0.00	0.00	0.17	0.00
38.06	2.00	0.00	0.00	0.16	0.00	38.22	2.00	0.00	0.00	0.16	0.00
38.39	2.00	0.00	0.00	0.17	0.00	38.55	2.00	0.00	0.00	0.16	0.00
38.72	2.00	0.00	0.00	0.17	0.00	38.88	2.00	0.00	0.00	0.16	0.00
39.04	2.00	0.00	0.00	0.16	0.00	39.21	2.00	0.00	0.00	0.17	0.00
39.37	2.00	0.00	0.00	0.16	0.00	39.54	2.00	0.00	0.00	0.17	0.00
39.70	2.00	0.00	0.00	0.16	0.00	39.86	2.00	0.00	0.00	0.16	0.00
40.03	2.00	0.00	0.00	0.17	0.00	40.19	2.00	0.00	0.00	0.16	0.00
40.36	2.00	0.00	0.00	0.17	0.00	40.52	2.00	0.00	0.00	0.16	0.00
40.68	2.00	0.00	0.00	0.16	0.00	40.85	2.00	0.00	0.00	0.17	0.00
41.01	2.00	0.00	0.00	0.16	0.00	41.18	2.00	0.00	0.00	0.17	0.00
41.34	2.00	0.00	0.00	0.16	0.00	41.50	2.00	0.00	0.00	0.16	0.00
41.67	2.00	0.00	0.00	0.17	0.00	41.83	2.00	0.00	0.00	0.16	0.00
42.00	2.00	0.00	0.00	0.17	0.00	42.16	2.00	0.00	0.00	0.16	0.00
42.32	2.00	0.00	0.00	0.16	0.00	42.49	2.00	0.00	0.00	0.17	0.00
42.65	2.00	0.00	0.00	0.16	0.00	42.82	2.00	0.00	0.00	0.17	0.00
42.98	2.00	0.00	0.00	0.16	0.00	43.15	2.00	0.00	0.00	0.17	0.00
43.31	2.00	0.00	0.00	0.16	0.00	43.47	2.00	0.00	0.00	0.16	0.00
43.64	2.00	0.00	0.00	0.17	0.00	43.80	2.00	0.00	0.00	0.16	0.00
43.97	2.00	0.00	0.00	0.17	0.00	44.13	2.00	0.00	0.00	0.16	0.00
44.29	2.00	0.00	0.00	0.16	0.00	44.46	2.00	0.00	0.00	0.17	0.00
44.62	2.00	0.00	0.00	0.16	0.00	44.79	2.00	0.00	0.00	0.17	0.00
44.95	2.00	0.00	0.00	0.16	0.00	45.11	2.00	0.00	0.00	0.16	0.00
45.28	2.00	0.00	0.00	0.17	0.00	45.44	2.00	0.00	0.00	0.16	0.00
45.61	2.00	0.00	0.00	0.17	0.00	45.77	2.00	0.00	0.00	0.16	0.00
45.93	2.00	0.00	0.00	0.16	0.00	46.10	2.00	0.00	0.00	0.17	0.00
46.26	2.00	0.00	0.00	0.16	0.00	46.43	2.00	0.00	0.00	0.17	0.00
46.59	2.00	0.00	0.00	0.16	0.00	46.75	2.00	0.00	0.00	0.16	0.00
46.92	2.00	0.00	0.00	0.17	0.00	47.08	2.00	0.00	0.00	0.16	0.00
47.25	2.00	0.00	0.00	0.17	0.00	47.41	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
47.57	2.00	0.00	0.00	0.16	0.00	47.74	2.00	0.00	0.00	0.17	0.00
47.90	2.00	0.00	0.00	0.16	0.00	48.07	2.00	0.00	0.00	0.17	0.00
48.23	2.00	0.00	0.00	0.16	0.00	48.39	2.00	0.00	0.00	0.16	0.00
48.56	2.00	0.00	0.00	0.17	0.00	48.72	2.00	0.00	0.00	0.16	0.00
48.89	2.00	0.00	0.00	0.17	0.00	49.05	2.00	0.00	0.00	0.16	0.00
49.22	2.00	0.00	0.00	0.17	0.00	49.38	2.00	0.00	0.00	0.16	0.00
49.54	2.00	0.00	0.00	0.16	0.00	49.71	2.00	0.00	0.00	0.17	0.00
49.87	2.00	0.00	0.00	0.16	0.00	50.04	2.00	0.00	0.00	0.17	0.00
50.20	2.00	0.00	0.00	0.16	0.00	50.36	2.00	0.00	0.00	0.16	0.00
50.53	2.00	0.00	0.00	0.17	0.00	50.69	2.00	0.00	0.00	0.16	0.00
50.86	2.00	0.00	0.00	0.17	0.00	51.02	2.00	0.00	0.00	0.16	0.00
51.18	2.00	0.00	0.00	0.16	0.00	51.35	2.00	0.00	0.00	0.17	0.00
51.51	2.00	0.00	0.00	0.16	0.00	51.68	2.00	0.00	0.00	0.17	0.00
51.84	2.00	0.00	0.00	0.16	0.00	52.00	2.00	0.00	0.00	0.16	0.00
52.17	2.00	0.00	0.00	0.17	0.00	52.33	2.00	0.00	0.00	0.16	0.00
52.50	2.00	0.00	0.00	0.17	0.00	52.66	2.00	0.00	0.00	0.16	0.00
52.82	2.00	0.00	0.00	0.16	0.00	52.99	2.00	0.00	0.00	0.17	0.00
53.15	2.00	0.00	0.00	0.16	0.00	53.32	2.00	0.00	0.00	0.17	0.00
53.48	2.00	0.00	0.00	0.16	0.00	53.64	2.00	0.00	0.00	0.16	0.00
53.81	2.00	0.00	0.00	0.17	0.00	53.97	2.00	0.00	0.00	0.16	0.00
54.14	2.00	0.00	0.00	0.17	0.00	54.30	2.00	0.00	0.00	0.16	0.00
54.46	2.00	0.00	0.00	0.16	0.00	54.63	2.00	0.00	0.00	0.17	0.00
54.79	2.00	0.00	0.00	0.16	0.00	54.96	2.00	0.00	0.00	0.17	0.00
55.12	2.00	0.00	0.00	0.16	0.00	55.28	2.00	0.00	0.00	0.16	0.00
55.45	2.00	0.00	0.00	0.17	0.00	55.61	2.00	0.00	0.00	0.16	0.00
55.78	2.00	0.00	0.00	0.17	0.00	55.94	2.00	0.00	0.00	0.16	0.00
56.11	2.00	0.00	0.00	0.17	0.00	56.27	2.00	0.00	0.00	0.16	0.00
56.43	2.00	0.00	0.00	0.16	0.00	56.60	2.00	0.00	0.00	0.17	0.00
56.76	2.00	0.00	0.00	0.16	0.00	56.93	2.00	0.00	0.00	0.17	0.00
57.09	2.00	0.00	0.00	0.16	0.00	57.25	2.00	0.00	0.00	0.16	0.00
57.42	2.00	0.00	0.00	0.17	0.00	57.58	2.00	0.00	0.00	0.16	0.00
57.75	2.00	0.00	0.00	0.17	0.00	57.91	2.00	0.00	0.00	0.16	0.00
58.07	2.00	0.00	0.00	0.16	0.00	58.24	2.00	0.00	0.00	0.17	0.00
58.40	2.00	0.00	0.00	0.16	0.00	58.57	2.00	0.00	0.00	0.17	0.00
58.73	2.00	0.00	0.00	0.16	0.00	58.89	2.00	0.00	0.00	0.16	0.00
59.06	2.00	0.00	0.00	0.17	0.00	59.22	2.00	0.00	0.00	0.16	0.00
59.39	2.00	0.00	0.00	0.17	0.00	59.55	2.00	0.00	0.00	0.16	0.00
59.71	2.00	0.00	0.00	0.16	0.00	59.88	2.00	0.00	0.00	0.17	0.00
60.04	2.00	0.00	0.00	0.16	0.00	60.21	2.00	0.00	0.00	0.17	0.00
60.37	2.00	0.00	0.00	0.16	0.00	60.53	2.00	0.00	0.00	0.16	0.00
60.70	2.00	0.00	0.00	0.17	0.00	60.86	2.00	0.00	0.00	0.16	0.00
61.03	2.00	0.00	0.00	0.17	0.00	61.19	2.00	0.00	0.00	0.16	0.00
61.35	2.00	0.00	0.00	0.16	0.00	61.52	2.00	0.00	0.00	0.17	0.00
61.68	2.00	0.00	0.00	0.16	0.00	61.85	2.00	0.00	0.00	0.17	0.00
62.01	2.00	0.00	0.00	0.16	0.00	62.17	2.00	0.00	0.00	0.16	0.00
62.34	2.00	0.00	0.00	0.17	0.00	62.50	2.00	0.00	0.00	0.16	0.00
62.67	2.00	0.00	0.00	0.17	0.00	62.83	2.00	0.00	0.00	0.16	0.00
63.00	2.00	0.00	0.00	0.17	0.00	63.16	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
63.32	2.00	0.00	0.00	0.16	0.00	63.49	2.00	0.00	0.00	0.17	0.00
63.65	2.00	0.00	0.00	0.16	0.00	63.82	2.00	0.00	0.00	0.17	0.00
63.98	2.00	0.00	0.00	0.16	0.00	64.14	2.00	0.00	0.00	0.16	0.00
64.31	2.00	0.00	0.00	0.17	0.00	64.47	2.00	0.00	0.00	0.16	0.00
64.64	2.00	0.00	0.00	0.17	0.00	64.80	2.00	0.00	0.00	0.16	0.00
64.96	2.00	0.00	0.00	0.16	0.00	65.13	2.00	0.00	0.00	0.17	0.00
65.29	2.00	0.00	0.00	0.16	0.00	65.46	2.00	0.00	0.00	0.17	0.00
65.62	2.00	0.00	0.00	0.16	0.00	65.78	2.00	0.00	0.00	0.16	0.00
65.95	2.00	0.00	0.00	0.17	0.00	66.11	2.00	0.00	0.00	0.16	0.00
66.28	2.00	0.00	0.00	0.17	0.00	66.44	2.00	0.00	0.00	0.16	0.00
66.60	2.00	0.00	0.00	0.16	0.00	66.77	2.00	0.00	0.00	0.17	0.00
66.93	2.00	0.00	0.00	0.16	0.00	67.10	2.00	0.00	0.00	0.17	0.00
67.26	2.00	0.00	0.00	0.16	0.00	67.42	2.00	0.00	0.00	0.16	0.00
67.59	2.00	0.00	0.00	0.17	0.00	67.75	2.00	0.00	0.00	0.16	0.00
67.92	2.00	0.00	0.00	0.17	0.00	68.08	2.00	0.00	0.00	0.16	0.00
68.24	2.00	0.00	0.00	0.16	0.00	68.41	2.00	0.00	0.00	0.17	0.00
68.57	2.00	0.00	0.00	0.16	0.00	68.74	2.00	0.00	0.00	0.17	0.00
68.90	2.00	0.00	0.00	0.16	0.00	69.07	2.00	0.00	0.00	0.17	0.00
69.23	2.00	0.00	0.00	0.16	0.00	69.39	2.00	0.00	0.00	0.16	0.00
69.56	2.00	0.00	0.00	0.17	0.00	69.72	2.00	0.00	0.00	0.16	0.00
69.89	2.00	0.00	0.00	0.17	0.00	70.05	2.00	0.00	0.00	0.16	0.00
70.21	2.00	0.00	0.00	0.16	0.00	70.38	2.00	0.00	0.00	0.17	0.00
70.54	2.00	0.00	0.00	0.16	0.00	70.71	2.00	0.00	0.00	0.17	0.00
70.87	2.00	0.00	0.00	0.16	0.00	71.03	2.00	0.00	0.00	0.16	0.00
71.20	2.00	0.00	0.00	0.17	0.00	71.36	2.00	0.00	0.00	0.16	0.00
71.53	2.00	0.00	0.00	0.17	0.00	71.69	2.00	0.00	0.00	0.16	0.00
71.85	2.00	0.00	0.00	0.16	0.00	72.02	2.00	0.00	0.00	0.17	0.00
72.18	2.00	0.00	0.00	0.16	0.00	72.35	2.00	0.00	0.00	0.17	0.00
72.51	2.00	0.00	0.00	0.16	0.00	72.67	2.00	0.00	0.00	0.16	0.00
72.84	2.00	0.00	0.00	0.17	0.00	73.00	2.00	0.00	0.00	0.16	0.00
73.17	2.00	0.00	0.00	0.17	0.00	73.33	2.00	0.00	0.00	0.16	0.00
73.49	2.00	0.00	0.00	0.16	0.00	73.66	2.00	0.00	0.00	0.17	0.00
73.82	2.00	0.00	0.00	0.16	0.00	73.99	2.00	0.00	0.00	0.17	0.00
74.15	2.00	0.00	0.00	0.16	0.00	74.31	2.00	0.00	0.00	0.16	0.00
74.48	2.00	0.00	0.00	0.17	0.00	74.64	2.00	0.00	0.00	0.16	0.00
74.81	2.00	0.00	0.00	0.17	0.00	74.97	2.00	0.00	0.00	0.16	0.00
75.13	2.00	0.00	0.00	0.16	0.00	75.30	2.00	0.00	0.00	0.17	0.00
75.46	2.00	0.00	0.00	0.16	0.00	75.63	2.00	0.00	0.00	0.17	0.00
75.79	2.00	0.00	0.00	0.16	0.00	75.96	2.00	0.00	0.00	0.17	0.00
76.12	2.00	0.00	0.00	0.16	0.00	76.28	2.00	0.00	0.00	0.16	0.00
76.45	2.00	0.00	0.00	0.17	0.00	76.61	2.00	0.00	0.00	0.16	0.00
76.78	2.00	0.00	0.00	0.17	0.00	76.94	2.00	0.00	0.00	0.16	0.00
77.10	2.00	0.00	0.00	0.16	0.00	77.27	2.00	0.00	0.00	0.17	0.00
77.43	2.00	0.00	0.00	0.16	0.00	77.60	2.00	0.00	0.00	0.17	0.00
77.76	2.00	0.00	0.00	0.16	0.00	77.92	2.00	0.00	0.00	0.16	0.00
78.09	2.00	0.00	0.00	0.17	0.00	78.25	2.00	0.00	0.00	0.16	0.00
78.42	2.00	0.00	0.00	0.17	0.00	78.58	2.00	0.00	0.00	0.16	0.00
78.74	2.00	0.00	0.00	0.16	0.00	78.91	2.00	0.00	0.00	0.17	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
79.07	2.00	0.00	0.00	0.16	0.00	79.24	2.00	0.00	0.00	0.17	0.00
79.40	2.00	0.00	0.00	0.16	0.00	79.56	2.00	0.00	0.00	0.16	0.00
79.73	2.00	0.00	0.00	0.17	0.00	79.89	2.00	0.00	0.00	0.16	0.00
80.06	2.00	0.00	0.00	0.17	0.00	80.22	2.00	0.00	0.00	0.16	0.00
80.38	2.00	0.00	0.00	0.16	0.00	80.55	2.00	0.00	0.00	0.17	0.00
80.71	2.00	0.00	0.00	0.16	0.00	80.88	2.00	0.00	0.00	0.17	0.00
81.04	2.00	0.00	0.00	0.16	0.00	81.20	2.00	0.00	0.00	0.16	0.00
81.37	2.00	0.00	0.00	0.17	0.00	81.53	2.00	0.00	0.00	0.16	0.00
81.70	2.00	0.00	0.00	0.17	0.00	81.86	2.00	0.00	0.00	0.16	0.00
82.02	2.00	0.00	0.00	0.16	0.00	82.19	2.00	0.00	0.00	0.17	0.00
82.35	2.00	0.00	0.00	0.16	0.00	82.52	2.00	0.00	0.00	0.17	0.00
82.68	2.00	0.00	0.00	0.16	0.00	82.85	2.00	0.00	0.00	0.17	0.00
83.01	2.00	0.00	0.00	0.16	0.00	83.17	2.00	0.00	0.00	0.16	0.00
83.34	2.00	0.00	0.00	0.17	0.00	83.50	2.00	0.00	0.00	0.16	0.00
83.67	2.00	0.00	0.00	0.17	0.00	83.83	2.00	0.00	0.00	0.16	0.00
83.99	2.00	0.00	0.00	0.16	0.00	84.16	2.00	0.00	0.00	0.17	0.00
84.32	2.00	0.00	0.00	0.16	0.00	84.49	2.00	0.00	0.00	0.17	0.00
84.65	2.00	0.00	0.00	0.16	0.00	84.81	2.00	0.00	0.00	0.16	0.00
84.98	2.00	0.00	0.00	0.17	0.00	85.14	2.00	0.00	0.00	0.16	0.00
85.31	2.00	0.00	0.00	0.17	0.00	85.47	2.00	0.00	0.00	0.16	0.00
85.63	2.00	0.00	0.00	0.16	0.00	85.80	2.00	0.00	0.00	0.17	0.00
85.96	2.00	0.00	0.00	0.16	0.00	86.13	2.00	0.00	0.00	0.17	0.00
86.29	2.00	0.00	0.00	0.16	0.00	86.45	2.00	0.00	0.00	0.16	0.00
86.62	2.00	0.00	0.00	0.17	0.00	86.78	2.00	0.00	0.00	0.16	0.00
86.95	2.00	0.00	0.00	0.17	0.00	87.11	2.00	0.00	0.00	0.16	0.00
87.27	2.00	0.00	0.00	0.16	0.00	87.44	2.00	0.00	0.00	0.17	0.00
87.60	2.00	0.00	0.00	0.16	0.00	87.77	2.00	0.00	0.00	0.17	0.00
87.93	2.00	0.00	0.00	0.16	0.00	88.09	2.00	0.00	0.00	0.16	0.00
88.26	2.00	0.00	0.00	0.17	0.00	88.42	2.00	0.00	0.00	0.16	0.00
88.59	2.00	0.00	0.00	0.17	0.00	88.75	2.00	0.00	0.00	0.16	0.00
88.92	2.00	0.00	0.00	0.17	0.00	89.08	2.00	0.00	0.00	0.16	0.00
89.24	2.00	0.00	0.00	0.16	0.00	89.41	2.00	0.00	0.00	0.17	0.00
89.57	2.00	0.00	0.00	0.16	0.00	89.74	2.00	0.00	0.00	0.17	0.00
89.90	2.00	0.00	0.00	0.16	0.00	90.06	2.00	0.00	0.00	0.16	0.00
90.23	2.00	0.00	0.00	0.17	0.00	90.39	2.00	0.00	0.00	0.16	0.00
90.56	2.00	0.00	0.00	0.17	0.00	90.72	2.00	0.00	0.00	0.16	0.00
90.88	2.00	0.00	0.00	0.16	0.00	91.05	2.00	0.00	0.00	0.17	0.00
91.21	2.00	0.00	0.00	0.16	0.00	91.38	2.00	0.00	0.00	0.17	0.00
91.54	2.00	0.00	0.00	0.16	0.00	91.70	2.00	0.00	0.00	0.16	0.00
91.87	2.00	0.00	0.00	0.17	0.00	92.03	2.00	0.00	0.00	0.16	0.00
92.20	2.00	0.00	0.00	0.17	0.00	92.36	2.00	0.00	0.00	0.16	0.00
92.52	2.00	0.00	0.00	0.16	0.00	92.69	2.00	0.00	0.00	0.17	0.00
92.85	2.00	0.00	0.00	0.16	0.00	93.02	2.00	0.00	0.00	0.17	0.00
93.18	2.00	0.00	0.00	0.16	0.00	93.34	2.00	0.00	0.00	0.16	0.00
93.51	2.00	0.00	0.00	0.17	0.00	93.67	2.00	0.00	0.00	0.16	0.00
93.84	2.00	0.00	0.00	0.17	0.00	94.00	2.00	0.00	0.00	0.16	0.00
94.16	2.00	0.00	0.00	0.16	0.00	94.33	2.00	0.00	0.00	0.17	0.00
94.49	2.00	0.00	0.00	0.16	0.00	94.66	2.00	0.00	0.00	0.17	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
94.82	2.00	0.00	0.00	0.16	0.00	94.98	2.00	0.00	0.00	0.16	0.00
95.15	2.00	0.00	0.00	0.17	0.00	95.31	2.00	0.00	0.00	0.16	0.00
95.48	2.00	0.00	0.00	0.17	0.00	95.64	2.00	0.00	0.00	0.16	0.00
95.81	2.00	0.00	0.00	0.17	0.00	95.97	2.00	0.00	0.00	0.16	0.00
96.13	2.00	0.00	0.00	0.16	0.00	96.30	2.00	0.00	0.00	0.17	0.00
96.46	2.00	0.00	0.00	0.16	0.00	96.63	2.00	0.00	0.00	0.17	0.00
96.79	2.00	0.00	0.00	0.16	0.00	96.95	2.00	0.00	0.00	0.16	0.00
97.12	2.00	0.00	0.00	0.17	0.00	97.28	2.00	0.00	0.00	0.16	0.00
97.45	2.00	0.00	0.00	0.17	0.00	97.61	2.00	0.00	0.00	0.16	0.00
97.77	2.00	0.00	0.00	0.16	0.00	97.94	2.00	0.00	0.00	0.17	0.00
98.10	2.00	0.00	0.00	0.16	0.00	98.27	2.00	0.00	0.00	0.17	0.00
98.43	2.00	0.00	0.00	0.16	0.00	98.59	2.00	0.00	0.00	0.16	0.00
98.76	2.00	0.00	0.00	0.17	0.00	98.92	2.00	0.00	0.00	0.16	0.00
99.09	2.00	0.00	0.00	0.17	0.00	99.25	2.00	0.00	0.00	0.16	0.00
99.41	2.00	0.00	0.00	0.16	0.00	99.58	2.00	0.00	0.00	0.17	0.00
99.74	2.00	0.00	0.00	0.16	0.00	99.91	2.00	0.00	0.00	0.17	0.00
100.07	2.00	0.00	0.00	0.16	0.00						

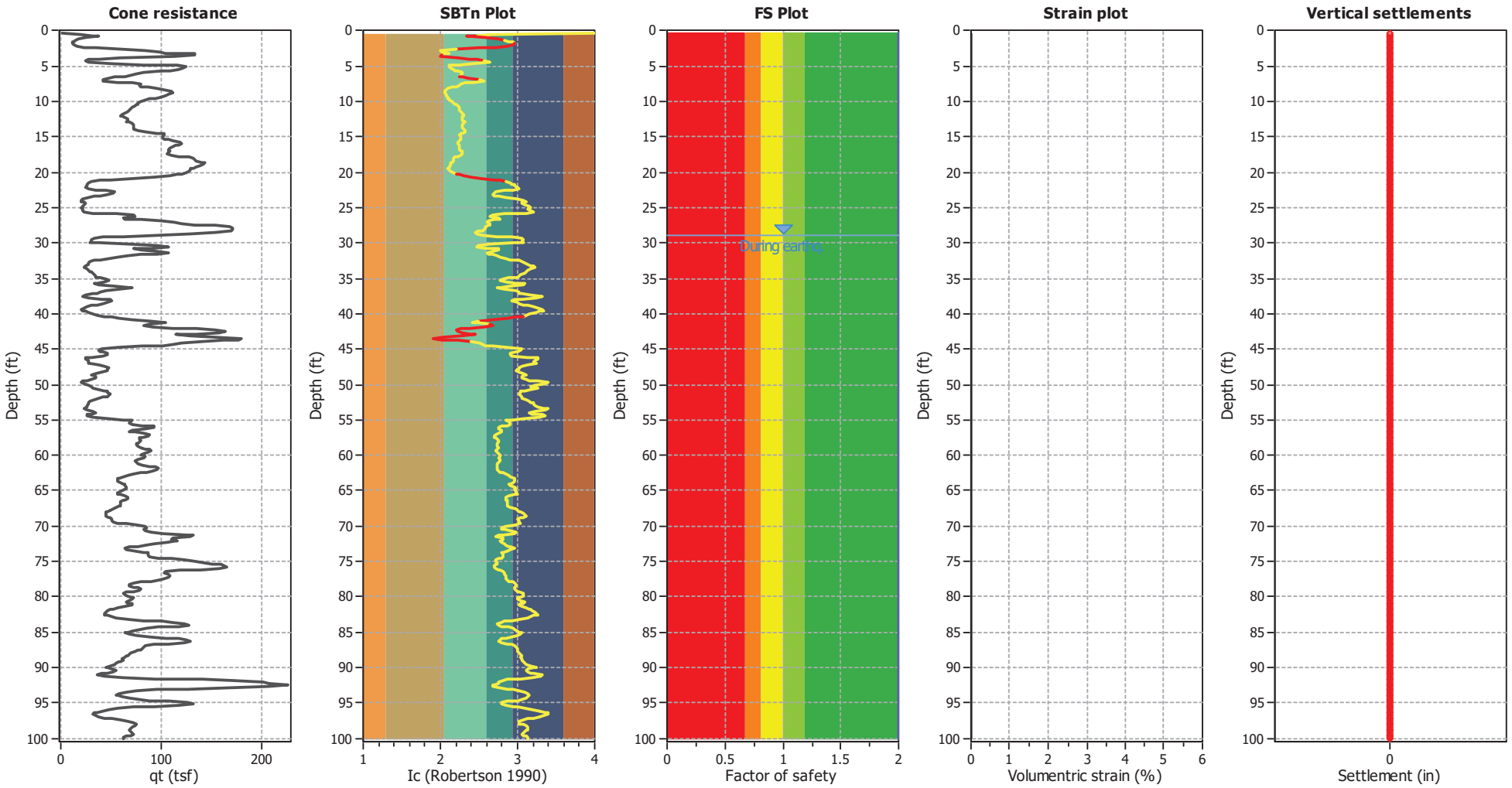
Overall liquefaction potential: 0.00

LPI = 0.00 - Liquefaction risk very low
LPI between 0.00 and 5.00 - Liquefaction risk low
LPI between 5.00 and 15.00 - Liquefaction risk high
LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
F_L: 1 - FS
w_z: Function value of the extend of soil liquefaction according to depth
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
29.04	201.27	2.00	0.00	1.00	0.00	29.20	194.01	2.00	0.00	1.00	0.00
29.36	184.76	2.00	0.00	1.00	0.00	29.53	174.14	2.00	0.00	1.00	0.00
29.69	164.18	2.00	0.00	1.00	0.00	29.86	161.70	2.00	0.00	1.00	0.00
30.02	172.09	2.00	0.00	1.00	0.00	30.19	176.41	2.00	0.00	1.00	0.00
30.35	184.61	2.00	0.00	1.00	0.00	30.51	190.95	2.00	0.00	1.00	0.00
30.68	210.38	2.00	0.00	1.00	0.00	30.84	239.83	2.00	0.00	1.00	0.00
31.01	264.42	2.00	0.00	1.00	0.00	31.17	270.25	2.00	0.00	1.00	0.00
31.33	255.17	2.00	0.00	1.00	0.00	31.50	238.56	2.00	0.00	1.00	0.00
31.66	222.25	2.00	0.00	1.00	0.00	31.83	207.28	2.00	0.00	1.00	0.00
31.99	190.08	2.00	0.00	1.00	0.00	32.15	175.65	2.00	0.00	1.00	0.00
32.32	163.31	2.00	0.00	1.00	0.00	32.48	153.99	2.00	0.00	1.00	0.00
32.65	152.11	2.00	0.00	1.00	0.00	32.81	153.32	2.00	0.00	1.00	0.00
32.97	153.83	2.00	0.00	1.00	0.00	33.14	156.37	2.00	0.00	1.00	0.00
33.30	158.55	2.00	0.00	1.00	0.00	33.47	158.57	2.00	0.00	1.00	0.00
33.63	157.29	2.00	0.00	1.00	0.00	33.79	155.84	2.00	0.00	1.00	0.00
33.96	161.44	2.00	0.00	1.00	0.00	34.12	166.07	2.00	0.00	1.00	0.00
34.29	166.19	2.00	0.00	1.00	0.00	34.45	162.93	2.00	0.00	1.00	0.00
34.61	156.55	2.00	0.00	1.00	0.00	34.78	152.81	2.00	0.00	1.00	0.00
34.94	148.13	2.00	0.00	1.00	0.00	35.11	145.99	2.00	0.00	1.00	0.00
35.27	147.25	2.00	0.00	1.00	0.00	35.43	152.87	2.00	0.00	1.00	0.00
35.60	156.23	2.00	0.00	1.00	0.00	35.76	171.40	2.00	0.00	1.00	0.00
35.93	192.49	2.00	0.00	1.00	0.00	36.09	211.73	2.00	0.00	1.00	0.00
36.26	211.92	2.00	0.00	1.00	0.00	36.42	205.72	2.00	0.00	1.00	0.00
36.58	199.16	2.00	0.00	1.00	0.00	36.75	186.41	2.00	0.00	1.00	0.00
36.91	177.67	2.00	0.00	1.00	0.00	37.08	162.08	2.00	0.00	1.00	0.00
37.24	147.60	2.00	0.00	1.00	0.00	37.40	137.39	2.00	0.00	1.00	0.00
37.57	151.26	2.00	0.00	1.00	0.00	37.73	175.78	2.00	0.00	1.00	0.00
37.90	191.71	2.00	0.00	1.00	0.00	38.06	196.82	2.00	0.00	1.00	0.00
38.22	200.81	2.00	0.00	1.00	0.00	38.39	192.86	2.00	0.00	1.00	0.00
38.55	185.44	2.00	0.00	1.00	0.00	38.72	176.27	2.00	0.00	1.00	0.00
38.88	164.07	2.00	0.00	1.00	0.00	39.04	152.57	2.00	0.00	1.00	0.00
39.21	144.59	2.00	0.00	1.00	0.00	39.37	143.92	2.00	0.00	1.00	0.00
39.54	154.43	2.00	0.00	1.00	0.00	39.70	164.67	2.00	0.00	1.00	0.00
39.86	173.68	2.00	0.00	1.00	0.00	40.03	176.78	2.00	0.00	1.00	0.00
40.19	187.57	2.00	0.00	1.00	0.00	40.36	199.42	2.00	0.00	1.00	0.00
40.52	203.42	2.00	0.00	1.00	0.00	40.68	199.86	2.00	0.00	1.00	0.00
40.85	172.58	2.00	0.00	1.00	0.00	41.01	145.56	2.00	0.00	1.00	0.00
41.18	144.71	2.00	0.00	1.00	0.00	41.34	167.06	2.00	0.00	1.00	0.00
41.50	195.13	2.00	0.00	1.00	0.00	41.67	196.26	2.00	0.00	1.00	0.00
41.83	169.88	2.00	0.00	1.00	0.00	42.00	144.99	2.00	0.00	1.00	0.00
42.16	142.11	2.00	0.00	1.00	0.00	42.32	149.58	2.00	0.00	1.00	0.00
42.49	161.84	2.00	0.00	1.00	0.00	42.65	168.42	2.00	0.00	1.00	0.00
42.82	175.27	2.00	0.00	1.00	0.00	42.98	168.75	2.00	0.00	1.00	0.00
43.15	138.12	2.00	0.00	1.00	0.00	43.31	124.95	2.00	0.00	1.00	0.00
43.47	137.88	2.00	0.00	1.00	0.00	43.64	141.76	2.00	0.00	1.00	0.00
43.80	157.46	2.00	0.00	1.00	0.00	43.97	183.88	2.00	0.00	1.00	0.00
44.13	199.70	2.00	0.00	1.00	0.00	44.29	198.86	2.00	0.00	1.00	0.00
44.46	188.59	2.00	0.00	1.00	0.00	44.62	185.52	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
44.79	181.05	2.00	0.00	1.00	0.00	44.95	168.09	2.00	0.00	1.00	0.00
45.11	155.32	2.00	0.00	1.00	0.00	45.28	149.22	2.00	0.00	1.00	0.00
45.44	150.91	2.00	0.00	1.00	0.00	45.61	156.38	2.00	0.00	1.00	0.00
45.77	152.60	2.00	0.00	1.00	0.00	45.93	143.39	2.00	0.00	1.00	0.00
46.10	135.70	2.00	0.00	1.00	0.00	46.26	138.43	2.00	0.00	1.00	0.00
46.43	143.35	2.00	0.00	1.00	0.00	46.59	145.87	2.00	0.00	1.00	0.00
46.75	144.19	2.00	0.00	1.00	0.00	46.92	149.37	2.00	0.00	1.00	0.00
47.08	160.25	2.00	0.00	1.00	0.00	47.25	171.44	2.00	0.00	1.00	0.00
47.41	176.01	2.00	0.00	1.00	0.00	47.57	176.14	2.00	0.00	1.00	0.00
47.74	175.58	2.00	0.00	1.00	0.00	47.90	170.67	2.00	0.00	1.00	0.00
48.07	161.56	2.00	0.00	1.00	0.00	48.23	148.69	2.00	0.00	1.00	0.00
48.39	137.84	2.00	0.00	1.00	0.00	48.56	132.13	2.00	0.00	1.00	0.00
48.72	132.18	2.00	0.00	1.00	0.00	48.89	135.74	2.00	0.00	1.00	0.00
49.05	134.71	2.00	0.00	1.00	0.00	49.22	127.85	2.00	0.00	1.00	0.00
49.38	112.80	2.00	0.00	1.00	0.00	49.54	115.93	2.00	0.00	1.00	0.00
49.71	130.77	2.00	0.00	1.00	0.00	49.87	143.88	2.00	0.00	1.00	0.00
50.04	140.52	2.00	0.00	1.00	0.00	50.20	140.05	2.00	0.00	1.00	0.00
50.36	149.77	2.00	0.00	1.00	0.00	50.53	168.34	2.00	0.00	1.00	0.00
50.69	175.15	2.00	0.00	1.00	0.00	50.86	177.09	2.00	0.00	1.00	0.00
51.02	173.48	2.00	0.00	1.00	0.00	51.18	173.18	2.00	0.00	1.00	0.00
51.35	174.80	2.00	0.00	1.00	0.00	51.51	175.75	2.00	0.00	1.00	0.00
51.68	172.43	2.00	0.00	1.00	0.00	51.84	160.08	2.00	0.00	1.00	0.00
52.00	144.04	2.00	0.00	1.00	0.00	52.17	131.23	2.00	0.00	1.00	0.00
52.33	125.06	2.00	0.00	1.00	0.00	52.50	124.32	2.00	0.00	1.00	0.00
52.66	126.07	2.00	0.00	1.00	0.00	52.82	128.53	2.00	0.00	1.00	0.00
52.99	129.97	2.00	0.00	1.00	0.00	53.15	130.22	2.00	0.00	1.00	0.00
53.32	134.91	2.00	0.00	1.00	0.00	53.48	143.35	2.00	0.00	1.00	0.00
53.64	154.75	2.00	0.00	1.00	0.00	53.81	155.48	2.00	0.00	1.00	0.00
53.97	147.53	2.00	0.00	1.00	0.00	54.14	137.23	2.00	0.00	1.00	0.00
54.30	138.35	2.00	0.00	1.00	0.00	54.46	151.89	2.00	0.00	1.00	0.00
54.63	173.14	2.00	0.00	1.00	0.00	54.79	184.65	2.00	0.00	1.00	0.00
54.96	197.03	2.00	0.00	1.00	0.00	55.12	198.47	2.00	0.00	1.00	0.00
55.28	203.85	2.00	0.00	1.00	0.00	55.45	207.84	2.00	0.00	1.00	0.00
55.61	218.23	2.00	0.00	1.00	0.00	55.78	229.94	2.00	0.00	1.00	0.00
55.94	231.95	2.00	0.00	1.00	0.00	56.11	216.95	2.00	0.00	1.00	0.00
56.27	192.30	2.00	0.00	1.00	0.00	56.43	172.77	2.00	0.00	1.00	0.00
56.60	169.19	2.00	0.00	1.00	0.00	56.76	178.44	2.00	0.00	1.00	0.00
56.93	188.01	2.00	0.00	1.00	0.00	57.09	186.19	2.00	0.00	1.00	0.00
57.25	176.60	2.00	0.00	1.00	0.00	57.42	168.42	2.00	0.00	1.00	0.00
57.58	167.23	2.00	0.00	1.00	0.00	57.75	171.78	2.00	0.00	1.00	0.00
57.91	176.95	2.00	0.00	1.00	0.00	58.07	175.62	2.00	0.00	1.00	0.00
58.24	169.67	2.00	0.00	1.00	0.00	58.40	162.63	2.00	0.00	1.00	0.00
58.57	162.45	2.00	0.00	1.00	0.00	58.73	167.36	2.00	0.00	1.00	0.00
58.89	175.98	2.00	0.00	1.00	0.00	59.06	183.32	2.00	0.00	1.00	0.00
59.22	188.43	2.00	0.00	1.00	0.00	59.39	188.33	2.00	0.00	1.00	0.00
59.55	184.54	2.00	0.00	1.00	0.00	59.71	182.30	2.00	0.00	1.00	0.00
59.88	186.22	2.00	0.00	1.00	0.00	60.04	190.73	2.00	0.00	1.00	0.00
60.21	189.50	2.00	0.00	1.00	0.00	60.37	182.26	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
60.53	174.52	2.00	0.00	1.00	0.00	60.70	169.70	2.00	0.00	1.00	0.00
60.86	165.34	2.00	0.00	1.00	0.00	61.03	164.57	2.00	0.00	1.00	0.00
61.19	164.64	2.00	0.00	1.00	0.00	61.35	173.15	2.00	0.00	1.00	0.00
61.52	183.34	2.00	0.00	1.00	0.00	61.68	198.25	2.00	0.00	1.00	0.00
61.85	204.52	2.00	0.00	1.00	0.00	62.01	204.16	2.00	0.00	1.00	0.00
62.17	196.03	2.00	0.00	1.00	0.00	62.34	190.17	2.00	0.00	1.00	0.00
62.50	187.40	2.00	0.00	1.00	0.00	62.67	185.05	2.00	0.00	1.00	0.00
62.83	180.01	2.00	0.00	1.00	0.00	63.00	171.45	2.00	0.00	1.00	0.00
63.16	157.36	2.00	0.00	1.00	0.00	63.32	152.83	2.00	0.00	1.00	0.00
63.49	152.84	2.00	0.00	1.00	0.00	63.65	155.09	2.00	0.00	1.00	0.00
63.82	158.93	2.00	0.00	1.00	0.00	63.98	168.07	2.00	0.00	1.00	0.00
64.14	169.79	2.00	0.00	1.00	0.00	64.31	175.13	2.00	0.00	1.00	0.00
64.47	176.53	2.00	0.00	1.00	0.00	64.64	181.66	2.00	0.00	1.00	0.00
64.80	180.02	2.00	0.00	1.00	0.00	64.96	172.16	2.00	0.00	1.00	0.00
65.13	165.63	2.00	0.00	1.00	0.00	65.29	158.85	2.00	0.00	1.00	0.00
65.46	157.20	2.00	0.00	1.00	0.00	65.62	154.41	2.00	0.00	1.00	0.00
65.78	161.63	2.00	0.00	1.00	0.00	65.95	159.11	2.00	0.00	1.00	0.00
66.11	158.03	2.00	0.00	1.00	0.00	66.28	155.36	2.00	0.00	1.00	0.00
66.44	152.56	2.00	0.00	1.00	0.00	66.60	150.31	2.00	0.00	1.00	0.00
66.77	147.59	2.00	0.00	1.00	0.00	66.93	146.60	2.00	0.00	1.00	0.00
67.10	144.51	2.00	0.00	1.00	0.00	67.26	143.09	2.00	0.00	1.00	0.00
67.42	141.27	2.00	0.00	1.00	0.00	67.59	134.37	2.00	0.00	1.00	0.00
67.75	131.76	2.00	0.00	1.00	0.00	67.92	129.90	2.00	0.00	1.00	0.00
68.08	129.45	2.00	0.00	1.00	0.00	68.24	135.90	2.00	0.00	1.00	0.00
68.41	143.75	2.00	0.00	1.00	0.00	68.57	149.28	2.00	0.00	1.00	0.00
68.74	146.77	2.00	0.00	1.00	0.00	68.90	142.82	2.00	0.00	1.00	0.00
69.07	139.87	2.00	0.00	1.00	0.00	69.23	140.21	2.00	0.00	1.00	0.00
69.39	141.43	2.00	0.00	1.00	0.00	69.56	165.13	2.00	0.00	1.00	0.00
69.72	186.71	2.00	0.00	1.00	0.00	69.89	199.07	2.00	0.00	1.00	0.00
70.05	196.31	2.00	0.00	1.00	0.00	70.21	182.02	2.00	0.00	1.00	0.00
70.38	178.11	2.00	0.00	1.00	0.00	70.54	185.33	2.00	0.00	1.00	0.00
70.71	214.86	2.00	0.00	1.00	0.00	70.87	235.53	2.00	0.00	1.00	0.00
71.03	265.01	2.00	0.00	1.00	0.00	71.20	276.79	2.00	0.00	1.00	0.00
71.36	263.21	2.00	0.00	1.00	0.00	71.53	243.46	2.00	0.00	1.00	0.00
71.69	243.44	2.00	0.00	1.00	0.00	71.85	242.44	2.00	0.00	1.00	0.00
72.02	240.89	2.00	0.00	1.00	0.00	72.18	233.10	2.00	0.00	1.00	0.00
72.35	220.98	2.00	0.00	1.00	0.00	72.51	207.73	2.00	0.00	1.00	0.00
72.67	193.67	2.00	0.00	1.00	0.00	72.84	183.91	2.00	0.00	1.00	0.00
73.00	170.43	2.00	0.00	1.00	0.00	73.17	155.13	2.00	0.00	1.00	0.00
73.33	160.39	2.00	0.00	1.00	0.00	73.49	168.81	2.00	0.00	1.00	0.00
73.66	174.35	2.00	0.00	1.00	0.00	73.82	175.29	2.00	0.00	1.00	0.00
73.99	160.16	2.00	0.00	1.00	0.00	74.15	154.52	2.00	0.00	1.00	0.00
74.31	156.13	2.00	0.00	1.00	0.00	74.48	165.74	2.00	0.00	1.00	0.00
74.64	175.38	2.00	0.00	1.00	0.00	74.81	183.88	2.00	0.00	1.00	0.00
74.97	198.62	2.00	0.00	1.00	0.00	75.13	218.60	2.00	0.00	1.00	0.00
75.30	232.54	2.00	0.00	1.00	0.00	75.46	232.63	2.00	0.00	1.00	0.00
75.63	231.47	2.00	0.00	1.00	0.00	75.79	236.91	2.00	0.00	1.00	0.00
75.96	233.94	2.00	0.00	1.00	0.00	76.12	218.74	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
76.28	193.57	2.00	0.00	1.00	0.00	76.45	183.50	2.00	0.00	1.00	0.00
76.61	188.25	2.00	0.00	1.00	0.00	76.78	197.53	2.00	0.00	1.00	0.00
76.94	205.04	2.00	0.00	1.00	0.00	77.10	206.06	2.00	0.00	1.00	0.00
77.27	202.14	2.00	0.00	1.00	0.00	77.43	195.84	2.00	0.00	1.00	0.00
77.60	188.29	2.00	0.00	1.00	0.00	77.76	181.78	2.00	0.00	1.00	0.00
77.92	174.84	2.00	0.00	1.00	0.00	78.09	168.40	2.00	0.00	1.00	0.00
78.25	163.46	2.00	0.00	1.00	0.00	78.42	161.53	2.00	0.00	1.00	0.00
78.58	166.58	2.00	0.00	1.00	0.00	78.74	175.85	2.00	0.00	1.00	0.00
78.91	184.49	2.00	0.00	1.00	0.00	79.07	184.02	2.00	0.00	1.00	0.00
79.24	176.12	2.00	0.00	1.00	0.00	79.40	166.28	2.00	0.00	1.00	0.00
79.56	171.27	2.00	0.00	1.00	0.00	79.73	178.43	2.00	0.00	1.00	0.00
79.89	184.70	2.00	0.00	1.00	0.00	80.06	179.32	2.00	0.00	1.00	0.00
80.22	175.02	2.00	0.00	1.00	0.00	80.38	172.17	2.00	0.00	1.00	0.00
80.55	175.19	2.00	0.00	1.00	0.00	80.71	181.57	2.00	0.00	1.00	0.00
80.88	185.86	2.00	0.00	1.00	0.00	81.04	183.93	2.00	0.00	1.00	0.00
81.20	177.03	2.00	0.00	1.00	0.00	81.37	170.57	2.00	0.00	1.00	0.00
81.53	165.58	2.00	0.00	1.00	0.00	81.70	160.45	2.00	0.00	1.00	0.00
81.86	155.45	2.00	0.00	1.00	0.00	82.02	150.11	2.00	0.00	1.00	0.00
82.19	151.59	2.00	0.00	1.00	0.00	82.35	154.15	2.00	0.00	1.00	0.00
82.52	158.47	2.00	0.00	1.00	0.00	82.68	157.45	2.00	0.00	1.00	0.00
82.85	157.39	2.00	0.00	1.00	0.00	83.01	161.79	2.00	0.00	1.00	0.00
83.17	167.09	2.00	0.00	1.00	0.00	83.34	171.81	2.00	0.00	1.00	0.00
83.50	168.57	2.00	0.00	1.00	0.00	83.67	171.81	2.00	0.00	1.00	0.00
83.83	175.36	2.00	0.00	1.00	0.00	83.99	185.19	2.00	0.00	1.00	0.00
84.16	186.98	2.00	0.00	1.00	0.00	84.32	185.65	2.00	0.00	1.00	0.00
84.49	175.43	2.00	0.00	1.00	0.00	84.65	168.28	2.00	0.00	1.00	0.00
84.81	161.65	2.00	0.00	1.00	0.00	84.98	160.00	2.00	0.00	1.00	0.00
85.14	160.24	2.00	0.00	1.00	0.00	85.31	167.31	2.00	0.00	1.00	0.00
85.47	172.99	2.00	0.00	1.00	0.00	85.63	179.07	2.00	0.00	1.00	0.00
85.80	180.37	2.00	0.00	1.00	0.00	85.96	181.18	2.00	0.00	1.00	0.00
86.13	181.92	2.00	0.00	1.00	0.00	86.29	185.16	2.00	0.00	1.00	0.00
86.45	189.56	2.00	0.00	1.00	0.00	86.62	190.24	2.00	0.00	1.00	0.00
86.78	184.36	2.00	0.00	1.00	0.00	86.95	179.14	2.00	0.00	1.00	0.00
87.11	177.28	2.00	0.00	1.00	0.00	87.27	179.62	2.00	0.00	1.00	0.00
87.44	178.31	2.00	0.00	1.00	0.00	87.60	173.47	2.00	0.00	1.00	0.00
87.77	166.06	2.00	0.00	1.00	0.00	87.93	163.14	2.00	0.00	1.00	0.00
88.09	164.40	2.00	0.00	1.00	0.00	88.26	164.28	2.00	0.00	1.00	0.00
88.42	157.31	2.00	0.00	1.00	0.00	88.59	151.25	2.00	0.00	1.00	0.00
88.75	149.82	2.00	0.00	1.00	0.00	88.92	150.32	2.00	0.00	1.00	0.00
89.08	146.90	2.00	0.00	1.00	0.00	89.24	142.75	2.00	0.00	1.00	0.00
89.41	140.22	2.00	0.00	1.00	0.00	89.57	141.08	2.00	0.00	1.00	0.00
89.74	140.85	2.00	0.00	1.00	0.00	89.90	141.59	2.00	0.00	1.00	0.00
90.06	139.31	2.00	0.00	1.00	0.00	90.23	138.32	2.00	0.00	1.00	0.00
90.39	140.21	2.00	0.00	1.00	0.00	90.56	138.81	2.00	0.00	1.00	0.00
90.72	130.95	2.00	0.00	1.00	0.00	90.88	120.35	2.00	0.00	1.00	0.00
91.05	126.77	2.00	0.00	1.00	0.00	91.21	148.87	2.00	0.00	1.00	0.00
91.38	188.32	2.00	0.00	1.00	0.00	91.54	222.47	2.00	0.00	1.00	0.00
91.70	244.81	2.00	0.00	1.00	0.00	91.87	262.74	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
92.03	276.92	2.00	0.00	1.00	0.00	92.20	286.99	2.00	0.00	1.00	0.00
92.36	274.99	2.00	0.00	1.00	0.00	92.52	256.02	2.00	0.00	1.00	0.00
92.69	240.56	2.00	0.00	1.00	0.00	92.85	227.53	2.00	0.00	1.00	0.00
93.02	209.78	2.00	0.00	1.00	0.00	93.18	186.65	2.00	0.00	1.00	0.00
93.34	168.98	2.00	0.00	1.00	0.00	93.51	158.86	2.00	0.00	1.00	0.00
93.67	152.86	2.00	0.00	1.00	0.00	93.84	149.47	2.00	0.00	1.00	0.00
94.00	150.47	2.00	0.00	1.00	0.00	94.16	160.35	2.00	0.00	1.00	0.00
94.33	176.33	2.00	0.00	1.00	0.00	94.49	183.70	2.00	0.00	1.00	0.00
94.66	182.99	2.00	0.00	1.00	0.00	94.82	174.77	2.00	0.00	1.00	0.00
94.98	177.32	2.00	0.00	1.00	0.00	95.15	185.57	2.00	0.00	1.00	0.00
95.31	186.54	2.00	0.00	1.00	0.00	95.48	172.32	2.00	0.00	1.00	0.00
95.64	149.29	2.00	0.00	1.00	0.00	95.81	136.09	2.00	0.00	1.00	0.00
95.97	134.23	2.00	0.00	1.00	0.00	96.13	133.62	2.00	0.00	1.00	0.00
96.30	129.09	2.00	0.00	1.00	0.00	96.46	123.88	2.00	0.00	1.00	0.00
96.63	118.01	2.00	0.00	1.00	0.00	96.79	115.85	2.00	0.00	1.00	0.00
96.95	115.97	2.00	0.00	1.00	0.00	97.12	120.42	2.00	0.00	1.00	0.00
97.28	126.47	2.00	0.00	1.00	0.00	97.45	133.00	2.00	0.00	1.00	0.00
97.61	139.75	2.00	0.00	1.00	0.00	97.77	149.49	2.00	0.00	1.00	0.00
97.94	160.17	2.00	0.00	1.00	0.00	98.10	173.42	2.00	0.00	1.00	0.00
98.27	180.70	2.00	0.00	1.00	0.00	98.43	183.86	2.00	0.00	1.00	0.00
98.59	179.31	2.00	0.00	1.00	0.00	98.76	173.05	2.00	0.00	1.00	0.00
98.92	166.85	2.00	0.00	1.00	0.00	99.09	164.69	2.00	0.00	1.00	0.00
99.25	163.71	2.00	0.00	1.00	0.00	99.41	160.03	2.00	0.00	1.00	0.00
99.58	158.95	2.00	0.00	1.00	0.00	99.74	159.29	2.00	0.00	1.00	0.00
99.91	159.33	2.00	0.00	1.00	0.00	100.07	155.37	2.00	0.00	1.00	0.00

Total estimated settlement: 0.00

Abbreviations

$Q_{tn,cs}$:	Equivalent dean sand normalized cone resistance
FS:	Factor of safety against liquefaction
e_v (%):	Post-liquefaction volumentric strain
DF:	e_v depth weighting factor
Settlement:	Calculated settlement

Wallace-Kuhl & Associates
3050 Industrial Blvd
West Sacramento, CA 95691
http://www.wallace-kuhl.com

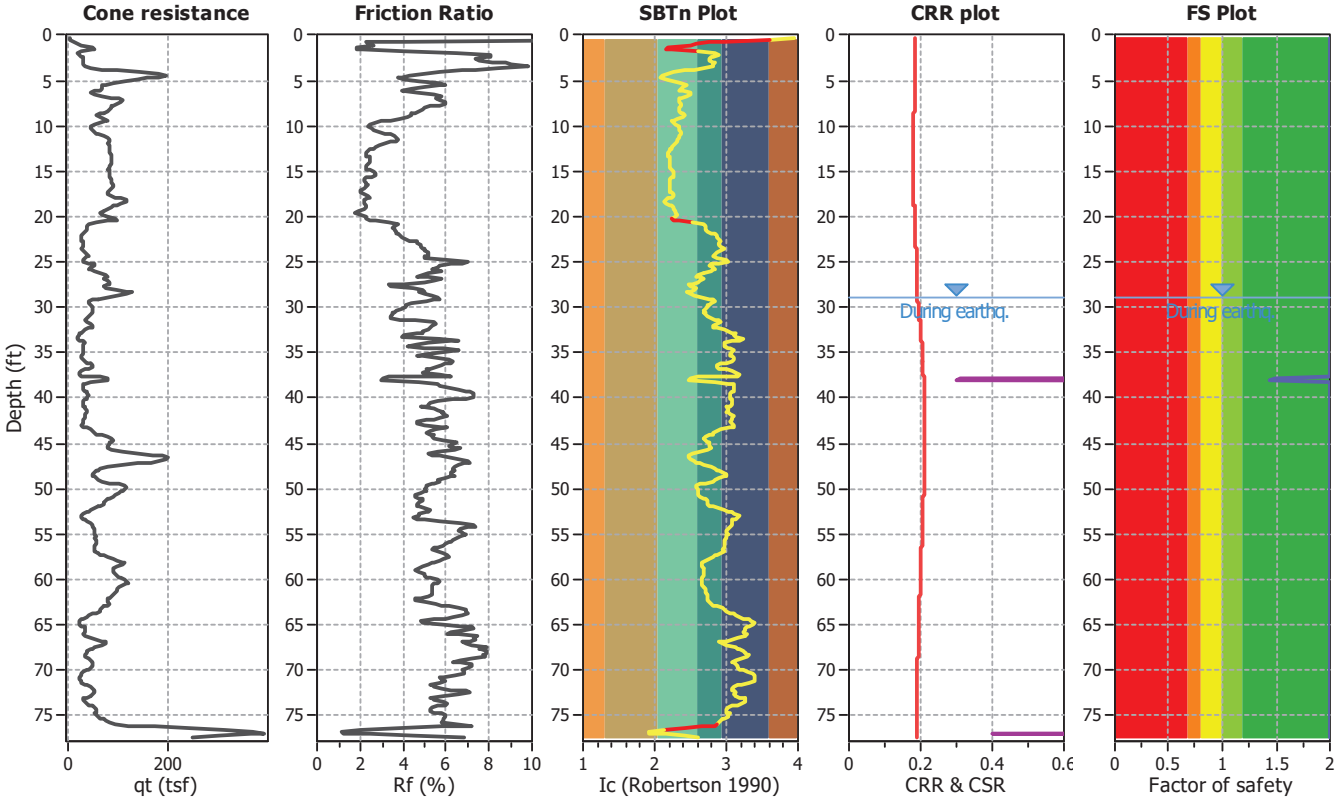
LIQUEFACTION ANALYSIS REPORT

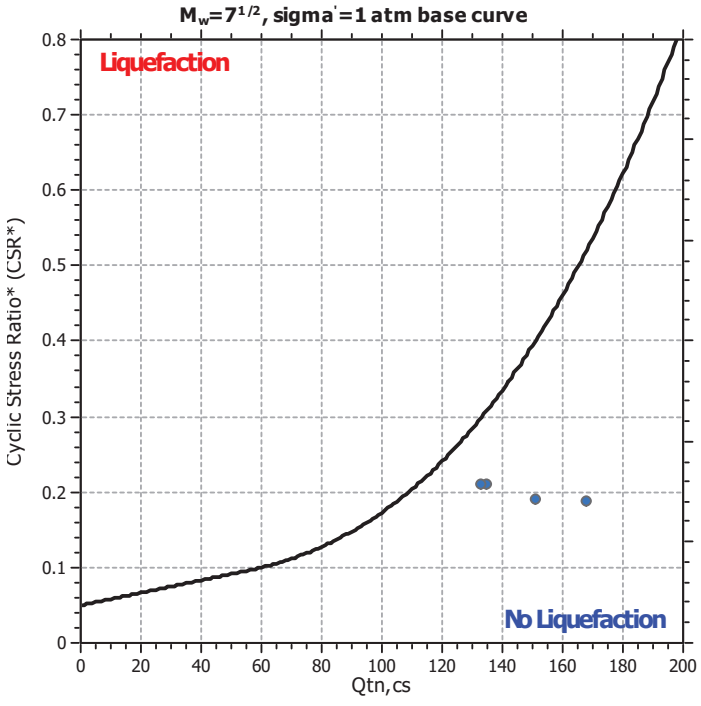
Project title : ST. JOSEPH'S MEDICAL CENTER **Location : Stockton, CA**

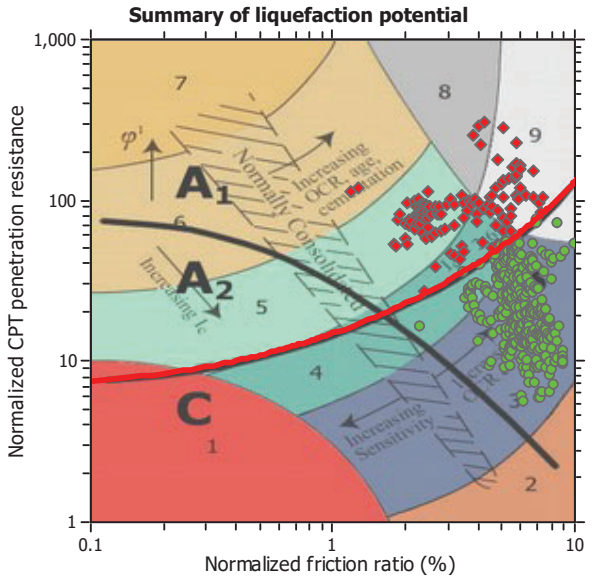
CPT file : CPT-02

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	23.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	29.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	6.50	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.41	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

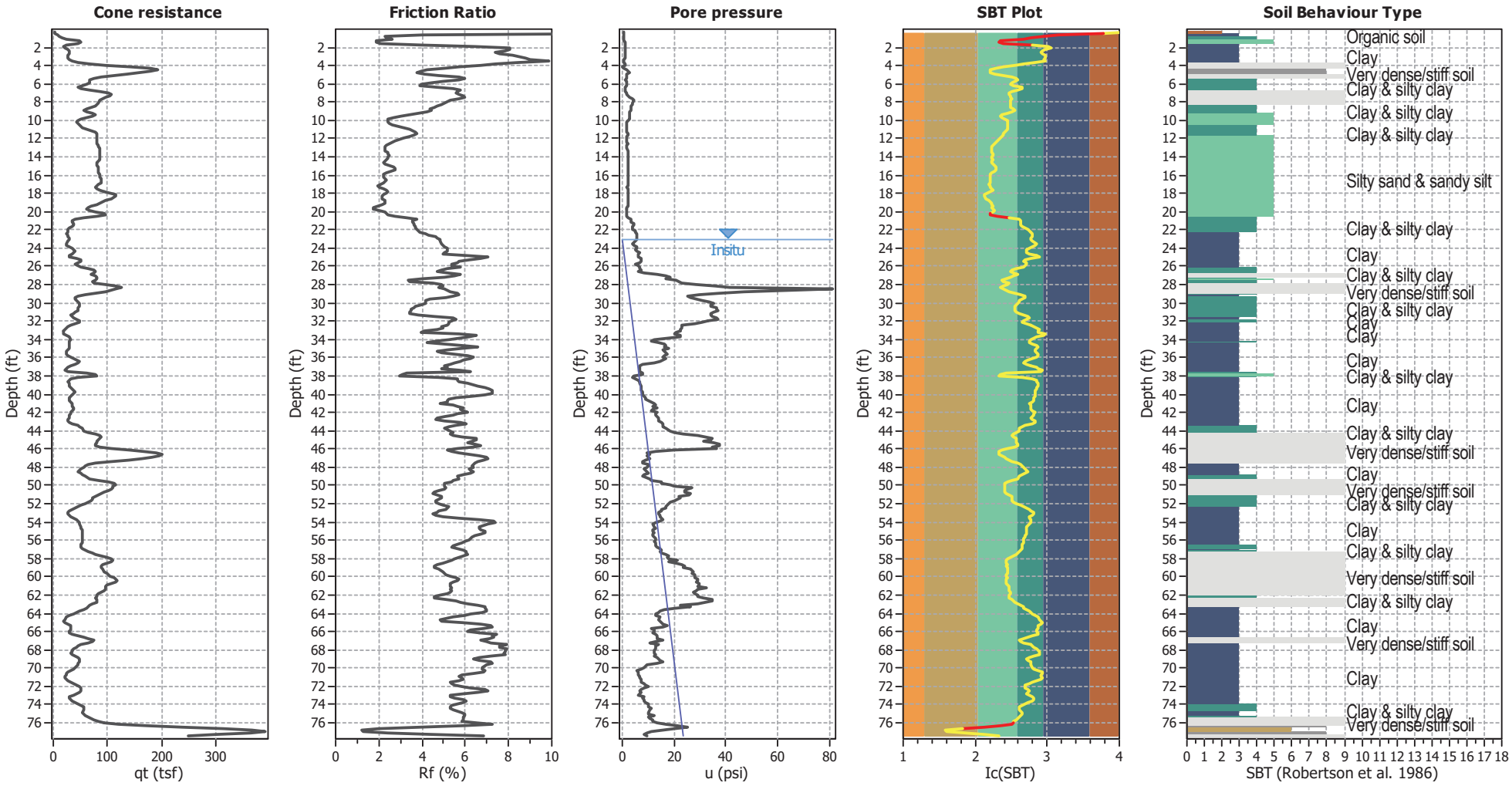






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



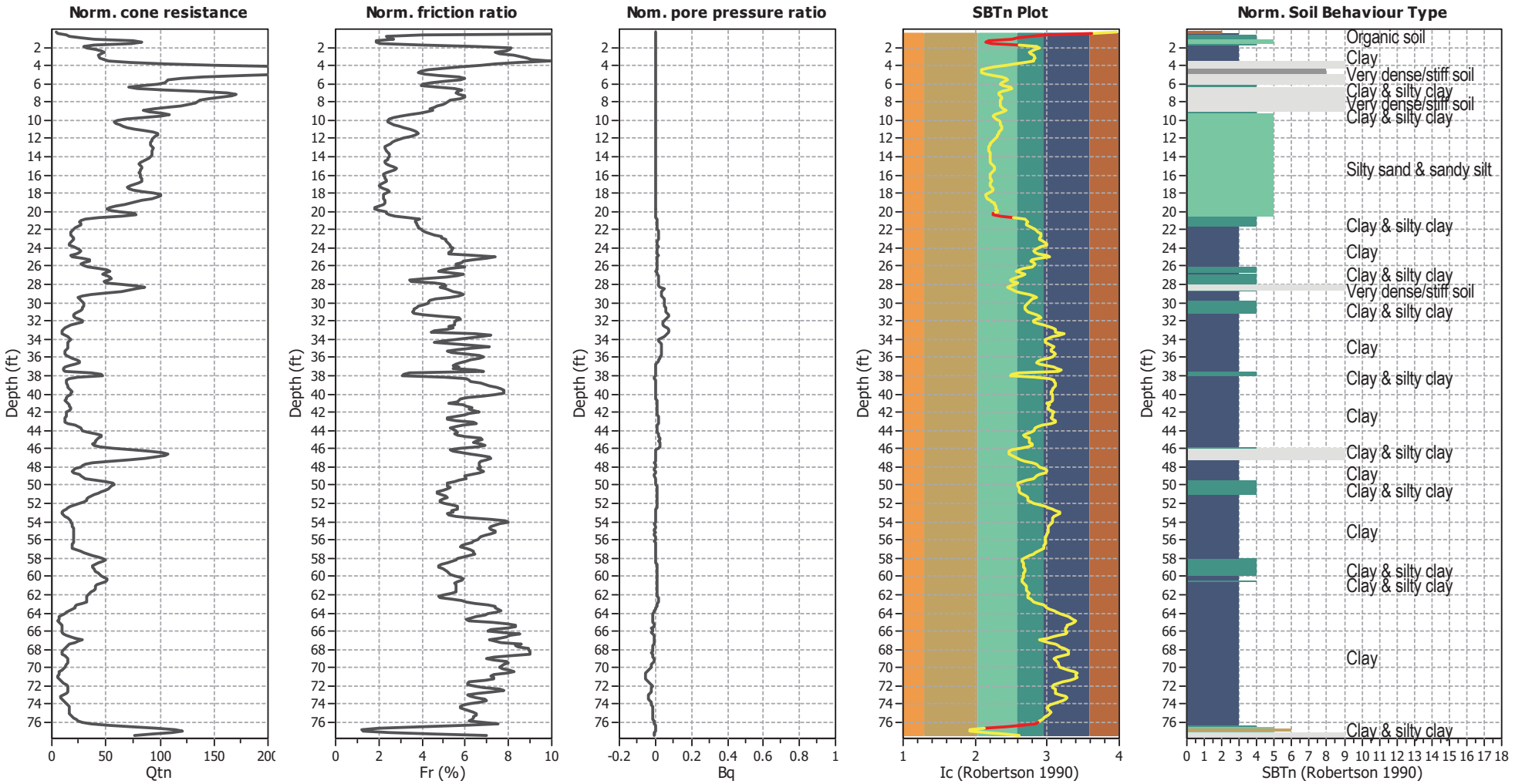
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

CPT basic interpretation plots (normalized)



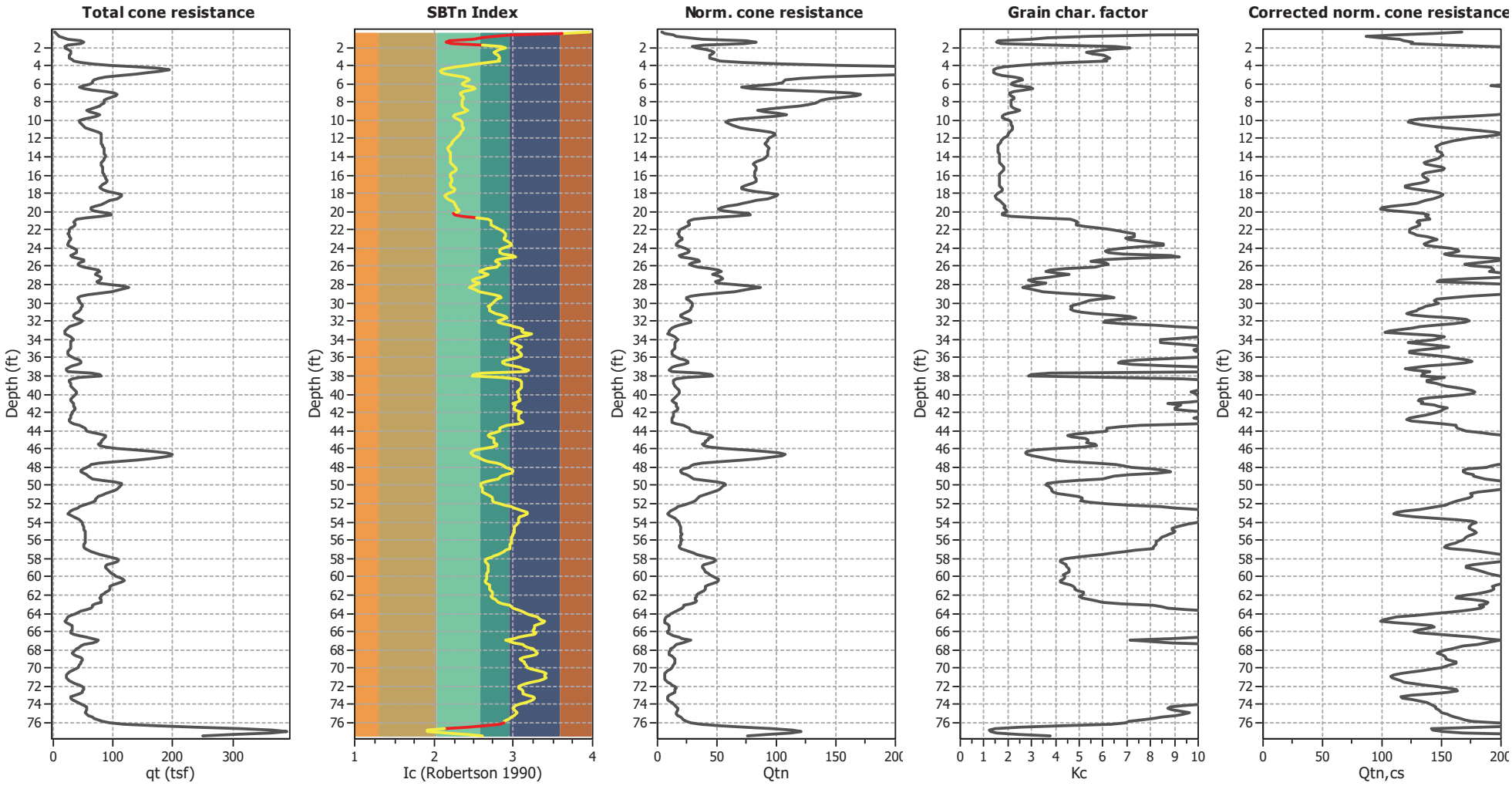
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

SBTn legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

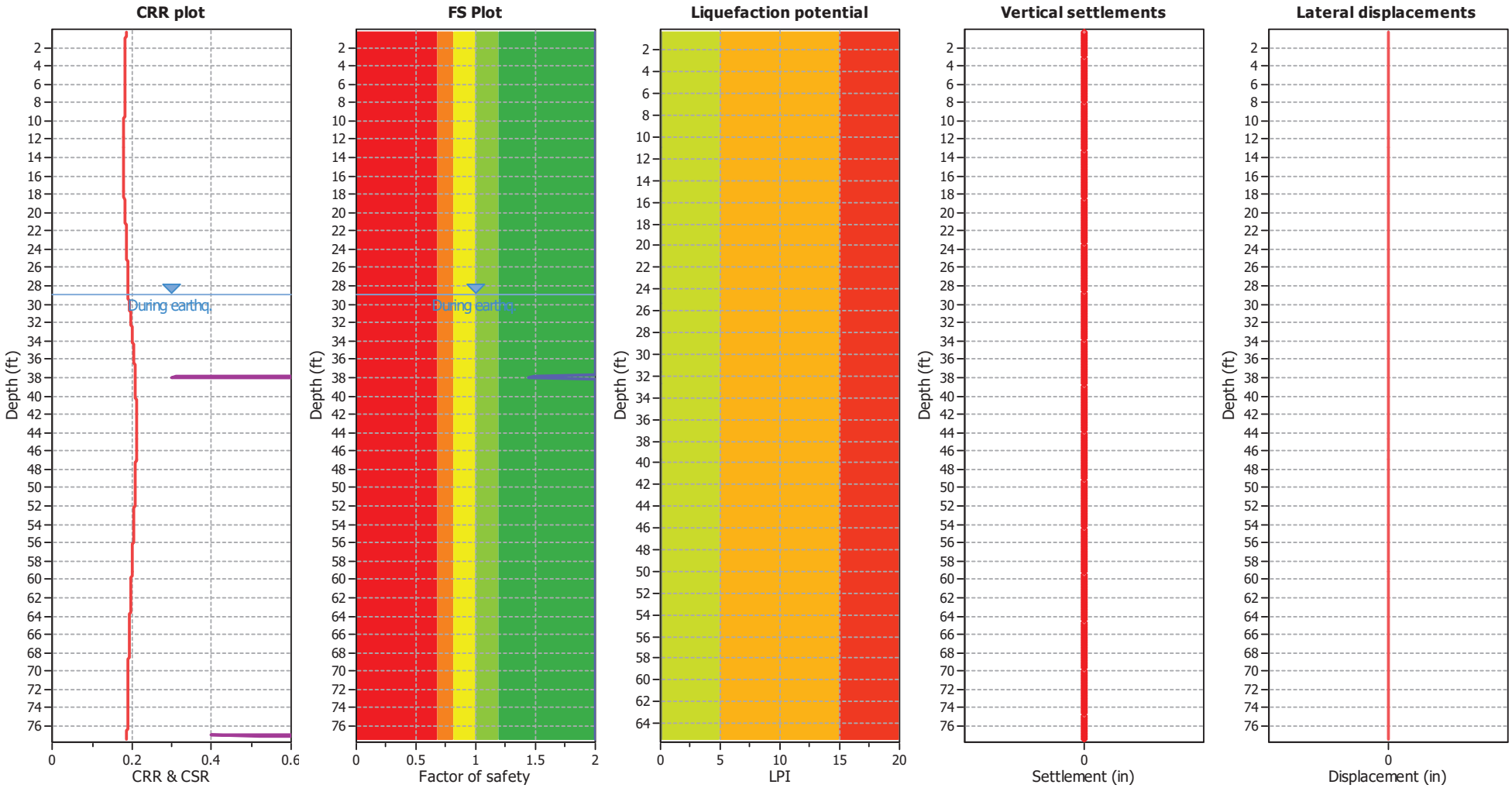
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

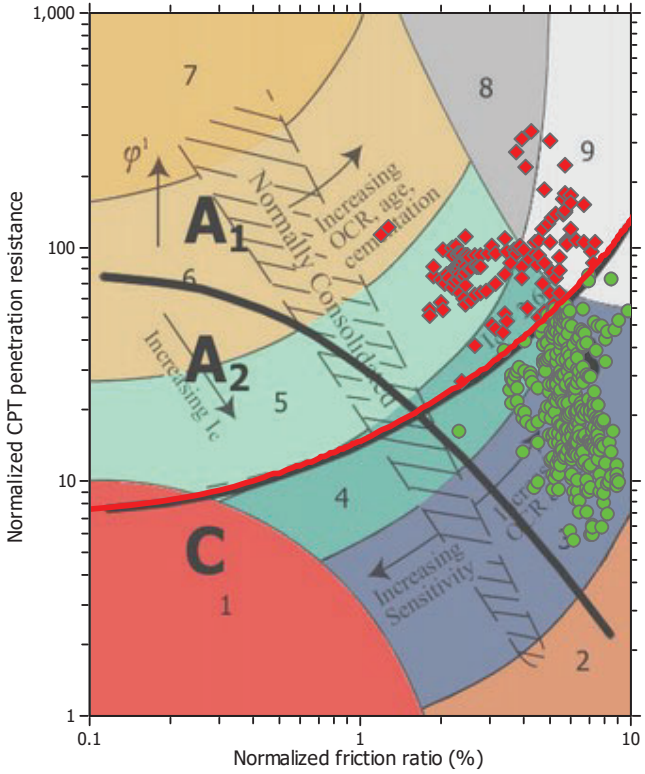
F.S. color scheme

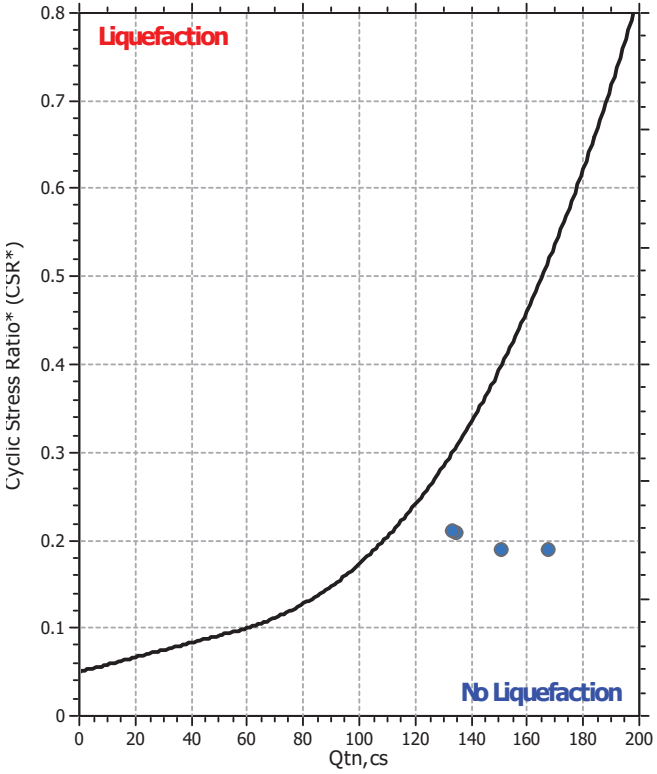
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

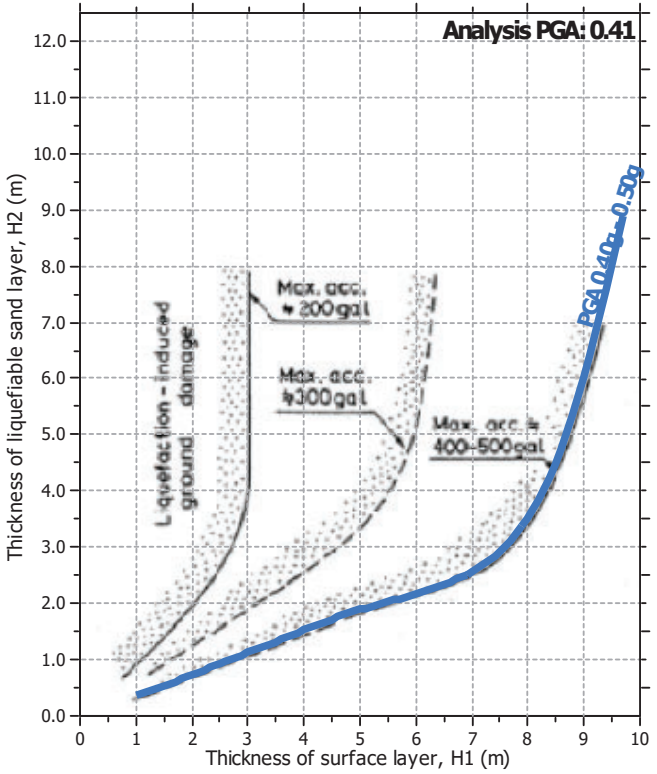
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



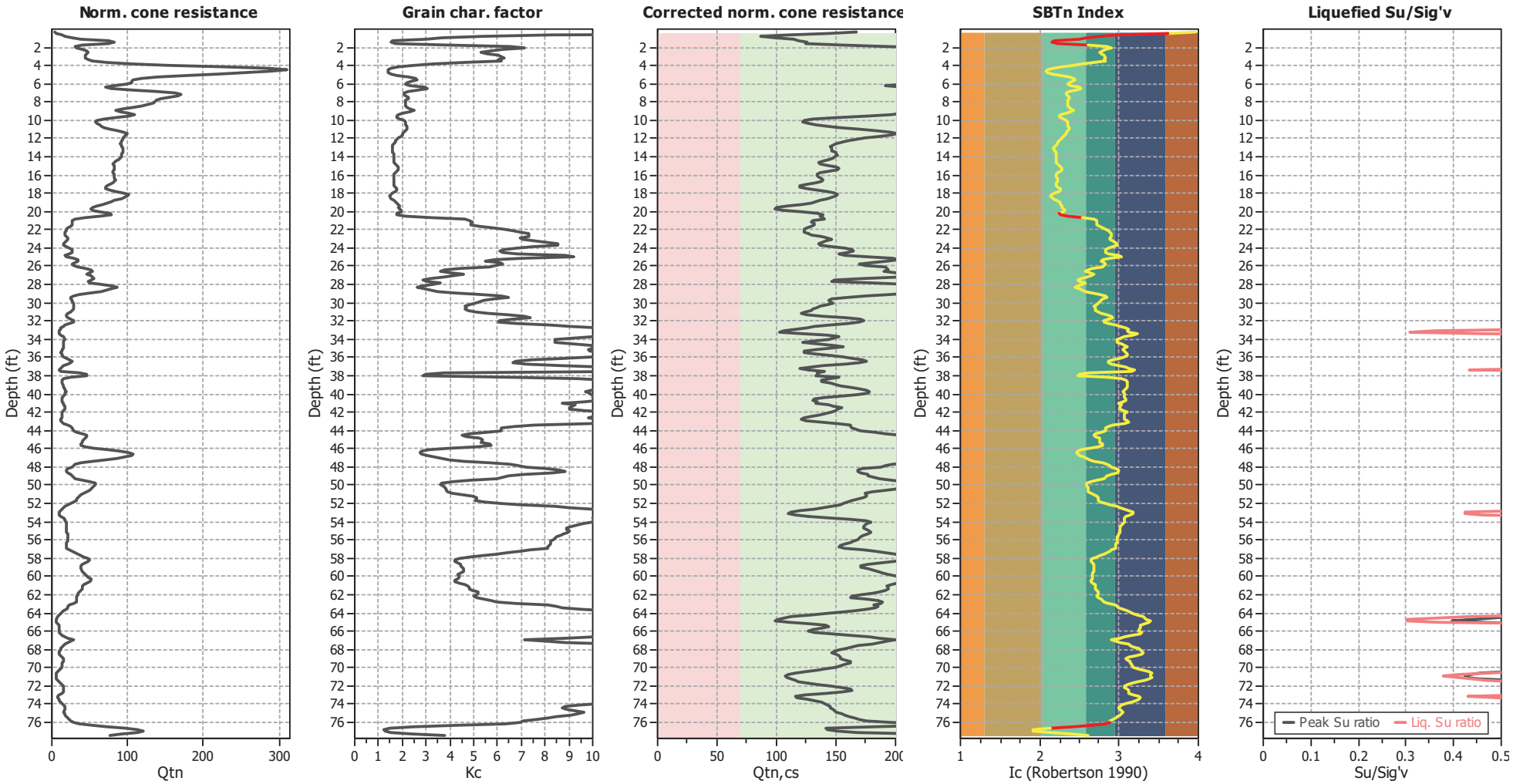




Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

Check for strength loss plots (Robertson (2010))



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
0.33	2.00	0.00	0.00	0.16	0.00	0.49	2.00	0.00	0.00	0.16	0.00
0.66	2.00	0.00	0.00	0.17	0.00	0.82	2.00	0.00	0.00	0.16	0.00
0.98	2.00	0.00	0.00	0.16	0.00	1.15	2.00	0.00	0.00	0.17	0.00
1.31	2.00	0.00	0.00	0.16	0.00	1.48	2.00	0.00	0.00	0.17	0.00
1.64	2.00	0.00	0.00	0.16	0.00	1.80	2.00	0.00	0.00	0.16	0.00
1.97	2.00	0.00	0.00	0.17	0.00	2.13	2.00	0.00	0.00	0.16	0.00
2.30	2.00	0.00	0.00	0.17	0.00	2.46	2.00	0.00	0.00	0.16	0.00
2.62	2.00	0.00	0.00	0.16	0.00	2.79	2.00	0.00	0.00	0.17	0.00
2.95	2.00	0.00	0.00	0.16	0.00	3.12	2.00	0.00	0.00	0.17	0.00
3.28	2.00	0.00	0.00	0.16	0.00	3.45	2.00	0.00	0.00	0.17	0.00
3.61	2.00	0.00	0.00	0.16	0.00	3.77	2.00	0.00	0.00	0.16	0.00
3.94	2.00	0.00	0.00	0.17	0.00	4.10	2.00	0.00	0.00	0.16	0.00
4.27	2.00	0.00	0.00	0.17	0.00	4.43	2.00	0.00	0.00	0.16	0.00
4.59	2.00	0.00	0.00	0.16	0.00	4.76	2.00	0.00	0.00	0.17	0.00
4.92	2.00	0.00	0.00	0.16	0.00	5.09	2.00	0.00	0.00	0.17	0.00
5.25	2.00	0.00	0.00	0.16	0.00	5.41	2.00	0.00	0.00	0.16	0.00
5.58	2.00	0.00	0.00	0.17	0.00	5.74	2.00	0.00	0.00	0.16	0.00
5.91	2.00	0.00	0.00	0.17	0.00	6.07	2.00	0.00	0.00	0.16	0.00
6.23	2.00	0.00	0.00	0.16	0.00	6.40	2.00	0.00	0.00	0.17	0.00
6.56	2.00	0.00	0.00	0.16	0.00	6.73	2.00	0.00	0.00	0.17	0.00
6.89	2.00	0.00	0.00	0.16	0.00	7.05	2.00	0.00	0.00	0.16	0.00
7.22	2.00	0.00	0.00	0.17	0.00	7.38	2.00	0.00	0.00	0.16	0.00
7.55	2.00	0.00	0.00	0.17	0.00	7.71	2.00	0.00	0.00	0.16	0.00
7.87	2.00	0.00	0.00	0.16	0.00	8.04	2.00	0.00	0.00	0.17	0.00
8.20	2.00	0.00	0.00	0.16	0.00	8.37	2.00	0.00	0.00	0.17	0.00
8.53	2.00	0.00	0.00	0.16	0.00	8.69	2.00	0.00	0.00	0.16	0.00
8.86	2.00	0.00	0.00	0.17	0.00	9.02	2.00	0.00	0.00	0.16	0.00
9.19	2.00	0.00	0.00	0.17	0.00	9.35	2.00	0.00	0.00	0.16	0.00
9.51	2.00	0.00	0.00	0.16	0.00	9.68	2.00	0.00	0.00	0.17	0.00
9.84	2.00	0.00	0.00	0.16	0.00	10.01	2.00	0.00	0.00	0.17	0.00
10.17	2.00	0.00	0.00	0.16	0.00	10.34	2.00	0.00	0.00	0.17	0.00
10.50	2.00	0.00	0.00	0.16	0.00	10.66	2.00	0.00	0.00	0.16	0.00
10.83	2.00	0.00	0.00	0.17	0.00	10.99	2.00	0.00	0.00	0.16	0.00
11.16	2.00	0.00	0.00	0.17	0.00	11.32	2.00	0.00	0.00	0.16	0.00
11.48	2.00	0.00	0.00	0.16	0.00	11.65	2.00	0.00	0.00	0.17	0.00
11.81	2.00	0.00	0.00	0.16	0.00	11.98	2.00	0.00	0.00	0.17	0.00
12.14	2.00	0.00	0.00	0.16	0.00	12.30	2.00	0.00	0.00	0.16	0.00
12.47	2.00	0.00	0.00	0.17	0.00	12.63	2.00	0.00	0.00	0.16	0.00
12.80	2.00	0.00	0.00	0.17	0.00	12.96	2.00	0.00	0.00	0.16	0.00
13.12	2.00	0.00	0.00	0.16	0.00	13.29	2.00	0.00	0.00	0.17	0.00
13.45	2.00	0.00	0.00	0.16	0.00	13.62	2.00	0.00	0.00	0.17	0.00
13.78	2.00	0.00	0.00	0.16	0.00	13.94	2.00	0.00	0.00	0.16	0.00
14.11	2.00	0.00	0.00	0.17	0.00	14.27	2.00	0.00	0.00	0.16	0.00
14.44	2.00	0.00	0.00	0.17	0.00	14.60	2.00	0.00	0.00	0.16	0.00
14.76	2.00	0.00	0.00	0.16	0.00	14.93	2.00	0.00	0.00	0.17	0.00
15.09	2.00	0.00	0.00	0.16	0.00	15.26	2.00	0.00	0.00	0.17	0.00
15.42	2.00	0.00	0.00	0.16	0.00	15.58	2.00	0.00	0.00	0.16	0.00
15.75	2.00	0.00	0.00	0.17	0.00	15.91	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
16.08	2.00	0.00	0.00	0.17	0.00	16.24	2.00	0.00	0.00	0.16	0.00
16.40	2.00	0.00	0.00	0.16	0.00	16.57	2.00	0.00	0.00	0.17	0.00
16.73	2.00	0.00	0.00	0.16	0.00	16.90	2.00	0.00	0.00	0.17	0.00
17.06	2.00	0.00	0.00	0.16	0.00	17.23	2.00	0.00	0.00	0.17	0.00
17.39	2.00	0.00	0.00	0.16	0.00	17.55	2.00	0.00	0.00	0.16	0.00
17.72	2.00	0.00	0.00	0.17	0.00	17.88	2.00	0.00	0.00	0.16	0.00
18.05	2.00	0.00	0.00	0.17	0.00	18.21	2.00	0.00	0.00	0.16	0.00
18.37	2.00	0.00	0.00	0.16	0.00	18.54	2.00	0.00	0.00	0.17	0.00
18.70	2.00	0.00	0.00	0.16	0.00	18.87	2.00	0.00	0.00	0.17	0.00
19.03	2.00	0.00	0.00	0.16	0.00	19.19	2.00	0.00	0.00	0.16	0.00
19.36	2.00	0.00	0.00	0.17	0.00	19.52	2.00	0.00	0.00	0.16	0.00
19.69	2.00	0.00	0.00	0.17	0.00	19.85	2.00	0.00	0.00	0.16	0.00
20.01	2.00	0.00	0.00	0.16	0.00	20.18	2.00	0.00	0.00	0.17	0.00
20.34	2.00	0.00	0.00	0.16	0.00	20.51	2.00	0.00	0.00	0.17	0.00
20.67	2.00	0.00	0.00	0.16	0.00	20.83	2.00	0.00	0.00	0.16	0.00
21.00	2.00	0.00	0.00	0.17	0.00	21.16	2.00	0.00	0.00	0.16	0.00
21.33	2.00	0.00	0.00	0.17	0.00	21.49	2.00	0.00	0.00	0.16	0.00
21.65	2.00	0.00	0.00	0.16	0.00	21.82	2.00	0.00	0.00	0.17	0.00
21.98	2.00	0.00	0.00	0.16	0.00	22.15	2.00	0.00	0.00	0.17	0.00
22.31	2.00	0.00	0.00	0.16	0.00	22.47	2.00	0.00	0.00	0.16	0.00
22.64	2.00	0.00	0.00	0.17	0.00	22.80	2.00	0.00	0.00	0.16	0.00
22.97	2.00	0.00	0.00	0.17	0.00	23.13	2.00	0.00	0.00	0.16	0.00
23.30	2.00	0.00	0.00	0.17	0.00	23.46	2.00	0.00	0.00	0.16	0.00
23.62	2.00	0.00	0.00	0.16	0.00	23.79	2.00	0.00	0.00	0.17	0.00
23.95	2.00	0.00	0.00	0.16	0.00	24.12	2.00	0.00	0.00	0.17	0.00
24.28	2.00	0.00	0.00	0.16	0.00	24.44	2.00	0.00	0.00	0.16	0.00
24.61	2.00	0.00	0.00	0.17	0.00	24.77	2.00	0.00	0.00	0.16	0.00
24.94	2.00	0.00	0.00	0.17	0.00	25.10	2.00	0.00	0.00	0.16	0.00
25.26	2.00	0.00	0.00	0.16	0.00	25.43	2.00	0.00	0.00	0.17	0.00
25.59	2.00	0.00	0.00	0.16	0.00	25.76	2.00	0.00	0.00	0.17	0.00
25.92	2.00	0.00	0.00	0.16	0.00	26.08	2.00	0.00	0.00	0.16	0.00
26.25	2.00	0.00	0.00	0.17	0.00	26.41	2.00	0.00	0.00	0.16	0.00
26.58	2.00	0.00	0.00	0.17	0.00	26.74	2.00	0.00	0.00	0.16	0.00
26.90	2.00	0.00	0.00	0.16	0.00	27.07	2.00	0.00	0.00	0.17	0.00
27.23	2.00	0.00	0.00	0.16	0.00	27.40	2.00	0.00	0.00	0.17	0.00
27.56	2.00	0.00	0.00	0.16	0.00	27.72	2.00	0.00	0.00	0.16	0.00
27.89	2.00	0.00	0.00	0.17	0.00	28.05	2.00	0.00	0.00	0.16	0.00
28.22	2.00	0.00	0.00	0.17	0.00	28.38	2.00	0.00	0.00	0.16	0.00
28.54	2.00	0.00	0.00	0.16	0.00	28.71	2.00	0.00	0.00	0.17	0.00
28.87	2.00	0.00	0.00	0.16	0.00	29.04	2.00	0.00	0.00	0.17	0.00
29.20	2.00	0.00	0.00	0.16	0.00	29.36	2.00	0.00	0.00	0.16	0.00
29.53	2.00	0.00	0.00	0.17	0.00	29.69	2.00	0.00	0.00	0.16	0.00
29.86	2.00	0.00	0.00	0.17	0.00	30.02	2.00	0.00	0.00	0.16	0.00
30.19	2.00	0.00	0.00	0.17	0.00	30.35	2.00	0.00	0.00	0.16	0.00
30.51	2.00	0.00	0.00	0.16	0.00	30.68	2.00	0.00	0.00	0.17	0.00
30.84	2.00	0.00	0.00	0.16	0.00	31.01	2.00	0.00	0.00	0.17	0.00
31.17	2.00	0.00	0.00	0.16	0.00	31.33	2.00	0.00	0.00	0.16	0.00
31.50	2.00	0.00	0.00	0.17	0.00	31.66	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
31.83	2.00	0.00	0.00	0.17	0.00	31.99	2.00	0.00	0.00	0.16	0.00
32.15	2.00	0.00	0.00	0.16	0.00	32.32	2.00	0.00	0.00	0.17	0.00
32.48	2.00	0.00	0.00	0.16	0.00	32.65	2.00	0.00	0.00	0.17	0.00
32.81	2.00	0.00	0.00	0.16	0.00	32.97	2.00	0.00	0.00	0.16	0.00
33.14	2.00	0.00	0.00	0.17	0.00	33.30	2.00	0.00	0.00	0.16	0.00
33.47	2.00	0.00	0.00	0.17	0.00	33.63	2.00	0.00	0.00	0.16	0.00
33.79	2.00	0.00	0.00	0.16	0.00	33.96	2.00	0.00	0.00	0.17	0.00
34.12	2.00	0.00	0.00	0.16	0.00	34.29	2.00	0.00	0.00	0.17	0.00
34.45	2.00	0.00	0.00	0.16	0.00	34.61	2.00	0.00	0.00	0.16	0.00
34.78	2.00	0.00	0.00	0.17	0.00	34.94	2.00	0.00	0.00	0.16	0.00
35.11	2.00	0.00	0.00	0.17	0.00	35.27	2.00	0.00	0.00	0.16	0.00
35.43	2.00	0.00	0.00	0.16	0.00	35.60	2.00	0.00	0.00	0.17	0.00
35.76	2.00	0.00	0.00	0.16	0.00	35.93	2.00	0.00	0.00	0.17	0.00
36.09	2.00	0.00	0.00	0.16	0.00	36.26	2.00	0.00	0.00	0.17	0.00
36.42	2.00	0.00	0.00	0.16	0.00	36.58	2.00	0.00	0.00	0.16	0.00
36.75	2.00	0.00	0.00	0.17	0.00	36.91	2.00	0.00	0.00	0.16	0.00
37.08	2.00	0.00	0.00	0.17	0.00	37.24	2.00	0.00	0.00	0.16	0.00
37.40	2.00	0.00	0.00	0.16	0.00	37.57	2.00	0.00	0.00	0.17	0.00
37.73	2.00	0.00	0.00	0.16	0.00	37.90	1.49	0.00	0.00	0.17	0.00
38.06	1.44	0.00	0.00	0.16	0.00	38.22	2.00	0.00	0.00	0.16	0.00
38.39	2.00	0.00	0.00	0.17	0.00	38.55	2.00	0.00	0.00	0.16	0.00
38.72	2.00	0.00	0.00	0.17	0.00	38.88	2.00	0.00	0.00	0.16	0.00
39.04	2.00	0.00	0.00	0.16	0.00	39.21	2.00	0.00	0.00	0.17	0.00
39.37	2.00	0.00	0.00	0.16	0.00	39.54	2.00	0.00	0.00	0.17	0.00
39.70	2.00	0.00	0.00	0.16	0.00	39.86	2.00	0.00	0.00	0.16	0.00
40.03	2.00	0.00	0.00	0.17	0.00	40.19	2.00	0.00	0.00	0.16	0.00
40.36	2.00	0.00	0.00	0.17	0.00	40.52	2.00	0.00	0.00	0.16	0.00
40.68	2.00	0.00	0.00	0.16	0.00	40.85	2.00	0.00	0.00	0.17	0.00
41.01	2.00	0.00	0.00	0.16	0.00	41.18	2.00	0.00	0.00	0.17	0.00
41.34	2.00	0.00	0.00	0.16	0.00	41.50	2.00	0.00	0.00	0.16	0.00
41.67	2.00	0.00	0.00	0.17	0.00	41.83	2.00	0.00	0.00	0.16	0.00
42.00	2.00	0.00	0.00	0.17	0.00	42.16	2.00	0.00	0.00	0.16	0.00
42.32	2.00	0.00	0.00	0.16	0.00	42.49	2.00	0.00	0.00	0.17	0.00
42.65	2.00	0.00	0.00	0.16	0.00	42.82	2.00	0.00	0.00	0.17	0.00
42.98	2.00	0.00	0.00	0.16	0.00	43.15	2.00	0.00	0.00	0.17	0.00
43.31	2.00	0.00	0.00	0.16	0.00	43.47	2.00	0.00	0.00	0.16	0.00
43.64	2.00	0.00	0.00	0.17	0.00	43.80	2.00	0.00	0.00	0.16	0.00
43.97	2.00	0.00	0.00	0.17	0.00	44.13	2.00	0.00	0.00	0.16	0.00
44.29	2.00	0.00	0.00	0.16	0.00	44.46	2.00	0.00	0.00	0.17	0.00
44.62	2.00	0.00	0.00	0.16	0.00	44.79	2.00	0.00	0.00	0.17	0.00
44.95	2.00	0.00	0.00	0.16	0.00	45.11	2.00	0.00	0.00	0.16	0.00
45.28	2.00	0.00	0.00	0.17	0.00	45.44	2.00	0.00	0.00	0.16	0.00
45.61	2.00	0.00	0.00	0.17	0.00	45.77	2.00	0.00	0.00	0.16	0.00
45.93	2.00	0.00	0.00	0.16	0.00	46.10	2.00	0.00	0.00	0.17	0.00
46.26	2.00	0.00	0.00	0.16	0.00	46.43	2.00	0.00	0.00	0.17	0.00
46.59	2.00	0.00	0.00	0.16	0.00	46.75	2.00	0.00	0.00	0.16	0.00
46.92	2.00	0.00	0.00	0.17	0.00	47.08	2.00	0.00	0.00	0.16	0.00
47.25	2.00	0.00	0.00	0.17	0.00	47.41	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
47.57	2.00	0.00	0.00	0.16	0.00	47.74	2.00	0.00	0.00	0.17	0.00
47.90	2.00	0.00	0.00	0.16	0.00	48.07	2.00	0.00	0.00	0.17	0.00
48.23	2.00	0.00	0.00	0.16	0.00	48.39	2.00	0.00	0.00	0.16	0.00
48.56	2.00	0.00	0.00	0.17	0.00	48.72	2.00	0.00	0.00	0.16	0.00
48.89	2.00	0.00	0.00	0.17	0.00	49.05	2.00	0.00	0.00	0.16	0.00
49.22	2.00	0.00	0.00	0.17	0.00	49.38	2.00	0.00	0.00	0.16	0.00
49.54	2.00	0.00	0.00	0.16	0.00	49.71	2.00	0.00	0.00	0.17	0.00
49.87	2.00	0.00	0.00	0.16	0.00	50.04	2.00	0.00	0.00	0.17	0.00
50.20	2.00	0.00	0.00	0.16	0.00	50.36	2.00	0.00	0.00	0.16	0.00
50.53	2.00	0.00	0.00	0.17	0.00	50.69	2.00	0.00	0.00	0.16	0.00
50.86	2.00	0.00	0.00	0.17	0.00	51.02	2.00	0.00	0.00	0.16	0.00
51.18	2.00	0.00	0.00	0.16	0.00	51.35	2.00	0.00	0.00	0.17	0.00
51.51	2.00	0.00	0.00	0.16	0.00	51.68	2.00	0.00	0.00	0.17	0.00
51.84	2.00	0.00	0.00	0.16	0.00	52.00	2.00	0.00	0.00	0.16	0.00
52.17	2.00	0.00	0.00	0.17	0.00	52.33	2.00	0.00	0.00	0.16	0.00
52.50	2.00	0.00	0.00	0.17	0.00	52.66	2.00	0.00	0.00	0.16	0.00
52.82	2.00	0.00	0.00	0.16	0.00	52.99	2.00	0.00	0.00	0.17	0.00
53.15	2.00	0.00	0.00	0.16	0.00	53.32	2.00	0.00	0.00	0.17	0.00
53.48	2.00	0.00	0.00	0.16	0.00	53.64	2.00	0.00	0.00	0.16	0.00
53.81	2.00	0.00	0.00	0.17	0.00	53.97	2.00	0.00	0.00	0.16	0.00
54.14	2.00	0.00	0.00	0.17	0.00	54.30	2.00	0.00	0.00	0.16	0.00
54.46	2.00	0.00	0.00	0.16	0.00	54.63	2.00	0.00	0.00	0.17	0.00
54.79	2.00	0.00	0.00	0.16	0.00	54.96	2.00	0.00	0.00	0.17	0.00
55.12	2.00	0.00	0.00	0.16	0.00	55.28	2.00	0.00	0.00	0.16	0.00
55.45	2.00	0.00	0.00	0.17	0.00	55.61	2.00	0.00	0.00	0.16	0.00
55.78	2.00	0.00	0.00	0.17	0.00	55.94	2.00	0.00	0.00	0.16	0.00
56.11	2.00	0.00	0.00	0.17	0.00	56.27	2.00	0.00	0.00	0.16	0.00
56.43	2.00	0.00	0.00	0.16	0.00	56.60	2.00	0.00	0.00	0.17	0.00
56.76	2.00	0.00	0.00	0.16	0.00	56.93	2.00	0.00	0.00	0.17	0.00
57.09	2.00	0.00	0.00	0.16	0.00	57.25	2.00	0.00	0.00	0.16	0.00
57.42	2.00	0.00	0.00	0.17	0.00	57.58	2.00	0.00	0.00	0.16	0.00
57.75	2.00	0.00	0.00	0.17	0.00	57.91	2.00	0.00	0.00	0.16	0.00
58.07	2.00	0.00	0.00	0.16	0.00	58.24	2.00	0.00	0.00	0.17	0.00
58.40	2.00	0.00	0.00	0.16	0.00	58.57	2.00	0.00	0.00	0.17	0.00
58.73	2.00	0.00	0.00	0.16	0.00	58.89	2.00	0.00	0.00	0.16	0.00
59.06	2.00	0.00	0.00	0.17	0.00	59.22	2.00	0.00	0.00	0.16	0.00
59.39	2.00	0.00	0.00	0.17	0.00	59.55	2.00	0.00	0.00	0.16	0.00
59.71	2.00	0.00	0.00	0.16	0.00	59.88	2.00	0.00	0.00	0.17	0.00
60.04	2.00	0.00	0.00	0.16	0.00	60.21	2.00	0.00	0.00	0.17	0.00
60.37	2.00	0.00	0.00	0.16	0.00	60.53	2.00	0.00	0.00	0.16	0.00
60.70	2.00	0.00	0.00	0.17	0.00	60.86	2.00	0.00	0.00	0.16	0.00
61.03	2.00	0.00	0.00	0.17	0.00	61.19	2.00	0.00	0.00	0.16	0.00
61.35	2.00	0.00	0.00	0.16	0.00	61.52	2.00	0.00	0.00	0.17	0.00
61.68	2.00	0.00	0.00	0.16	0.00	61.85	2.00	0.00	0.00	0.17	0.00
62.01	2.00	0.00	0.00	0.16	0.00	62.17	2.00	0.00	0.00	0.16	0.00
62.34	2.00	0.00	0.00	0.17	0.00	62.50	2.00	0.00	0.00	0.16	0.00
62.67	2.00	0.00	0.00	0.17	0.00	62.83	2.00	0.00	0.00	0.16	0.00
63.00	2.00	0.00	0.00	0.17	0.00	63.16	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
63.32	2.00	0.00	0.00	0.16	0.00	63.49	2.00	0.00	0.00	0.17	0.00
63.65	2.00	0.00	0.00	0.16	0.00	63.82	2.00	0.00	0.00	0.17	0.00
63.98	2.00	0.00	0.00	0.16	0.00	64.14	2.00	0.00	0.00	0.16	0.00
64.31	2.00	0.00	0.00	0.17	0.00	64.47	2.00	0.00	0.00	0.16	0.00
64.64	2.00	0.00	0.00	0.17	0.00	64.80	2.00	0.00	0.00	0.16	0.00
64.96	2.00	0.00	0.00	0.16	0.00	65.13	2.00	0.00	0.00	0.17	0.00
65.29	2.00	0.00	0.00	0.16	0.00	65.46	2.00	0.00	0.00	0.17	0.00
65.62	2.00	0.00	0.00	0.16	0.00	65.78	2.00	0.00	0.00	0.16	0.00
65.95	2.00	0.00	0.00	0.17	0.00	66.11	2.00	0.00	0.00	0.16	0.00
66.28	2.00	0.00	0.00	0.17	0.00	66.44	2.00	0.00	0.00	0.16	0.00
66.60	2.00	0.00	0.00	0.16	0.00	66.77	2.00	0.00	0.00	0.17	0.00
66.93	2.00	0.00	0.00	0.16	0.00	67.10	2.00	0.00	0.00	0.17	0.00
67.26	2.00	0.00	0.00	0.16	0.00	67.42	2.00	0.00	0.00	0.16	0.00
67.59	2.00	0.00	0.00	0.17	0.00	67.75	2.00	0.00	0.00	0.16	0.00
67.92	2.00	0.00	0.00	0.17	0.00	68.08	2.00	0.00	0.00	0.16	0.00
68.24	2.00	0.00	0.00	0.16	0.00	68.41	2.00	0.00	0.00	0.17	0.00
68.57	2.00	0.00	0.00	0.16	0.00	68.74	2.00	0.00	0.00	0.17	0.00
68.90	2.00	0.00	0.00	0.16	0.00	69.07	2.00	0.00	0.00	0.17	0.00
69.23	2.00	0.00	0.00	0.16	0.00	69.39	2.00	0.00	0.00	0.16	0.00
69.56	2.00	0.00	0.00	0.17	0.00	69.72	2.00	0.00	0.00	0.16	0.00
69.89	2.00	0.00	0.00	0.17	0.00	70.05	2.00	0.00	0.00	0.16	0.00
70.21	2.00	0.00	0.00	0.16	0.00	70.38	2.00	0.00	0.00	0.17	0.00
70.54	2.00	0.00	0.00	0.16	0.00	70.71	2.00	0.00	0.00	0.17	0.00
70.87	2.00	0.00	0.00	0.16	0.00	71.03	2.00	0.00	0.00	0.16	0.00
71.20	2.00	0.00	0.00	0.17	0.00	71.36	2.00	0.00	0.00	0.16	0.00
71.53	2.00	0.00	0.00	0.17	0.00	71.69	2.00	0.00	0.00	0.16	0.00
71.85	2.00	0.00	0.00	0.16	0.00	72.02	2.00	0.00	0.00	0.17	0.00
72.18	2.00	0.00	0.00	0.16	0.00	72.35	2.00	0.00	0.00	0.17	0.00
72.51	2.00	0.00	0.00	0.16	0.00	72.67	2.00	0.00	0.00	0.16	0.00
72.84	2.00	0.00	0.00	0.17	0.00	73.00	2.00	0.00	0.00	0.16	0.00
73.17	2.00	0.00	0.00	0.17	0.00	73.33	2.00	0.00	0.00	0.16	0.00
73.49	2.00	0.00	0.00	0.16	0.00	73.66	2.00	0.00	0.00	0.17	0.00
73.82	2.00	0.00	0.00	0.16	0.00	73.99	2.00	0.00	0.00	0.17	0.00
74.15	2.00	0.00	0.00	0.16	0.00	74.31	2.00	0.00	0.00	0.16	0.00
74.48	2.00	0.00	0.00	0.17	0.00	74.64	2.00	0.00	0.00	0.16	0.00
74.81	2.00	0.00	0.00	0.17	0.00	74.97	2.00	0.00	0.00	0.16	0.00
75.13	2.00	0.00	0.00	0.16	0.00	75.30	2.00	0.00	0.00	0.17	0.00
75.46	2.00	0.00	0.00	0.16	0.00	75.63	2.00	0.00	0.00	0.17	0.00
75.79	2.00	0.00	0.00	0.16	0.00	75.96	2.00	0.00	0.00	0.17	0.00
76.12	2.00	0.00	0.00	0.16	0.00	76.28	2.00	0.00	0.00	0.16	0.00
76.45	2.00	0.00	0.00	0.17	0.00	76.61	2.00	0.00	0.00	0.16	0.00
76.78	2.00	0.00	0.00	0.17	0.00	76.94	2.00	0.00	0.00	0.16	0.00
77.10	2.00	0.00	0.00	0.16	0.00	77.27	2.00	0.00	0.00	0.17	0.00
77.43	2.00	0.00	0.00	0.16	0.00						

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI

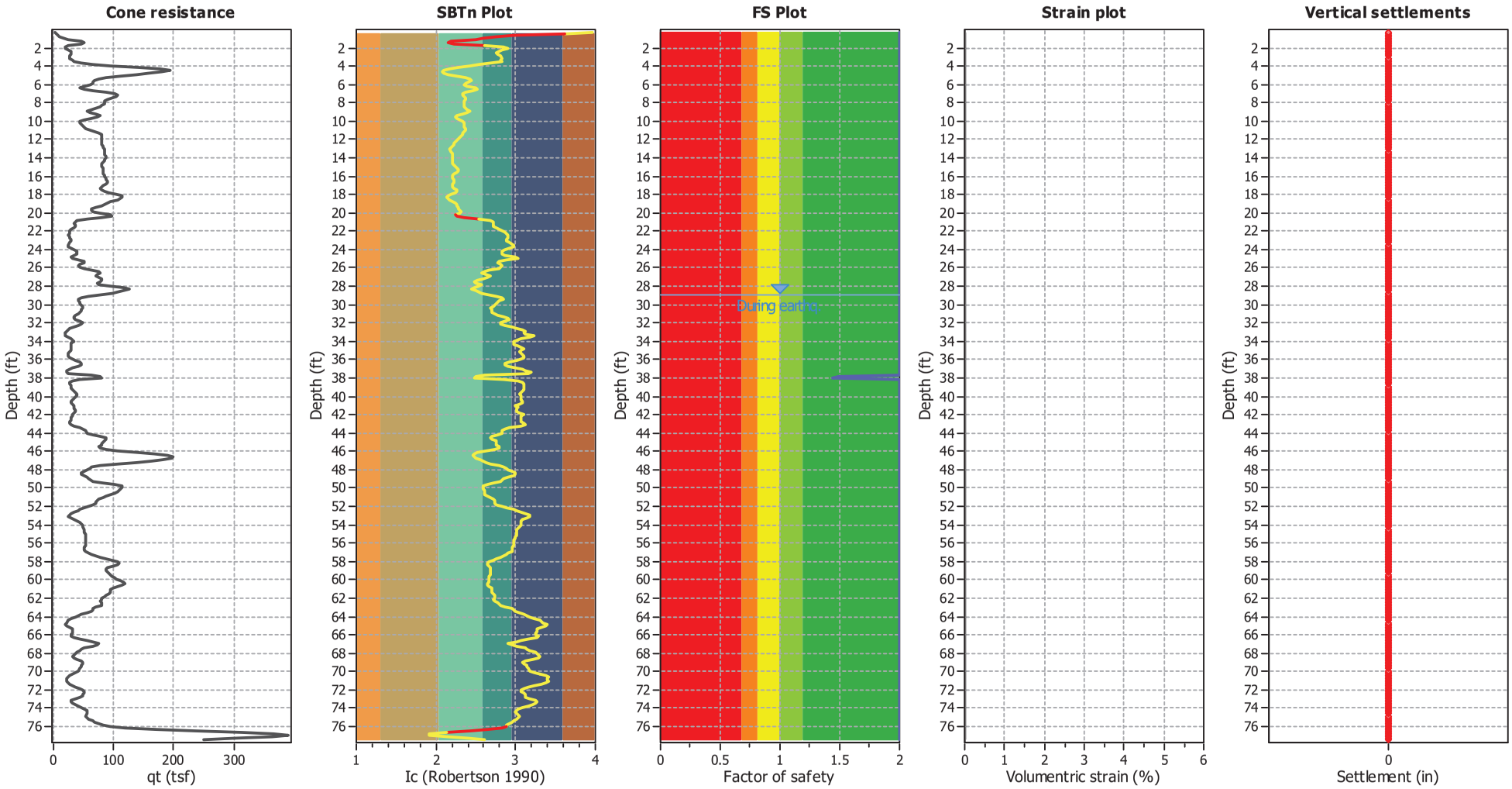
Overall liquefaction potential: 0.00

LPI = 0.00 - Liquefaction risk very low
LPI between 0.00 and 5.00 - Liquefaction risk low
LPI between 5.00 and 15.00 - Liquefaction risk high
LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
F_L: 1 - FS
w_z: Function value of the extend of soil liquefaction according to depth
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
29.04	195.14	2.00	0.00	1.00	0.00	29.20	174.66	2.00	0.00	1.00	0.00
29.36	159.24	2.00	0.00	1.00	0.00	29.53	145.91	2.00	0.00	1.00	0.00
29.69	143.47	2.00	0.00	1.00	0.00	29.86	144.66	2.00	0.00	1.00	0.00
30.02	146.96	2.00	0.00	1.00	0.00	30.19	142.85	2.00	0.00	1.00	0.00
30.35	136.26	2.00	0.00	1.00	0.00	30.51	134.25	2.00	0.00	1.00	0.00
30.68	130.97	2.00	0.00	1.00	0.00	30.84	129.18	2.00	0.00	1.00	0.00
31.01	124.08	2.00	0.00	1.00	0.00	31.17	121.00	2.00	0.00	1.00	0.00
31.33	125.65	2.00	0.00	1.00	0.00	31.50	139.52	2.00	0.00	1.00	0.00
31.66	158.89	2.00	0.00	1.00	0.00	31.83	170.35	2.00	0.00	1.00	0.00
31.99	172.87	2.00	0.00	1.00	0.00	32.15	169.23	2.00	0.00	1.00	0.00
32.32	159.71	2.00	0.00	1.00	0.00	32.48	144.69	2.00	0.00	1.00	0.00
32.65	131.41	2.00	0.00	1.00	0.00	32.81	125.55	2.00	0.00	1.00	0.00
32.97	116.30	2.00	0.00	1.00	0.00	33.14	106.65	2.00	0.00	1.00	0.00
33.30	102.91	2.00	0.00	1.00	0.00	33.47	121.59	2.00	0.00	1.00	0.00
33.63	142.71	2.00	0.00	1.00	0.00	33.79	151.95	2.00	0.00	1.00	0.00
33.96	143.89	2.00	0.00	1.00	0.00	34.12	131.31	2.00	0.00	1.00	0.00
34.29	122.33	2.00	0.00	1.00	0.00	34.45	134.20	2.00	0.00	1.00	0.00
34.61	146.60	2.00	0.00	1.00	0.00	34.78	155.58	2.00	0.00	1.00	0.00
34.94	145.14	2.00	0.00	1.00	0.00	35.11	133.37	2.00	0.00	1.00	0.00
35.27	122.78	2.00	0.00	1.00	0.00	35.43	123.52	2.00	0.00	1.00	0.00
35.60	133.04	2.00	0.00	1.00	0.00	35.76	145.46	2.00	0.00	1.00	0.00
35.93	155.73	2.00	0.00	1.00	0.00	36.09	163.54	2.00	0.00	1.00	0.00
36.26	172.55	2.00	0.00	1.00	0.00	36.42	175.39	2.00	0.00	1.00	0.00
36.58	169.22	2.00	0.00	1.00	0.00	36.75	157.55	2.00	0.00	1.00	0.00
36.91	138.71	2.00	0.00	1.00	0.00	37.08	129.51	2.00	0.00	1.00	0.00
37.24	119.66	2.00	0.00	1.00	0.00	37.40	127.21	2.00	0.00	1.00	0.00
37.57	140.75	2.00	0.00	1.00	0.00	37.73	134.29	2.00	0.00	1.00	0.00
37.90	135.19	1.49	0.00	1.00	0.00	38.06	133.38	1.44	0.00	1.00	0.00
38.22	152.80	2.00	0.00	1.00	0.00	38.39	145.33	2.00	0.00	1.00	0.00
38.55	138.06	2.00	0.00	1.00	0.00	38.72	138.17	2.00	0.00	1.00	0.00
38.88	144.90	2.00	0.00	1.00	0.00	39.04	153.51	2.00	0.00	1.00	0.00
39.21	162.49	2.00	0.00	1.00	0.00	39.37	169.51	2.00	0.00	1.00	0.00
39.54	176.17	2.00	0.00	1.00	0.00	39.70	178.52	2.00	0.00	1.00	0.00
39.86	176.69	2.00	0.00	1.00	0.00	40.03	168.02	2.00	0.00	1.00	0.00
40.19	154.43	2.00	0.00	1.00	0.00	40.36	140.67	2.00	0.00	1.00	0.00
40.52	131.75	2.00	0.00	1.00	0.00	40.68	130.19	2.00	0.00	1.00	0.00
40.85	134.29	2.00	0.00	1.00	0.00	41.01	133.52	2.00	0.00	1.00	0.00
41.18	143.37	2.00	0.00	1.00	0.00	41.34	147.65	2.00	0.00	1.00	0.00
41.50	155.15	2.00	0.00	1.00	0.00	41.67	151.64	2.00	0.00	1.00	0.00
41.83	149.49	2.00	0.00	1.00	0.00	42.00	146.29	2.00	0.00	1.00	0.00
42.16	141.58	2.00	0.00	1.00	0.00	42.32	136.44	2.00	0.00	1.00	0.00
42.49	129.59	2.00	0.00	1.00	0.00	42.65	123.65	2.00	0.00	1.00	0.00
42.82	121.14	2.00	0.00	1.00	0.00	42.98	124.76	2.00	0.00	1.00	0.00
43.15	138.15	2.00	0.00	1.00	0.00	43.31	150.68	2.00	0.00	1.00	0.00
43.47	161.70	2.00	0.00	1.00	0.00	43.64	162.71	2.00	0.00	1.00	0.00
43.80	163.30	2.00	0.00	1.00	0.00	43.97	170.73	2.00	0.00	1.00	0.00
44.13	182.73	2.00	0.00	1.00	0.00	44.29	191.93	2.00	0.00	1.00	0.00
44.46	203.55	2.00	0.00	1.00	0.00	44.62	214.87	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
44.79	226.24	2.00	0.00	1.00	0.00	44.95	225.45	2.00	0.00	1.00	0.00
45.11	217.68	2.00	0.00	1.00	0.00	45.28	211.77	2.00	0.00	1.00	0.00
45.44	215.81	2.00	0.00	1.00	0.00	45.61	222.30	2.00	0.00	1.00	0.00
45.77	224.29	2.00	0.00	1.00	0.00	45.93	223.21	2.00	0.00	1.00	0.00
46.10	229.24	2.00	0.00	1.00	0.00	46.26	252.83	2.00	0.00	1.00	0.00
46.43	280.48	2.00	0.00	1.00	0.00	46.59	304.10	2.00	0.00	1.00	0.00
46.75	318.09	2.00	0.00	1.00	0.00	46.92	321.08	2.00	0.00	1.00	0.00
47.08	309.85	2.00	0.00	1.00	0.00	47.25	281.57	2.00	0.00	1.00	0.00
47.41	246.18	2.00	0.00	1.00	0.00	47.57	214.25	2.00	0.00	1.00	0.00
47.74	197.71	2.00	0.00	1.00	0.00	47.90	191.55	2.00	0.00	1.00	0.00
48.07	188.29	2.00	0.00	1.00	0.00	48.23	172.39	2.00	0.00	1.00	0.00
48.39	167.74	2.00	0.00	1.00	0.00	48.56	168.25	2.00	0.00	1.00	0.00
48.72	170.85	2.00	0.00	1.00	0.00	48.89	177.35	2.00	0.00	1.00	0.00
49.05	177.25	2.00	0.00	1.00	0.00	49.22	186.63	2.00	0.00	1.00	0.00
49.38	196.02	2.00	0.00	1.00	0.00	49.54	206.86	2.00	0.00	1.00	0.00
49.71	206.24	2.00	0.00	1.00	0.00	49.87	207.05	2.00	0.00	1.00	0.00
50.04	204.01	2.00	0.00	1.00	0.00	50.20	205.58	2.00	0.00	1.00	0.00
50.36	200.77	2.00	0.00	1.00	0.00	50.53	190.98	2.00	0.00	1.00	0.00
50.69	179.95	2.00	0.00	1.00	0.00	50.86	174.59	2.00	0.00	1.00	0.00
51.02	175.70	2.00	0.00	1.00	0.00	51.18	175.89	2.00	0.00	1.00	0.00
51.35	173.08	2.00	0.00	1.00	0.00	51.51	167.95	2.00	0.00	1.00	0.00
51.68	163.43	2.00	0.00	1.00	0.00	51.84	159.36	2.00	0.00	1.00	0.00
52.00	156.44	2.00	0.00	1.00	0.00	52.17	153.08	2.00	0.00	1.00	0.00
52.33	145.80	2.00	0.00	1.00	0.00	52.50	139.21	2.00	0.00	1.00	0.00
52.66	131.22	2.00	0.00	1.00	0.00	52.82	119.37	2.00	0.00	1.00	0.00
52.99	112.69	2.00	0.00	1.00	0.00	53.15	109.67	2.00	0.00	1.00	0.00
53.32	115.61	2.00	0.00	1.00	0.00	53.48	126.80	2.00	0.00	1.00	0.00
53.64	143.46	2.00	0.00	1.00	0.00	53.81	162.71	2.00	0.00	1.00	0.00
53.97	175.92	2.00	0.00	1.00	0.00	54.14	179.62	2.00	0.00	1.00	0.00
54.30	176.03	2.00	0.00	1.00	0.00	54.46	172.74	2.00	0.00	1.00	0.00
54.63	173.68	2.00	0.00	1.00	0.00	54.79	176.00	2.00	0.00	1.00	0.00
54.96	178.56	2.00	0.00	1.00	0.00	55.12	179.08	2.00	0.00	1.00	0.00
55.28	176.62	2.00	0.00	1.00	0.00	55.45	172.74	2.00	0.00	1.00	0.00
55.61	170.44	2.00	0.00	1.00	0.00	55.78	169.23	2.00	0.00	1.00	0.00
55.94	168.78	2.00	0.00	1.00	0.00	56.11	164.97	2.00	0.00	1.00	0.00
56.27	162.30	2.00	0.00	1.00	0.00	56.43	156.95	2.00	0.00	1.00	0.00
56.60	153.15	2.00	0.00	1.00	0.00	56.76	151.96	2.00	0.00	1.00	0.00
56.93	157.91	2.00	0.00	1.00	0.00	57.09	173.12	2.00	0.00	1.00	0.00
57.25	182.84	2.00	0.00	1.00	0.00	57.42	191.23	2.00	0.00	1.00	0.00
57.58	199.91	2.00	0.00	1.00	0.00	57.75	203.93	2.00	0.00	1.00	0.00
57.91	206.83	2.00	0.00	1.00	0.00	58.07	207.42	2.00	0.00	1.00	0.00
58.24	206.67	2.00	0.00	1.00	0.00	58.40	198.94	2.00	0.00	1.00	0.00
58.57	187.77	2.00	0.00	1.00	0.00	58.73	176.68	2.00	0.00	1.00	0.00
58.89	170.97	2.00	0.00	1.00	0.00	59.06	171.15	2.00	0.00	1.00	0.00
59.22	177.01	2.00	0.00	1.00	0.00	59.39	185.00	2.00	0.00	1.00	0.00
59.55	188.52	2.00	0.00	1.00	0.00	59.71	193.38	2.00	0.00	1.00	0.00
59.88	200.32	2.00	0.00	1.00	0.00	60.04	212.37	2.00	0.00	1.00	0.00
60.21	217.88	2.00	0.00	1.00	0.00	60.37	217.37	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
60.53	210.17	2.00	0.00	1.00	0.00	60.70	201.81	2.00	0.00	1.00	0.00
60.86	196.09	2.00	0.00	1.00	0.00	61.03	193.19	2.00	0.00	1.00	0.00
61.19	193.84	2.00	0.00	1.00	0.00	61.35	193.57	2.00	0.00	1.00	0.00
61.52	191.22	2.00	0.00	1.00	0.00	61.68	186.63	2.00	0.00	1.00	0.00
61.85	179.94	2.00	0.00	1.00	0.00	62.01	170.51	2.00	0.00	1.00	0.00
62.17	163.07	2.00	0.00	1.00	0.00	62.34	162.18	2.00	0.00	1.00	0.00
62.50	175.09	2.00	0.00	1.00	0.00	62.67	185.66	2.00	0.00	1.00	0.00
62.83	188.97	2.00	0.00	1.00	0.00	63.00	187.49	2.00	0.00	1.00	0.00
63.16	182.24	2.00	0.00	1.00	0.00	63.32	185.55	2.00	0.00	1.00	0.00
63.49	183.26	2.00	0.00	1.00	0.00	63.65	176.18	2.00	0.00	1.00	0.00
63.82	165.43	2.00	0.00	1.00	0.00	63.98	154.10	2.00	0.00	1.00	0.00
64.14	140.39	2.00	0.00	1.00	0.00	64.31	127.49	2.00	0.00	1.00	0.00
64.47	112.25	2.00	0.00	1.00	0.00	64.64	100.82	2.00	0.00	1.00	0.00
64.80	98.20	2.00	0.00	1.00	0.00	64.96	111.45	2.00	0.00	1.00	0.00
65.13	128.21	2.00	0.00	1.00	0.00	65.29	141.64	2.00	0.00	1.00	0.00
65.46	143.33	2.00	0.00	1.00	0.00	65.62	138.25	2.00	0.00	1.00	0.00
65.78	129.88	2.00	0.00	1.00	0.00	65.95	126.79	2.00	0.00	1.00	0.00
66.11	132.23	2.00	0.00	1.00	0.00	66.28	148.10	2.00	0.00	1.00	0.00
66.44	162.47	2.00	0.00	1.00	0.00	66.60	178.37	2.00	0.00	1.00	0.00
66.77	186.63	2.00	0.00	1.00	0.00	66.93	200.38	2.00	0.00	1.00	0.00
67.10	192.47	2.00	0.00	1.00	0.00	67.26	186.91	2.00	0.00	1.00	0.00
67.42	180.27	2.00	0.00	1.00	0.00	67.59	168.42	2.00	0.00	1.00	0.00
67.75	163.01	2.00	0.00	1.00	0.00	67.92	158.54	2.00	0.00	1.00	0.00
68.08	153.01	2.00	0.00	1.00	0.00	68.24	148.92	2.00	0.00	1.00	0.00
68.41	146.25	2.00	0.00	1.00	0.00	68.57	149.50	2.00	0.00	1.00	0.00
68.74	152.04	2.00	0.00	1.00	0.00	68.90	153.94	2.00	0.00	1.00	0.00
69.07	154.21	2.00	0.00	1.00	0.00	69.23	157.82	2.00	0.00	1.00	0.00
69.39	162.60	2.00	0.00	1.00	0.00	69.56	162.70	2.00	0.00	1.00	0.00
69.72	157.21	2.00	0.00	1.00	0.00	69.89	149.48	2.00	0.00	1.00	0.00
70.05	141.85	2.00	0.00	1.00	0.00	70.21	133.69	2.00	0.00	1.00	0.00
70.38	124.31	2.00	0.00	1.00	0.00	70.54	115.71	2.00	0.00	1.00	0.00
70.71	109.73	2.00	0.00	1.00	0.00	70.87	107.28	2.00	0.00	1.00	0.00
71.03	108.45	2.00	0.00	1.00	0.00	71.20	111.78	2.00	0.00	1.00	0.00
71.36	115.65	2.00	0.00	1.00	0.00	71.53	118.65	2.00	0.00	1.00	0.00
71.69	126.49	2.00	0.00	1.00	0.00	71.85	135.83	2.00	0.00	1.00	0.00
72.02	146.56	2.00	0.00	1.00	0.00	72.18	155.01	2.00	0.00	1.00	0.00
72.35	161.70	2.00	0.00	1.00	0.00	72.51	163.43	2.00	0.00	1.00	0.00
72.67	155.39	2.00	0.00	1.00	0.00	72.84	140.92	2.00	0.00	1.00	0.00
73.00	123.99	2.00	0.00	1.00	0.00	73.17	116.06	2.00	0.00	1.00	0.00
73.33	117.24	2.00	0.00	1.00	0.00	73.49	125.12	2.00	0.00	1.00	0.00
73.66	132.05	2.00	0.00	1.00	0.00	73.82	137.71	2.00	0.00	1.00	0.00
73.99	140.03	2.00	0.00	1.00	0.00	74.15	142.18	2.00	0.00	1.00	0.00
74.31	144.61	2.00	0.00	1.00	0.00	74.48	145.70	2.00	0.00	1.00	0.00
74.64	147.54	2.00	0.00	1.00	0.00	74.81	149.93	2.00	0.00	1.00	0.00
74.97	154.50	2.00	0.00	1.00	0.00	75.13	157.88	2.00	0.00	1.00	0.00
75.30	161.57	2.00	0.00	1.00	0.00	75.46	165.54	2.00	0.00	1.00	0.00
75.63	169.95	2.00	0.00	1.00	0.00	75.79	175.21	2.00	0.00	1.00	0.00
75.96	196.83	2.00	0.00	1.00	0.00	76.12	228.91	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
76.28	224.47	2.00	0.00	1.00	0.00	76.45	183.39	2.00	0.00	1.00	0.00
76.61	141.85	2.00	0.00	1.00	0.00	76.78	142.08	2.00	0.00	1.00	0.00
76.94	151.00	2.00	0.00	1.00	0.00	77.10	167.83	2.00	0.00	1.00	0.00
77.27	222.85	2.00	0.00	1.00	0.00	77.43	288.28	2.00	0.00	1.00	0.00

Total estimated settlement: 0.00

Abbreviations

$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
FS: Factor of safety against liquefaction
e_v (%): Post-liquefaction volumentric strain
DF: e_v depth weighting factor
Settlement: Calculated settlement

Wallace-Kuhl & Associates
3050 Industrial Blvd
West Sacramento, CA 95691
http://www.wallace-kuhl.com

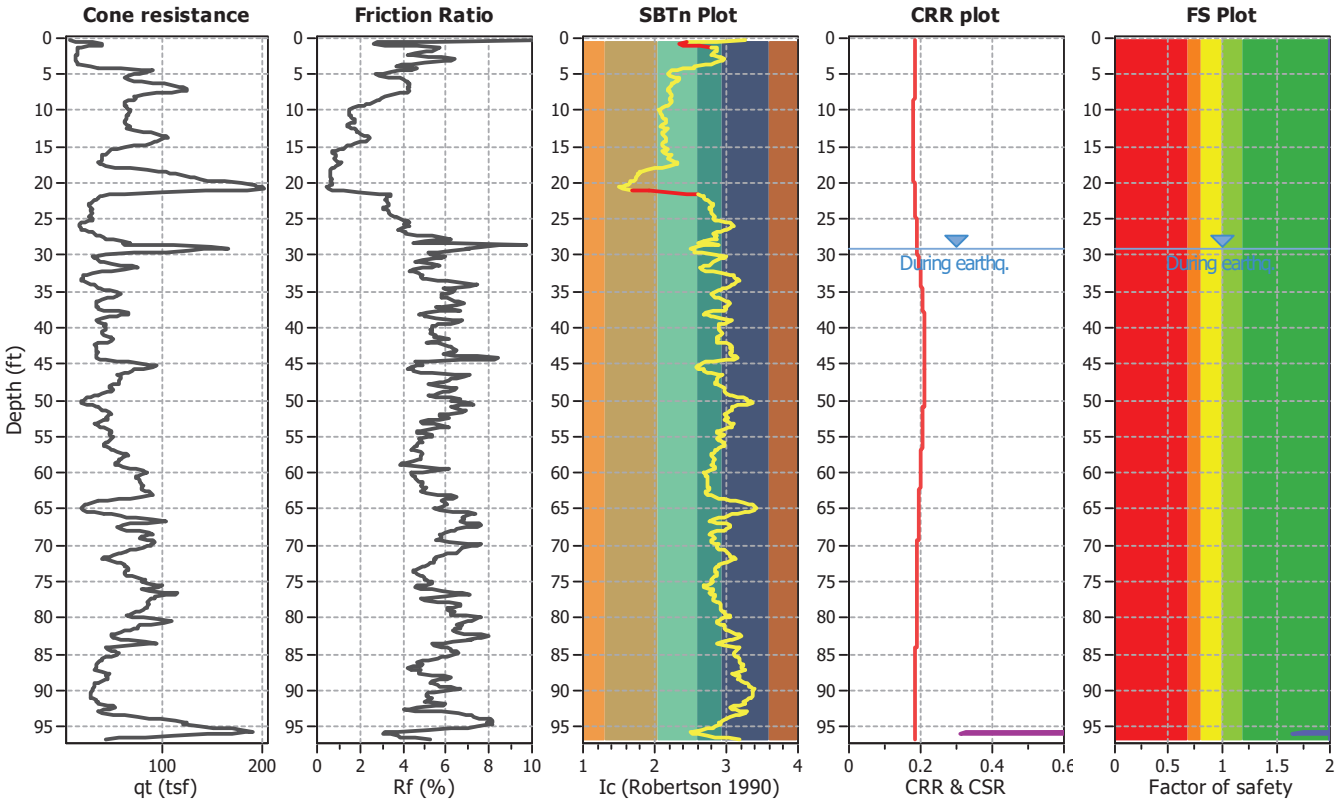
LIQUEFACTION ANALYSIS REPORT

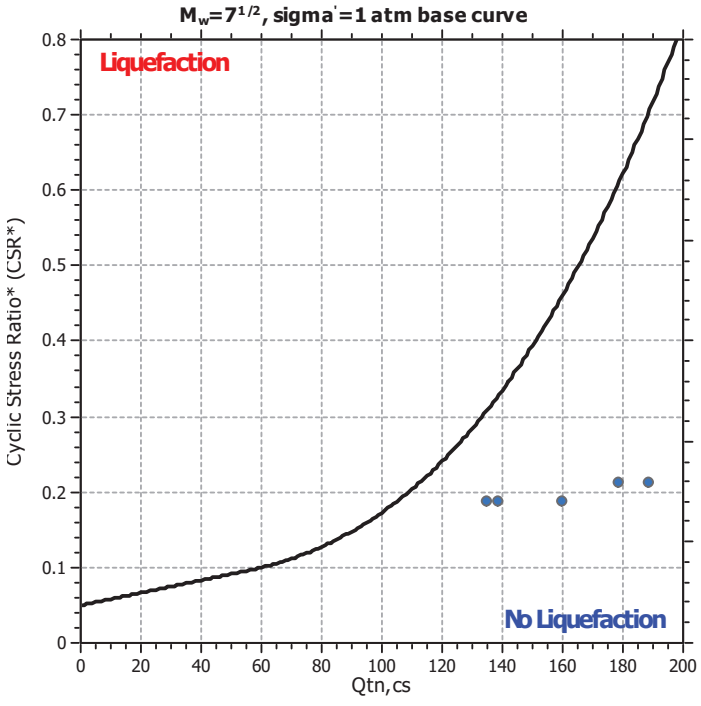
Project title : ST. JOSEPH'S MEDICAL CENTER **Location : Stockton, CA**

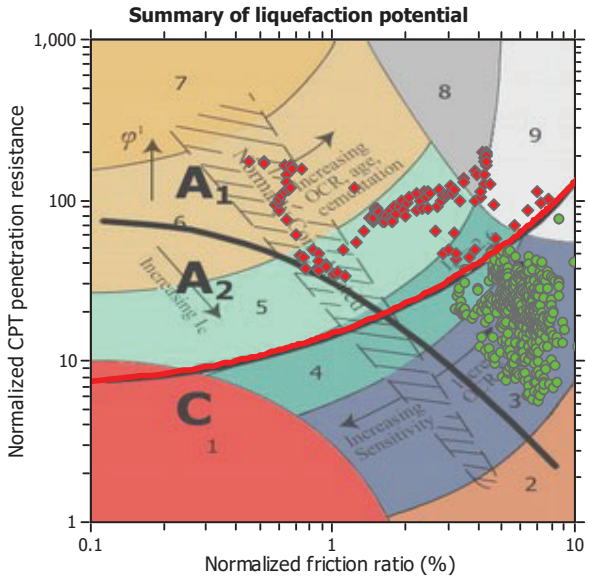
CPT file : CPT-03

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	23.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	29.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	6.50	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.41	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

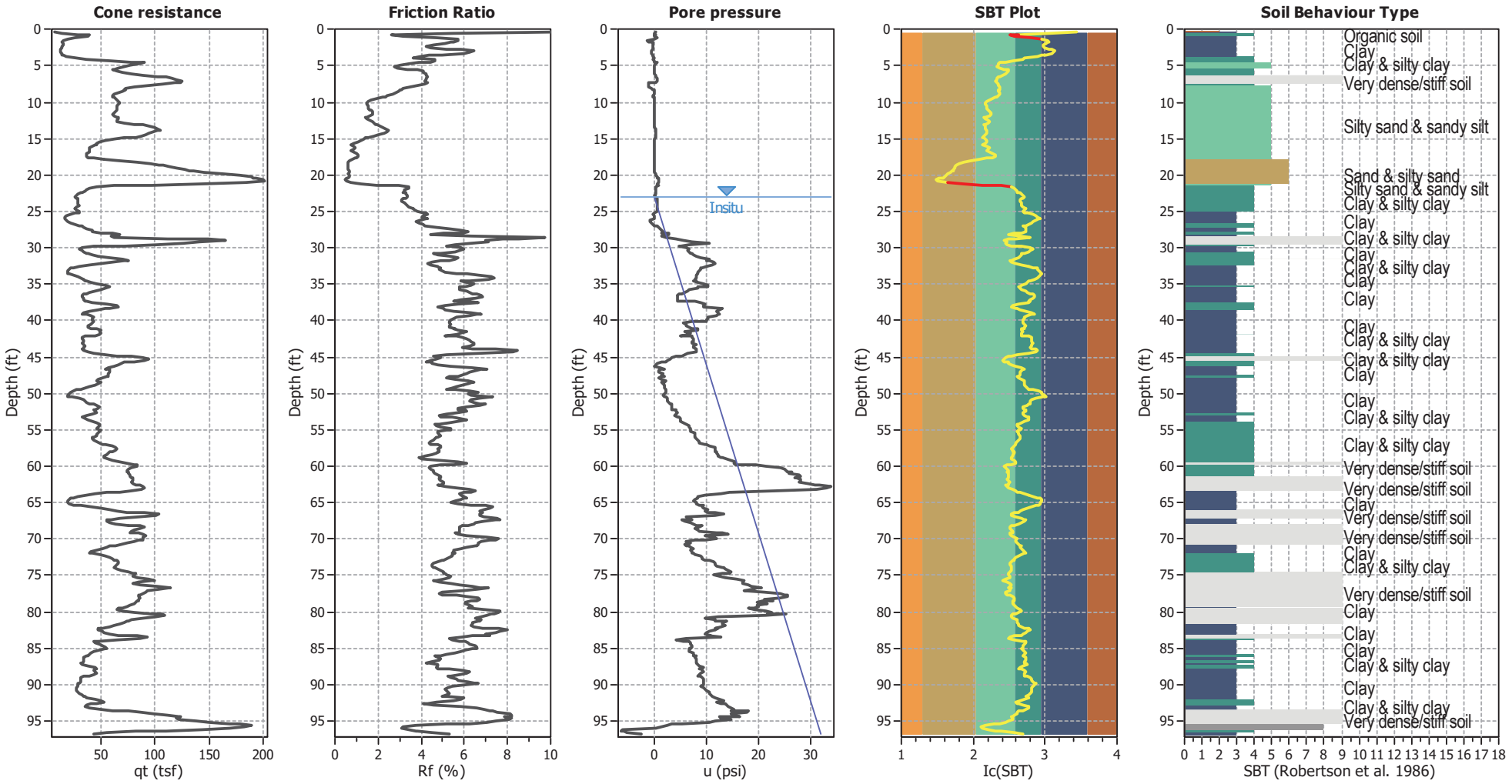






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



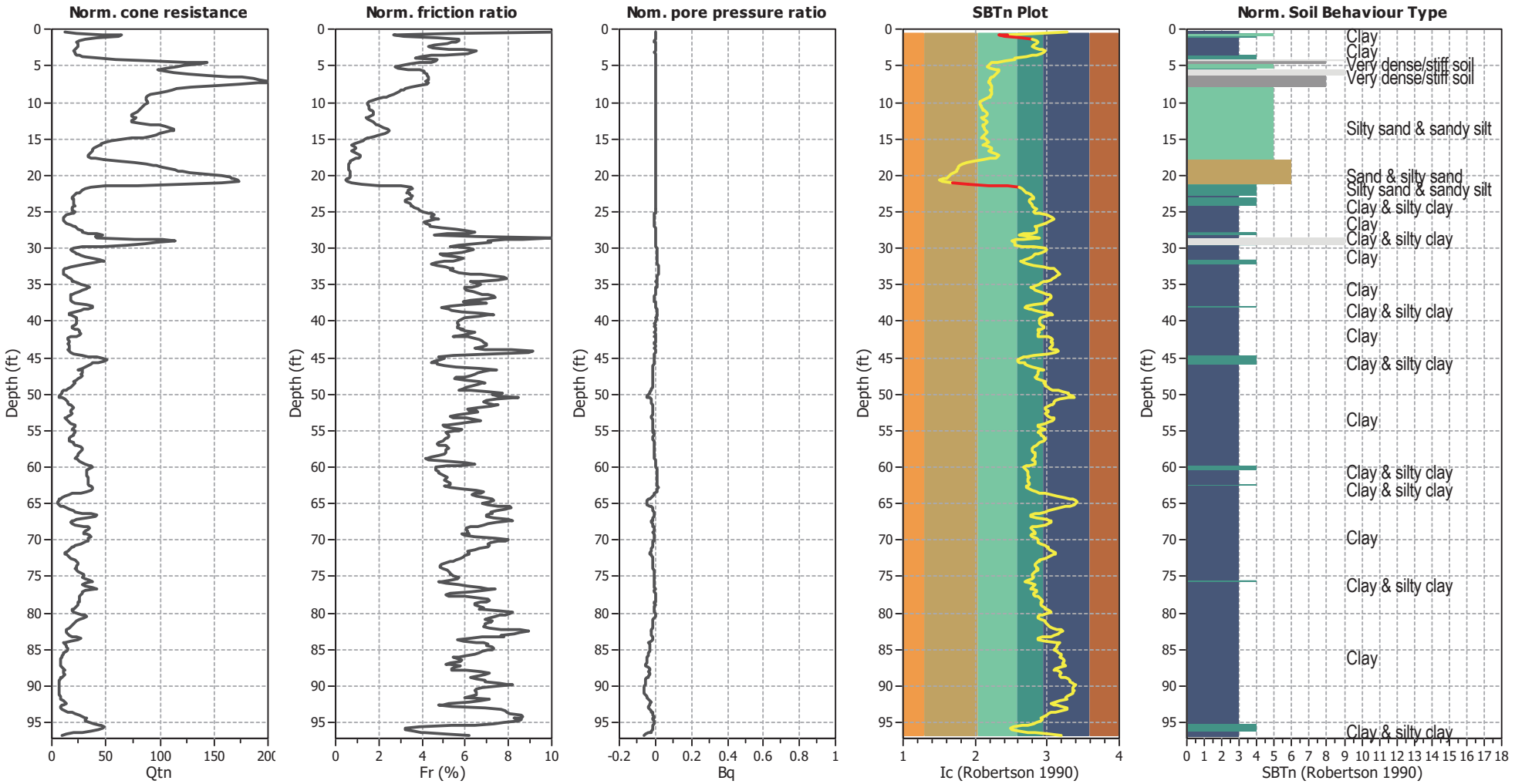
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

CPT basic interpretation plots (normalized)



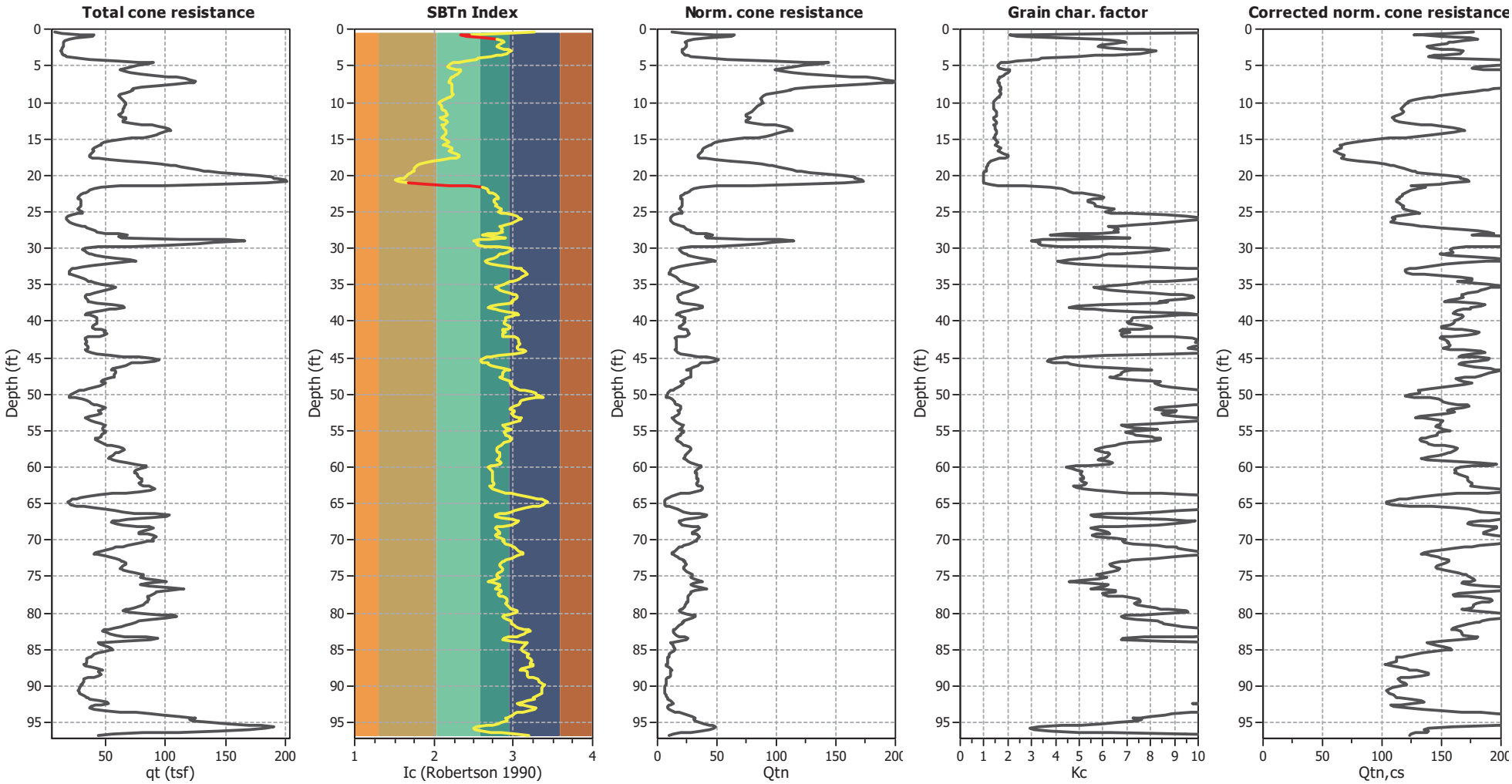
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

SBTn legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

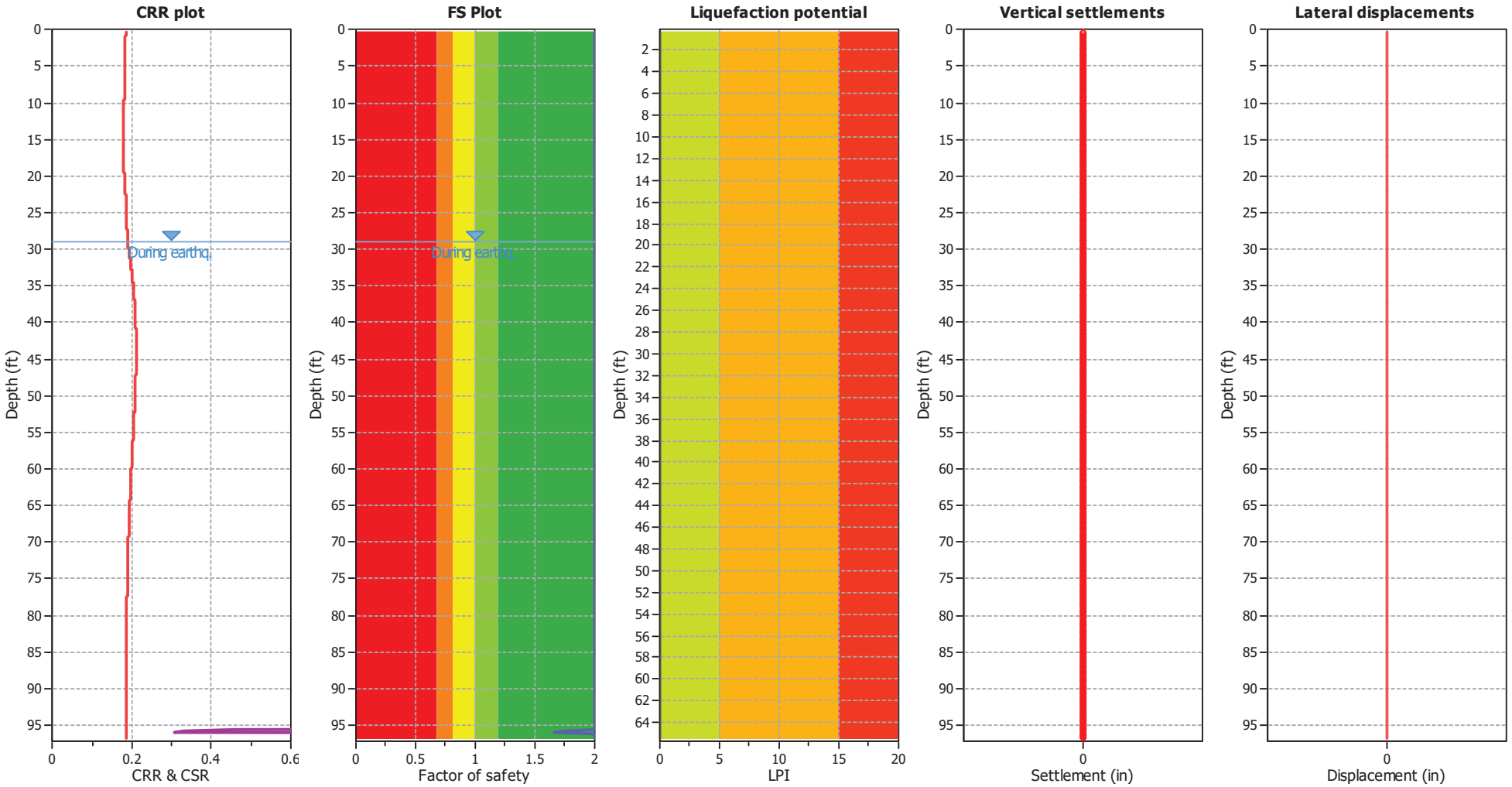
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

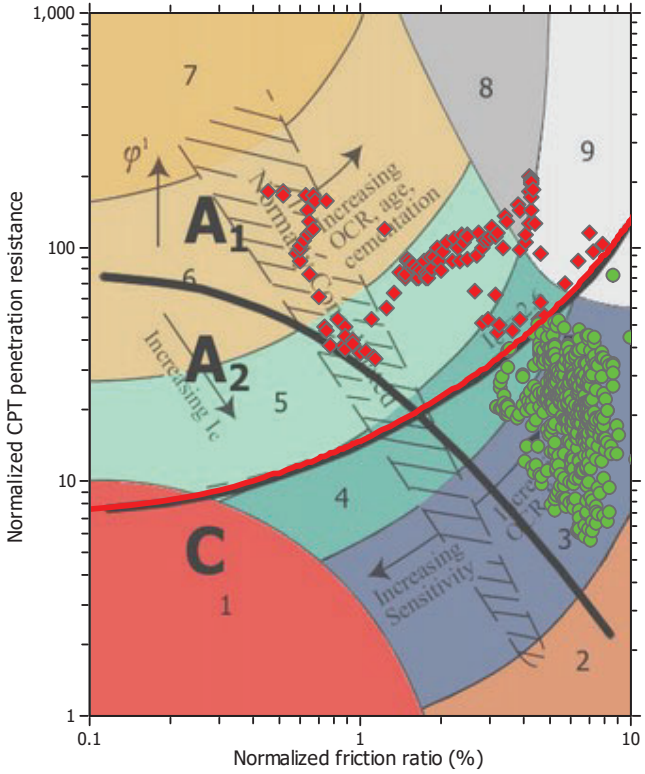
F.S. color scheme

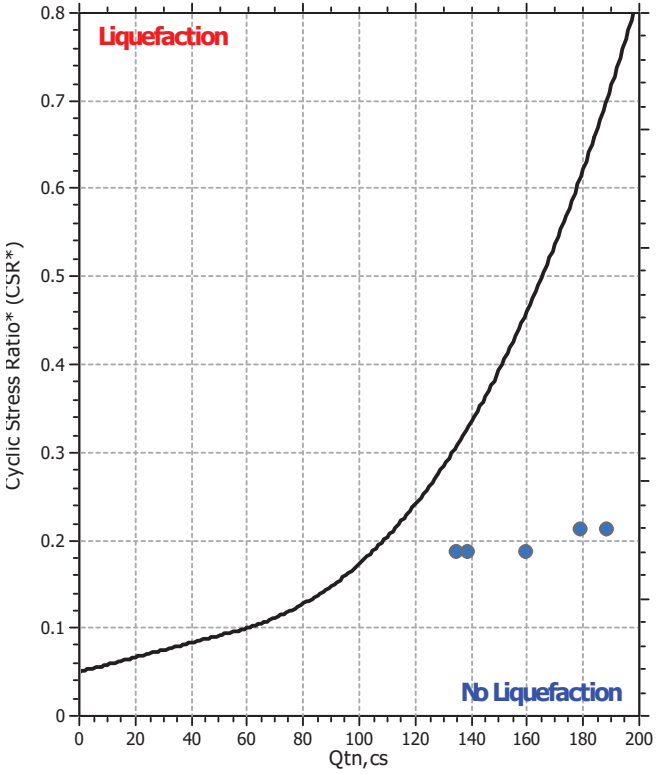
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

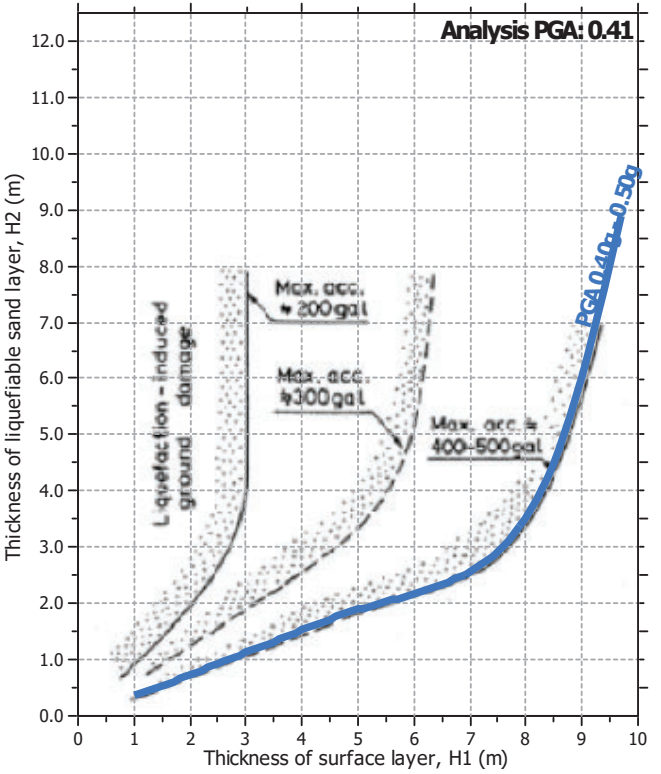
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



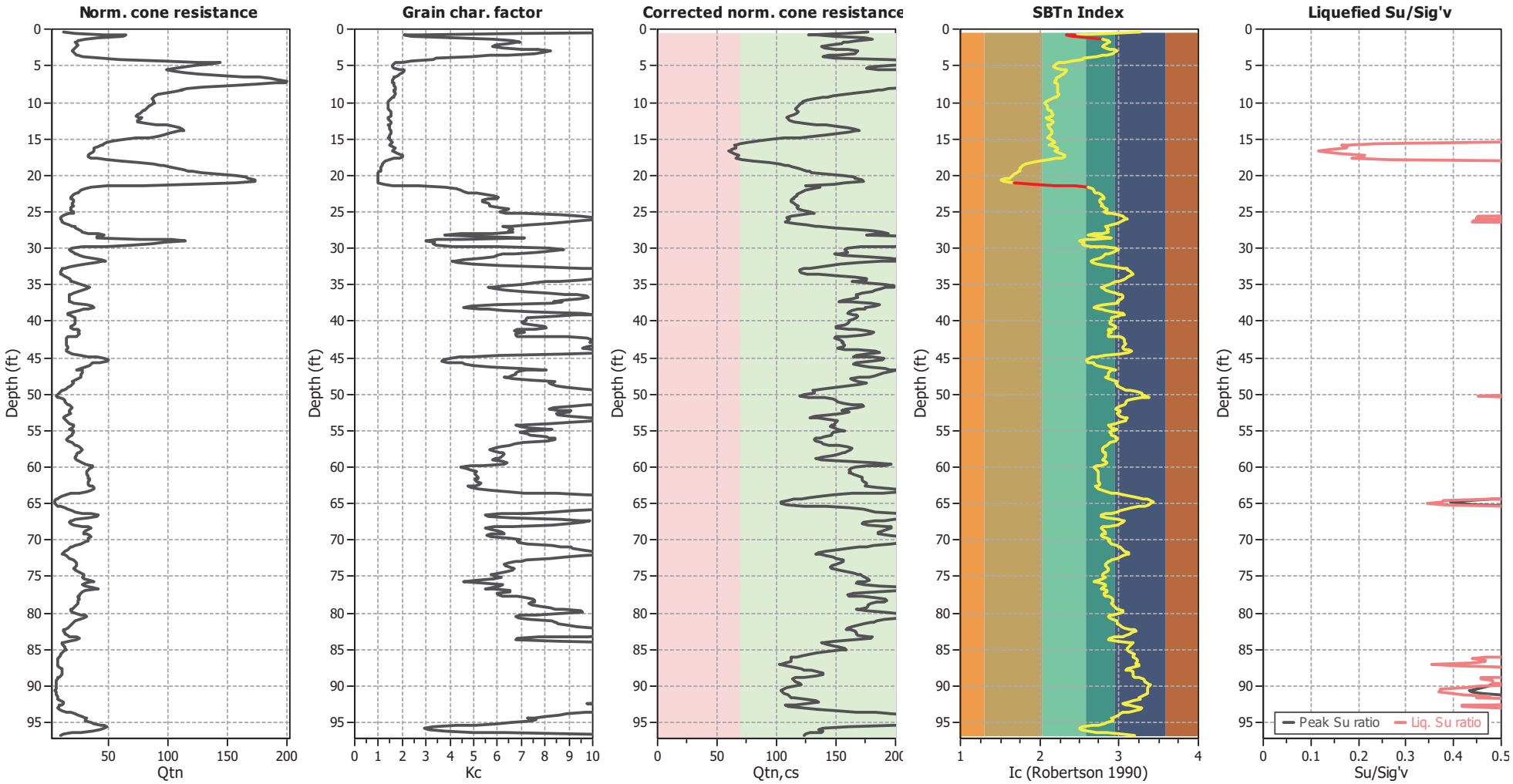




Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

Check for strength loss plots (Robertson (2010))



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
0.33	2.00	0.00	0.00	0.16	0.00	0.49	2.00	0.00	0.00	0.16	0.00
0.66	2.00	0.00	0.00	0.17	0.00	0.82	2.00	0.00	0.00	0.16	0.00
0.98	2.00	0.00	0.00	0.16	0.00	1.15	2.00	0.00	0.00	0.17	0.00
1.31	2.00	0.00	0.00	0.16	0.00	1.48	2.00	0.00	0.00	0.17	0.00
1.64	2.00	0.00	0.00	0.16	0.00	1.80	2.00	0.00	0.00	0.16	0.00
1.97	2.00	0.00	0.00	0.17	0.00	2.13	2.00	0.00	0.00	0.16	0.00
2.30	2.00	0.00	0.00	0.17	0.00	2.46	2.00	0.00	0.00	0.16	0.00
2.62	2.00	0.00	0.00	0.16	0.00	2.79	2.00	0.00	0.00	0.17	0.00
2.95	2.00	0.00	0.00	0.16	0.00	3.12	2.00	0.00	0.00	0.17	0.00
3.28	2.00	0.00	0.00	0.16	0.00	3.45	2.00	0.00	0.00	0.17	0.00
3.61	2.00	0.00	0.00	0.16	0.00	3.77	2.00	0.00	0.00	0.16	0.00
3.94	2.00	0.00	0.00	0.17	0.00	4.10	2.00	0.00	0.00	0.16	0.00
4.27	2.00	0.00	0.00	0.17	0.00	4.43	2.00	0.00	0.00	0.16	0.00
4.59	2.00	0.00	0.00	0.16	0.00	4.76	2.00	0.00	0.00	0.17	0.00
4.92	2.00	0.00	0.00	0.16	0.00	5.09	2.00	0.00	0.00	0.17	0.00
5.25	2.00	0.00	0.00	0.16	0.00	5.41	2.00	0.00	0.00	0.16	0.00
5.58	2.00	0.00	0.00	0.17	0.00	5.74	2.00	0.00	0.00	0.16	0.00
5.91	2.00	0.00	0.00	0.17	0.00	6.07	2.00	0.00	0.00	0.16	0.00
6.23	2.00	0.00	0.00	0.16	0.00	6.40	2.00	0.00	0.00	0.17	0.00
6.56	2.00	0.00	0.00	0.16	0.00	6.73	2.00	0.00	0.00	0.17	0.00
6.89	2.00	0.00	0.00	0.16	0.00	7.05	2.00	0.00	0.00	0.16	0.00
7.22	2.00	0.00	0.00	0.17	0.00	7.38	2.00	0.00	0.00	0.16	0.00
7.55	2.00	0.00	0.00	0.17	0.00	7.71	2.00	0.00	0.00	0.16	0.00
7.87	2.00	0.00	0.00	0.16	0.00	8.04	2.00	0.00	0.00	0.17	0.00
8.20	2.00	0.00	0.00	0.16	0.00	8.37	2.00	0.00	0.00	0.17	0.00
8.53	2.00	0.00	0.00	0.16	0.00	8.69	2.00	0.00	0.00	0.16	0.00
8.86	2.00	0.00	0.00	0.17	0.00	9.02	2.00	0.00	0.00	0.16	0.00
9.19	2.00	0.00	0.00	0.17	0.00	9.35	2.00	0.00	0.00	0.16	0.00
9.51	2.00	0.00	0.00	0.16	0.00	9.68	2.00	0.00	0.00	0.17	0.00
9.84	2.00	0.00	0.00	0.16	0.00	10.01	2.00	0.00	0.00	0.17	0.00
10.17	2.00	0.00	0.00	0.16	0.00	10.34	2.00	0.00	0.00	0.17	0.00
10.50	2.00	0.00	0.00	0.16	0.00	10.66	2.00	0.00	0.00	0.16	0.00
10.83	2.00	0.00	0.00	0.17	0.00	10.99	2.00	0.00	0.00	0.16	0.00
11.16	2.00	0.00	0.00	0.17	0.00	11.32	2.00	0.00	0.00	0.16	0.00
11.48	2.00	0.00	0.00	0.16	0.00	11.65	2.00	0.00	0.00	0.17	0.00
11.81	2.00	0.00	0.00	0.16	0.00	11.98	2.00	0.00	0.00	0.17	0.00
12.14	2.00	0.00	0.00	0.16	0.00	12.30	2.00	0.00	0.00	0.16	0.00
12.47	2.00	0.00	0.00	0.17	0.00	12.63	2.00	0.00	0.00	0.16	0.00
12.80	2.00	0.00	0.00	0.17	0.00	12.96	2.00	0.00	0.00	0.16	0.00
13.12	2.00	0.00	0.00	0.16	0.00	13.29	2.00	0.00	0.00	0.17	0.00
13.45	2.00	0.00	0.00	0.16	0.00	13.62	2.00	0.00	0.00	0.17	0.00
13.78	2.00	0.00	0.00	0.16	0.00	13.94	2.00	0.00	0.00	0.16	0.00
14.11	2.00	0.00	0.00	0.17	0.00	14.27	2.00	0.00	0.00	0.16	0.00
14.44	2.00	0.00	0.00	0.17	0.00	14.60	2.00	0.00	0.00	0.16	0.00
14.76	2.00	0.00	0.00	0.16	0.00	14.93	2.00	0.00	0.00	0.17	0.00
15.09	2.00	0.00	0.00	0.16	0.00	15.26	2.00	0.00	0.00	0.17	0.00
15.42	2.00	0.00	0.00	0.16	0.00	15.58	2.00	0.00	0.00	0.16	0.00
15.75	2.00	0.00	0.00	0.17	0.00	15.91	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
16.08	2.00	0.00	0.00	0.17	0.00	16.24	2.00	0.00	0.00	0.16	0.00
16.40	2.00	0.00	0.00	0.16	0.00	16.57	2.00	0.00	0.00	0.17	0.00
16.73	2.00	0.00	0.00	0.16	0.00	16.90	2.00	0.00	0.00	0.17	0.00
17.06	2.00	0.00	0.00	0.16	0.00	17.23	2.00	0.00	0.00	0.17	0.00
17.39	2.00	0.00	0.00	0.16	0.00	17.55	2.00	0.00	0.00	0.16	0.00
17.72	2.00	0.00	0.00	0.17	0.00	17.88	2.00	0.00	0.00	0.16	0.00
18.05	2.00	0.00	0.00	0.17	0.00	18.21	2.00	0.00	0.00	0.16	0.00
18.37	2.00	0.00	0.00	0.16	0.00	18.54	2.00	0.00	0.00	0.17	0.00
18.70	2.00	0.00	0.00	0.16	0.00	18.87	2.00	0.00	0.00	0.17	0.00
19.03	2.00	0.00	0.00	0.16	0.00	19.19	2.00	0.00	0.00	0.16	0.00
19.36	2.00	0.00	0.00	0.17	0.00	19.52	2.00	0.00	0.00	0.16	0.00
19.69	2.00	0.00	0.00	0.17	0.00	19.85	2.00	0.00	0.00	0.16	0.00
20.01	2.00	0.00	0.00	0.16	0.00	20.18	2.00	0.00	0.00	0.17	0.00
20.34	2.00	0.00	0.00	0.16	0.00	20.51	2.00	0.00	0.00	0.17	0.00
20.67	2.00	0.00	0.00	0.16	0.00	20.83	2.00	0.00	0.00	0.16	0.00
21.00	2.00	0.00	0.00	0.17	0.00	21.16	2.00	0.00	0.00	0.16	0.00
21.33	2.00	0.00	0.00	0.17	0.00	21.49	2.00	0.00	0.00	0.16	0.00
21.65	2.00	0.00	0.00	0.16	0.00	21.82	2.00	0.00	0.00	0.17	0.00
21.98	2.00	0.00	0.00	0.16	0.00	22.15	2.00	0.00	0.00	0.17	0.00
22.31	2.00	0.00	0.00	0.16	0.00	22.47	2.00	0.00	0.00	0.16	0.00
22.64	2.00	0.00	0.00	0.17	0.00	22.80	2.00	0.00	0.00	0.16	0.00
22.97	2.00	0.00	0.00	0.17	0.00	23.13	2.00	0.00	0.00	0.16	0.00
23.30	2.00	0.00	0.00	0.17	0.00	23.46	2.00	0.00	0.00	0.16	0.00
23.62	2.00	0.00	0.00	0.16	0.00	23.79	2.00	0.00	0.00	0.17	0.00
23.95	2.00	0.00	0.00	0.16	0.00	24.12	2.00	0.00	0.00	0.17	0.00
24.28	2.00	0.00	0.00	0.16	0.00	24.44	2.00	0.00	0.00	0.16	0.00
24.61	2.00	0.00	0.00	0.17	0.00	24.77	2.00	0.00	0.00	0.16	0.00
24.94	2.00	0.00	0.00	0.17	0.00	25.10	2.00	0.00	0.00	0.16	0.00
25.26	2.00	0.00	0.00	0.16	0.00	25.43	2.00	0.00	0.00	0.17	0.00
25.59	2.00	0.00	0.00	0.16	0.00	25.76	2.00	0.00	0.00	0.17	0.00
25.92	2.00	0.00	0.00	0.16	0.00	26.08	2.00	0.00	0.00	0.16	0.00
26.25	2.00	0.00	0.00	0.17	0.00	26.41	2.00	0.00	0.00	0.16	0.00
26.58	2.00	0.00	0.00	0.17	0.00	26.74	2.00	0.00	0.00	0.16	0.00
26.90	2.00	0.00	0.00	0.16	0.00	27.07	2.00	0.00	0.00	0.17	0.00
27.23	2.00	0.00	0.00	0.16	0.00	27.40	2.00	0.00	0.00	0.17	0.00
27.56	2.00	0.00	0.00	0.16	0.00	27.72	2.00	0.00	0.00	0.16	0.00
27.89	2.00	0.00	0.00	0.17	0.00	28.05	2.00	0.00	0.00	0.16	0.00
28.22	2.00	0.00	0.00	0.17	0.00	28.38	2.00	0.00	0.00	0.16	0.00
28.54	2.00	0.00	0.00	0.16	0.00	28.71	2.00	0.00	0.00	0.17	0.00
28.87	2.00	0.00	0.00	0.16	0.00	29.04	2.00	0.00	0.00	0.17	0.00
29.20	2.00	0.00	0.00	0.16	0.00	29.36	2.00	0.00	0.00	0.16	0.00
29.53	2.00	0.00	0.00	0.17	0.00	29.69	2.00	0.00	0.00	0.16	0.00
29.86	2.00	0.00	0.00	0.17	0.00	30.02	2.00	0.00	0.00	0.16	0.00
30.19	2.00	0.00	0.00	0.17	0.00	30.35	2.00	0.00	0.00	0.16	0.00
30.51	2.00	0.00	0.00	0.16	0.00	30.68	2.00	0.00	0.00	0.17	0.00
30.84	2.00	0.00	0.00	0.16	0.00	31.01	2.00	0.00	0.00	0.17	0.00
31.17	2.00	0.00	0.00	0.16	0.00	31.33	2.00	0.00	0.00	0.16	0.00
31.50	2.00	0.00	0.00	0.17	0.00	31.66	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
31.83	2.00	0.00	0.00	0.17	0.00	31.99	2.00	0.00	0.00	0.16	0.00
32.15	2.00	0.00	0.00	0.16	0.00	32.32	2.00	0.00	0.00	0.17	0.00
32.48	2.00	0.00	0.00	0.16	0.00	32.65	2.00	0.00	0.00	0.17	0.00
32.81	2.00	0.00	0.00	0.16	0.00	32.97	2.00	0.00	0.00	0.16	0.00
33.14	2.00	0.00	0.00	0.17	0.00	33.30	2.00	0.00	0.00	0.16	0.00
33.47	2.00	0.00	0.00	0.17	0.00	33.63	2.00	0.00	0.00	0.16	0.00
33.79	2.00	0.00	0.00	0.16	0.00	33.96	2.00	0.00	0.00	0.17	0.00
34.12	2.00	0.00	0.00	0.16	0.00	34.29	2.00	0.00	0.00	0.17	0.00
34.45	2.00	0.00	0.00	0.16	0.00	34.61	2.00	0.00	0.00	0.16	0.00
34.78	2.00	0.00	0.00	0.17	0.00	34.94	2.00	0.00	0.00	0.16	0.00
35.11	2.00	0.00	0.00	0.17	0.00	35.27	2.00	0.00	0.00	0.16	0.00
35.43	2.00	0.00	0.00	0.16	0.00	35.60	2.00	0.00	0.00	0.17	0.00
35.76	2.00	0.00	0.00	0.16	0.00	35.93	2.00	0.00	0.00	0.17	0.00
36.09	2.00	0.00	0.00	0.16	0.00	36.26	2.00	0.00	0.00	0.17	0.00
36.42	2.00	0.00	0.00	0.16	0.00	36.58	2.00	0.00	0.00	0.16	0.00
36.75	2.00	0.00	0.00	0.17	0.00	36.91	2.00	0.00	0.00	0.16	0.00
37.08	2.00	0.00	0.00	0.17	0.00	37.24	2.00	0.00	0.00	0.16	0.00
37.40	2.00	0.00	0.00	0.16	0.00	37.57	2.00	0.00	0.00	0.17	0.00
37.73	2.00	0.00	0.00	0.16	0.00	37.90	2.00	0.00	0.00	0.17	0.00
38.06	2.00	0.00	0.00	0.16	0.00	38.22	2.00	0.00	0.00	0.16	0.00
38.39	2.00	0.00	0.00	0.17	0.00	38.55	2.00	0.00	0.00	0.16	0.00
38.72	2.00	0.00	0.00	0.17	0.00	38.88	2.00	0.00	0.00	0.16	0.00
39.04	2.00	0.00	0.00	0.16	0.00	39.21	2.00	0.00	0.00	0.17	0.00
39.37	2.00	0.00	0.00	0.16	0.00	39.54	2.00	0.00	0.00	0.17	0.00
39.70	2.00	0.00	0.00	0.16	0.00	39.86	2.00	0.00	0.00	0.16	0.00
40.03	2.00	0.00	0.00	0.17	0.00	40.19	2.00	0.00	0.00	0.16	0.00
40.36	2.00	0.00	0.00	0.17	0.00	40.52	2.00	0.00	0.00	0.16	0.00
40.68	2.00	0.00	0.00	0.16	0.00	40.85	2.00	0.00	0.00	0.17	0.00
41.01	2.00	0.00	0.00	0.16	0.00	41.18	2.00	0.00	0.00	0.17	0.00
41.34	2.00	0.00	0.00	0.16	0.00	41.50	2.00	0.00	0.00	0.16	0.00
41.67	2.00	0.00	0.00	0.17	0.00	41.83	2.00	0.00	0.00	0.16	0.00
42.00	2.00	0.00	0.00	0.17	0.00	42.16	2.00	0.00	0.00	0.16	0.00
42.32	2.00	0.00	0.00	0.16	0.00	42.49	2.00	0.00	0.00	0.17	0.00
42.65	2.00	0.00	0.00	0.16	0.00	42.82	2.00	0.00	0.00	0.17	0.00
42.98	2.00	0.00	0.00	0.16	0.00	43.15	2.00	0.00	0.00	0.17	0.00
43.31	2.00	0.00	0.00	0.16	0.00	43.47	2.00	0.00	0.00	0.16	0.00
43.64	2.00	0.00	0.00	0.17	0.00	43.80	2.00	0.00	0.00	0.16	0.00
43.97	2.00	0.00	0.00	0.17	0.00	44.13	2.00	0.00	0.00	0.16	0.00
44.29	2.00	0.00	0.00	0.16	0.00	44.46	2.00	0.00	0.00	0.17	0.00
44.62	2.00	0.00	0.00	0.16	0.00	44.79	2.00	0.00	0.00	0.17	0.00
44.95	2.00	0.00	0.00	0.16	0.00	45.11	2.00	0.00	0.00	0.16	0.00
45.28	2.00	0.00	0.00	0.17	0.00	45.44	2.00	0.00	0.00	0.16	0.00
45.61	2.00	0.00	0.00	0.17	0.00	45.77	2.00	0.00	0.00	0.16	0.00
45.93	2.00	0.00	0.00	0.16	0.00	46.10	2.00	0.00	0.00	0.17	0.00
46.26	2.00	0.00	0.00	0.16	0.00	46.43	2.00	0.00	0.00	0.17	0.00
46.59	2.00	0.00	0.00	0.16	0.00	46.75	2.00	0.00	0.00	0.16	0.00
46.92	2.00	0.00	0.00	0.17	0.00	47.08	2.00	0.00	0.00	0.16	0.00
47.25	2.00	0.00	0.00	0.17	0.00	47.41	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
47.57	2.00	0.00	0.00	0.16	0.00	47.74	2.00	0.00	0.00	0.17	0.00
47.90	2.00	0.00	0.00	0.16	0.00	48.07	2.00	0.00	0.00	0.17	0.00
48.23	2.00	0.00	0.00	0.16	0.00	48.39	2.00	0.00	0.00	0.16	0.00
48.56	2.00	0.00	0.00	0.17	0.00	48.72	2.00	0.00	0.00	0.16	0.00
48.89	2.00	0.00	0.00	0.17	0.00	49.05	2.00	0.00	0.00	0.16	0.00
49.22	2.00	0.00	0.00	0.17	0.00	49.38	2.00	0.00	0.00	0.16	0.00
49.54	2.00	0.00	0.00	0.16	0.00	49.71	2.00	0.00	0.00	0.17	0.00
49.87	2.00	0.00	0.00	0.16	0.00	50.04	2.00	0.00	0.00	0.17	0.00
50.20	2.00	0.00	0.00	0.16	0.00	50.36	2.00	0.00	0.00	0.16	0.00
50.53	2.00	0.00	0.00	0.17	0.00	50.69	2.00	0.00	0.00	0.16	0.00
50.86	2.00	0.00	0.00	0.17	0.00	51.02	2.00	0.00	0.00	0.16	0.00
51.18	2.00	0.00	0.00	0.16	0.00	51.35	2.00	0.00	0.00	0.17	0.00
51.51	2.00	0.00	0.00	0.16	0.00	51.68	2.00	0.00	0.00	0.17	0.00
51.84	2.00	0.00	0.00	0.16	0.00	52.00	2.00	0.00	0.00	0.16	0.00
52.17	2.00	0.00	0.00	0.17	0.00	52.33	2.00	0.00	0.00	0.16	0.00
52.50	2.00	0.00	0.00	0.17	0.00	52.66	2.00	0.00	0.00	0.16	0.00
52.82	2.00	0.00	0.00	0.16	0.00	52.99	2.00	0.00	0.00	0.17	0.00
53.15	2.00	0.00	0.00	0.16	0.00	53.32	2.00	0.00	0.00	0.17	0.00
53.48	2.00	0.00	0.00	0.16	0.00	53.64	2.00	0.00	0.00	0.16	0.00
53.81	2.00	0.00	0.00	0.17	0.00	53.97	2.00	0.00	0.00	0.16	0.00
54.14	2.00	0.00	0.00	0.17	0.00	54.30	2.00	0.00	0.00	0.16	0.00
54.46	2.00	0.00	0.00	0.16	0.00	54.63	2.00	0.00	0.00	0.17	0.00
54.79	2.00	0.00	0.00	0.16	0.00	54.96	2.00	0.00	0.00	0.17	0.00
55.12	2.00	0.00	0.00	0.16	0.00	55.28	2.00	0.00	0.00	0.16	0.00
55.45	2.00	0.00	0.00	0.17	0.00	55.61	2.00	0.00	0.00	0.16	0.00
55.78	2.00	0.00	0.00	0.17	0.00	55.94	2.00	0.00	0.00	0.16	0.00
56.11	2.00	0.00	0.00	0.17	0.00	56.27	2.00	0.00	0.00	0.16	0.00
56.43	2.00	0.00	0.00	0.16	0.00	56.60	2.00	0.00	0.00	0.17	0.00
56.76	2.00	0.00	0.00	0.16	0.00	56.93	2.00	0.00	0.00	0.17	0.00
57.09	2.00	0.00	0.00	0.16	0.00	57.25	2.00	0.00	0.00	0.16	0.00
57.42	2.00	0.00	0.00	0.17	0.00	57.58	2.00	0.00	0.00	0.16	0.00
57.75	2.00	0.00	0.00	0.17	0.00	57.91	2.00	0.00	0.00	0.16	0.00
58.07	2.00	0.00	0.00	0.16	0.00	58.24	2.00	0.00	0.00	0.17	0.00
58.40	2.00	0.00	0.00	0.16	0.00	58.57	2.00	0.00	0.00	0.17	0.00
58.73	2.00	0.00	0.00	0.16	0.00	58.89	2.00	0.00	0.00	0.16	0.00
59.06	2.00	0.00	0.00	0.17	0.00	59.22	2.00	0.00	0.00	0.16	0.00
59.39	2.00	0.00	0.00	0.17	0.00	59.55	2.00	0.00	0.00	0.16	0.00
59.71	2.00	0.00	0.00	0.16	0.00	59.88	2.00	0.00	0.00	0.17	0.00
60.04	2.00	0.00	0.00	0.16	0.00	60.21	2.00	0.00	0.00	0.17	0.00
60.37	2.00	0.00	0.00	0.16	0.00	60.53	2.00	0.00	0.00	0.16	0.00
60.70	2.00	0.00	0.00	0.17	0.00	60.86	2.00	0.00	0.00	0.16	0.00
61.03	2.00	0.00	0.00	0.17	0.00	61.19	2.00	0.00	0.00	0.16	0.00
61.35	2.00	0.00	0.00	0.16	0.00	61.52	2.00	0.00	0.00	0.17	0.00
61.68	2.00	0.00	0.00	0.16	0.00	61.85	2.00	0.00	0.00	0.17	0.00
62.01	2.00	0.00	0.00	0.16	0.00	62.17	2.00	0.00	0.00	0.16	0.00
62.34	2.00	0.00	0.00	0.17	0.00	62.50	2.00	0.00	0.00	0.16	0.00
62.67	2.00	0.00	0.00	0.17	0.00	62.83	2.00	0.00	0.00	0.16	0.00
63.00	2.00	0.00	0.00	0.17	0.00	63.16	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
63.32	2.00	0.00	0.00	0.16	0.00	63.49	2.00	0.00	0.00	0.17	0.00
63.65	2.00	0.00	0.00	0.16	0.00	63.82	2.00	0.00	0.00	0.17	0.00
63.98	2.00	0.00	0.00	0.16	0.00	64.14	2.00	0.00	0.00	0.16	0.00
64.31	2.00	0.00	0.00	0.17	0.00	64.47	2.00	0.00	0.00	0.16	0.00
64.64	2.00	0.00	0.00	0.17	0.00	64.80	2.00	0.00	0.00	0.16	0.00
64.96	2.00	0.00	0.00	0.16	0.00	65.13	2.00	0.00	0.00	0.17	0.00
65.29	2.00	0.00	0.00	0.16	0.00	65.46	2.00	0.00	0.00	0.17	0.00
65.62	2.00	0.00	0.00	0.16	0.00	65.78	2.00	0.00	0.00	0.16	0.00
65.95	2.00	0.00	0.00	0.17	0.00	66.11	2.00	0.00	0.00	0.16	0.00
66.28	2.00	0.00	0.00	0.17	0.00	66.44	2.00	0.00	0.00	0.16	0.00
66.60	2.00	0.00	0.00	0.16	0.00	66.77	2.00	0.00	0.00	0.17	0.00
66.93	2.00	0.00	0.00	0.16	0.00	67.10	2.00	0.00	0.00	0.17	0.00
67.26	2.00	0.00	0.00	0.16	0.00	67.42	2.00	0.00	0.00	0.16	0.00
67.59	2.00	0.00	0.00	0.17	0.00	67.75	2.00	0.00	0.00	0.16	0.00
67.92	2.00	0.00	0.00	0.17	0.00	68.08	2.00	0.00	0.00	0.16	0.00
68.24	2.00	0.00	0.00	0.16	0.00	68.41	2.00	0.00	0.00	0.17	0.00
68.57	2.00	0.00	0.00	0.16	0.00	68.74	2.00	0.00	0.00	0.17	0.00
68.90	2.00	0.00	0.00	0.16	0.00	69.07	2.00	0.00	0.00	0.17	0.00
69.23	2.00	0.00	0.00	0.16	0.00	69.39	2.00	0.00	0.00	0.16	0.00
69.56	2.00	0.00	0.00	0.17	0.00	69.72	2.00	0.00	0.00	0.16	0.00
69.89	2.00	0.00	0.00	0.17	0.00	70.05	2.00	0.00	0.00	0.16	0.00
70.21	2.00	0.00	0.00	0.16	0.00	70.38	2.00	0.00	0.00	0.17	0.00
70.54	2.00	0.00	0.00	0.16	0.00	70.71	2.00	0.00	0.00	0.17	0.00
70.87	2.00	0.00	0.00	0.16	0.00	71.03	2.00	0.00	0.00	0.16	0.00
71.20	2.00	0.00	0.00	0.17	0.00	71.36	2.00	0.00	0.00	0.16	0.00
71.53	2.00	0.00	0.00	0.17	0.00	71.69	2.00	0.00	0.00	0.16	0.00
71.85	2.00	0.00	0.00	0.16	0.00	72.02	2.00	0.00	0.00	0.17	0.00
72.18	2.00	0.00	0.00	0.16	0.00	72.35	2.00	0.00	0.00	0.17	0.00
72.51	2.00	0.00	0.00	0.16	0.00	72.67	2.00	0.00	0.00	0.16	0.00
72.84	2.00	0.00	0.00	0.17	0.00	73.00	2.00	0.00	0.00	0.16	0.00
73.17	2.00	0.00	0.00	0.17	0.00	73.33	2.00	0.00	0.00	0.16	0.00
73.49	2.00	0.00	0.00	0.16	0.00	73.66	2.00	0.00	0.00	0.17	0.00
73.82	2.00	0.00	0.00	0.16	0.00	73.99	2.00	0.00	0.00	0.17	0.00
74.15	2.00	0.00	0.00	0.16	0.00	74.31	2.00	0.00	0.00	0.16	0.00
74.48	2.00	0.00	0.00	0.17	0.00	74.64	2.00	0.00	0.00	0.16	0.00
74.81	2.00	0.00	0.00	0.17	0.00	74.97	2.00	0.00	0.00	0.16	0.00
75.13	2.00	0.00	0.00	0.16	0.00	75.30	2.00	0.00	0.00	0.17	0.00
75.46	2.00	0.00	0.00	0.16	0.00	75.63	2.00	0.00	0.00	0.17	0.00
75.79	2.00	0.00	0.00	0.16	0.00	75.96	2.00	0.00	0.00	0.17	0.00
76.12	2.00	0.00	0.00	0.16	0.00	76.28	2.00	0.00	0.00	0.16	0.00
76.45	2.00	0.00	0.00	0.17	0.00	76.61	2.00	0.00	0.00	0.16	0.00
76.78	2.00	0.00	0.00	0.17	0.00	76.94	2.00	0.00	0.00	0.16	0.00
77.10	2.00	0.00	0.00	0.16	0.00	77.27	2.00	0.00	0.00	0.17	0.00
77.43	2.00	0.00	0.00	0.16	0.00	77.60	2.00	0.00	0.00	0.17	0.00
77.76	2.00	0.00	0.00	0.16	0.00	77.92	2.00	0.00	0.00	0.16	0.00
78.09	2.00	0.00	0.00	0.17	0.00	78.25	2.00	0.00	0.00	0.16	0.00
78.42	2.00	0.00	0.00	0.17	0.00	78.58	2.00	0.00	0.00	0.16	0.00
78.74	2.00	0.00	0.00	0.16	0.00	78.91	2.00	0.00	0.00	0.17	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
79.07	2.00	0.00	0.00	0.16	0.00	79.24	2.00	0.00	0.00	0.17	0.00
79.40	2.00	0.00	0.00	0.16	0.00	79.56	2.00	0.00	0.00	0.16	0.00
79.73	2.00	0.00	0.00	0.17	0.00	79.89	2.00	0.00	0.00	0.16	0.00
80.06	2.00	0.00	0.00	0.17	0.00	80.22	2.00	0.00	0.00	0.16	0.00
80.38	2.00	0.00	0.00	0.16	0.00	80.55	2.00	0.00	0.00	0.17	0.00
80.71	2.00	0.00	0.00	0.16	0.00	80.88	2.00	0.00	0.00	0.17	0.00
81.04	2.00	0.00	0.00	0.16	0.00	81.20	2.00	0.00	0.00	0.16	0.00
81.37	2.00	0.00	0.00	0.17	0.00	81.53	2.00	0.00	0.00	0.16	0.00
81.70	2.00	0.00	0.00	0.17	0.00	81.86	2.00	0.00	0.00	0.16	0.00
82.02	2.00	0.00	0.00	0.16	0.00	82.19	2.00	0.00	0.00	0.17	0.00
82.35	2.00	0.00	0.00	0.16	0.00	82.52	2.00	0.00	0.00	0.17	0.00
82.68	2.00	0.00	0.00	0.16	0.00	82.85	2.00	0.00	0.00	0.17	0.00
83.01	2.00	0.00	0.00	0.16	0.00	83.17	2.00	0.00	0.00	0.16	0.00
83.34	2.00	0.00	0.00	0.17	0.00	83.50	2.00	0.00	0.00	0.16	0.00
83.67	2.00	0.00	0.00	0.17	0.00	83.83	2.00	0.00	0.00	0.16	0.00
83.99	2.00	0.00	0.00	0.16	0.00	84.16	2.00	0.00	0.00	0.17	0.00
84.32	2.00	0.00	0.00	0.16	0.00	84.49	2.00	0.00	0.00	0.17	0.00
84.65	2.00	0.00	0.00	0.16	0.00	84.81	2.00	0.00	0.00	0.16	0.00
84.98	2.00	0.00	0.00	0.17	0.00	85.14	2.00	0.00	0.00	0.16	0.00
85.31	2.00	0.00	0.00	0.17	0.00	85.47	2.00	0.00	0.00	0.16	0.00
85.63	2.00	0.00	0.00	0.16	0.00	85.80	2.00	0.00	0.00	0.17	0.00
85.96	2.00	0.00	0.00	0.16	0.00	86.13	2.00	0.00	0.00	0.17	0.00
86.29	2.00	0.00	0.00	0.16	0.00	86.45	2.00	0.00	0.00	0.16	0.00
86.62	2.00	0.00	0.00	0.17	0.00	86.78	2.00	0.00	0.00	0.16	0.00
86.95	2.00	0.00	0.00	0.17	0.00	87.11	2.00	0.00	0.00	0.16	0.00
87.27	2.00	0.00	0.00	0.16	0.00	87.44	2.00	0.00	0.00	0.17	0.00
87.60	2.00	0.00	0.00	0.16	0.00	87.77	2.00	0.00	0.00	0.17	0.00
87.93	2.00	0.00	0.00	0.16	0.00	88.09	2.00	0.00	0.00	0.16	0.00
88.26	2.00	0.00	0.00	0.17	0.00	88.42	2.00	0.00	0.00	0.16	0.00
88.59	2.00	0.00	0.00	0.17	0.00	88.75	2.00	0.00	0.00	0.16	0.00
88.92	2.00	0.00	0.00	0.17	0.00	89.08	2.00	0.00	0.00	0.16	0.00
89.24	2.00	0.00	0.00	0.16	0.00	89.41	2.00	0.00	0.00	0.17	0.00
89.57	2.00	0.00	0.00	0.16	0.00	89.74	2.00	0.00	0.00	0.17	0.00
89.90	2.00	0.00	0.00	0.16	0.00	90.06	2.00	0.00	0.00	0.16	0.00
90.23	2.00	0.00	0.00	0.17	0.00	90.39	2.00	0.00	0.00	0.16	0.00
90.56	2.00	0.00	0.00	0.17	0.00	90.72	2.00	0.00	0.00	0.16	0.00
90.88	2.00	0.00	0.00	0.16	0.00	91.05	2.00	0.00	0.00	0.17	0.00
91.21	2.00	0.00	0.00	0.16	0.00	91.38	2.00	0.00	0.00	0.17	0.00
91.54	2.00	0.00	0.00	0.16	0.00	91.70	2.00	0.00	0.00	0.16	0.00
91.87	2.00	0.00	0.00	0.17	0.00	92.03	2.00	0.00	0.00	0.16	0.00
92.20	2.00	0.00	0.00	0.17	0.00	92.36	2.00	0.00	0.00	0.16	0.00
92.52	2.00	0.00	0.00	0.16	0.00	92.69	2.00	0.00	0.00	0.17	0.00
92.85	2.00	0.00	0.00	0.16	0.00	93.02	2.00	0.00	0.00	0.17	0.00
93.18	2.00	0.00	0.00	0.16	0.00	93.34	2.00	0.00	0.00	0.16	0.00
93.51	2.00	0.00	0.00	0.17	0.00	93.67	2.00	0.00	0.00	0.16	0.00
93.84	2.00	0.00	0.00	0.17	0.00	94.00	2.00	0.00	0.00	0.16	0.00
94.16	2.00	0.00	0.00	0.16	0.00	94.33	2.00	0.00	0.00	0.17	0.00
94.49	2.00	0.00	0.00	0.16	0.00	94.66	2.00	0.00	0.00	0.17	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
94.82	2.00	0.00	0.00	0.16	0.00	94.98	2.00	0.00	0.00	0.16	0.00
95.15	2.00	0.00	0.00	0.17	0.00	95.31	2.00	0.00	0.00	0.16	0.00
95.48	2.00	0.00	0.00	0.17	0.00	95.64	2.00	0.00	0.00	0.16	0.00
95.81	1.76	0.00	0.00	0.17	0.00	95.97	1.66	0.00	0.00	0.16	0.00
96.13	2.00	0.00	0.00	0.16	0.00	96.30	2.00	0.00	0.00	0.17	0.00
96.46	2.00	0.00	0.00	0.16	0.00	96.63	2.00	0.00	0.00	0.17	0.00
96.79	2.00	0.00	0.00	0.16	0.00						

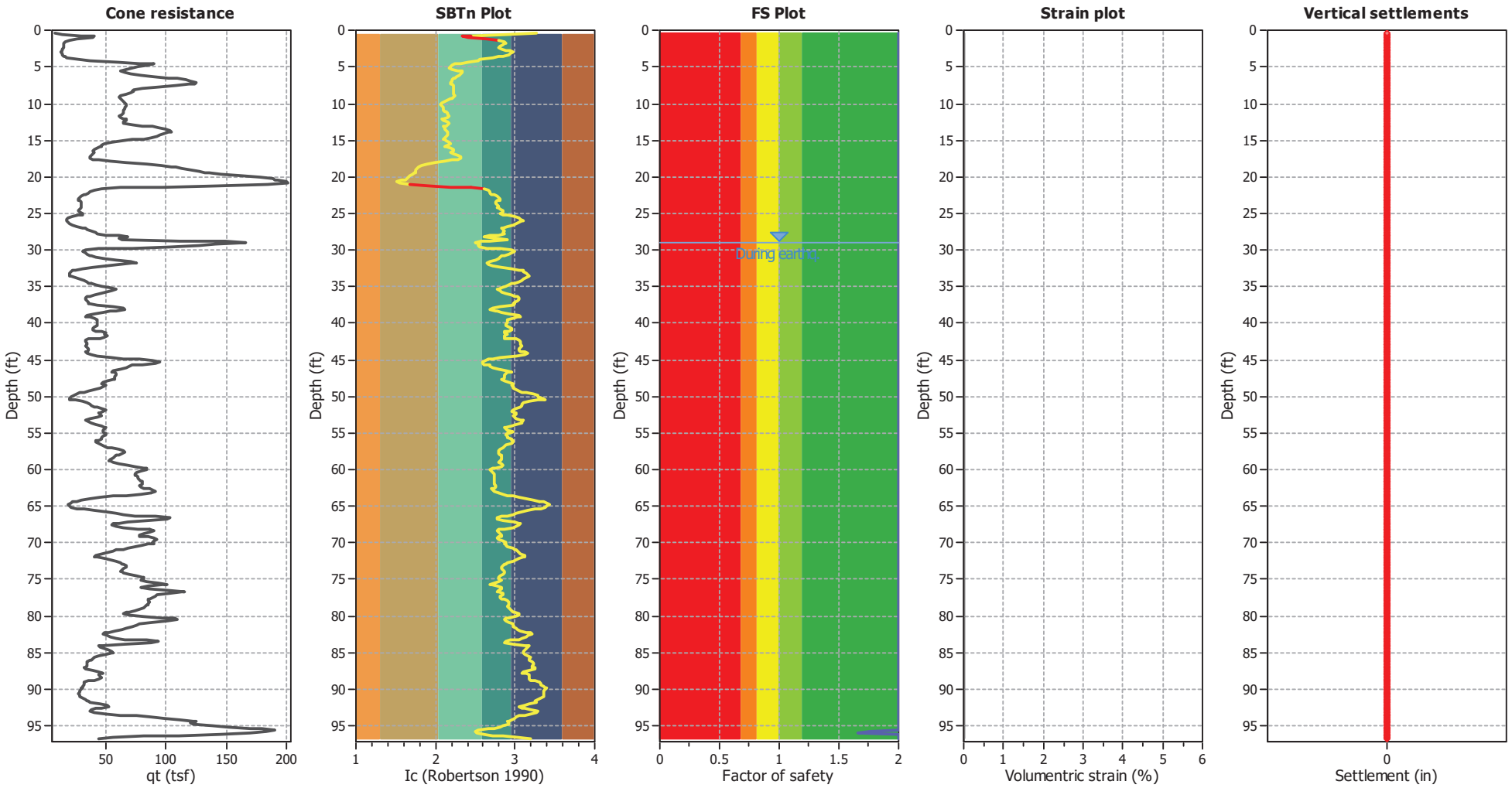
Overall liquefaction potential: 0.00

LPI = 0.00 - Liquefaction risk very low
LPI between 0.00 and 5.00 - Liquefaction risk low
LPI between 5.00 and 15.00 - Liquefaction risk high
LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
F_L: 1 - FS
w_z: Function value of the extend of soil liquefaction according to depth
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
29.04	343.74	2.00	0.00	1.00	0.00	29.20	325.87	2.00	0.00	1.00	0.00
29.36	284.01	2.00	0.00	1.00	0.00	29.53	237.28	2.00	0.00	1.00	0.00
29.69	197.51	2.00	0.00	1.00	0.00	29.86	170.13	2.00	0.00	1.00	0.00
30.02	160.01	2.00	0.00	1.00	0.00	30.19	157.65	2.00	0.00	1.00	0.00
30.35	158.30	2.00	0.00	1.00	0.00	30.51	159.61	2.00	0.00	1.00	0.00
30.68	152.15	2.00	0.00	1.00	0.00	30.84	148.41	2.00	0.00	1.00	0.00
31.01	155.93	2.00	0.00	1.00	0.00	31.17	176.36	2.00	0.00	1.00	0.00
31.33	195.41	2.00	0.00	1.00	0.00	31.50	204.67	2.00	0.00	1.00	0.00
31.66	202.96	2.00	0.00	1.00	0.00	31.83	187.73	2.00	0.00	1.00	0.00
31.99	168.89	2.00	0.00	1.00	0.00	32.15	153.12	2.00	0.00	1.00	0.00
32.32	144.92	2.00	0.00	1.00	0.00	32.48	136.86	2.00	0.00	1.00	0.00
32.65	128.16	2.00	0.00	1.00	0.00	32.81	122.99	2.00	0.00	1.00	0.00
32.97	119.66	2.00	0.00	1.00	0.00	33.14	120.03	2.00	0.00	1.00	0.00
33.30	120.43	2.00	0.00	1.00	0.00	33.47	126.06	2.00	0.00	1.00	0.00
33.63	135.57	2.00	0.00	1.00	0.00	33.79	149.70	2.00	0.00	1.00	0.00
33.96	166.20	2.00	0.00	1.00	0.00	34.12	175.92	2.00	0.00	1.00	0.00
34.29	175.35	2.00	0.00	1.00	0.00	34.45	166.36	2.00	0.00	1.00	0.00
34.61	163.11	2.00	0.00	1.00	0.00	34.78	175.94	2.00	0.00	1.00	0.00
34.94	190.57	2.00	0.00	1.00	0.00	35.11	198.70	2.00	0.00	1.00	0.00
35.27	199.08	2.00	0.00	1.00	0.00	35.43	191.91	2.00	0.00	1.00	0.00
35.60	187.61	2.00	0.00	1.00	0.00	35.76	182.70	2.00	0.00	1.00	0.00
35.93	180.62	2.00	0.00	1.00	0.00	36.09	171.37	2.00	0.00	1.00	0.00
36.26	167.86	2.00	0.00	1.00	0.00	36.42	166.70	2.00	0.00	1.00	0.00
36.58	167.61	2.00	0.00	1.00	0.00	36.75	168.62	2.00	0.00	1.00	0.00
36.91	163.99	2.00	0.00	1.00	0.00	37.08	155.81	2.00	0.00	1.00	0.00
37.24	152.17	2.00	0.00	1.00	0.00	37.40	162.46	2.00	0.00	1.00	0.00
37.57	179.62	2.00	0.00	1.00	0.00	37.73	186.50	2.00	0.00	1.00	0.00
37.90	182.84	2.00	0.00	1.00	0.00	38.06	174.40	2.00	0.00	1.00	0.00
38.22	174.58	2.00	0.00	1.00	0.00	38.39	168.75	2.00	0.00	1.00	0.00
38.55	163.50	2.00	0.00	1.00	0.00	38.72	160.63	2.00	0.00	1.00	0.00
38.88	159.24	2.00	0.00	1.00	0.00	39.04	164.87	2.00	0.00	1.00	0.00
39.21	167.31	2.00	0.00	1.00	0.00	39.37	168.88	2.00	0.00	1.00	0.00
39.54	166.77	2.00	0.00	1.00	0.00	39.70	164.04	2.00	0.00	1.00	0.00
39.86	160.48	2.00	0.00	1.00	0.00	40.03	160.78	2.00	0.00	1.00	0.00
40.19	160.75	2.00	0.00	1.00	0.00	40.36	159.54	2.00	0.00	1.00	0.00
40.52	157.27	2.00	0.00	1.00	0.00	40.68	150.38	2.00	0.00	1.00	0.00
40.85	150.24	2.00	0.00	1.00	0.00	41.01	161.48	2.00	0.00	1.00	0.00
41.18	167.57	2.00	0.00	1.00	0.00	41.34	175.15	2.00	0.00	1.00	0.00
41.50	181.80	2.00	0.00	1.00	0.00	41.67	178.92	2.00	0.00	1.00	0.00
41.83	171.83	2.00	0.00	1.00	0.00	42.00	157.99	2.00	0.00	1.00	0.00
42.16	150.20	2.00	0.00	1.00	0.00	42.32	148.46	2.00	0.00	1.00	0.00
42.49	152.23	2.00	0.00	1.00	0.00	42.65	155.43	2.00	0.00	1.00	0.00
42.82	156.32	2.00	0.00	1.00	0.00	42.98	155.29	2.00	0.00	1.00	0.00
43.15	156.68	2.00	0.00	1.00	0.00	43.31	157.31	2.00	0.00	1.00	0.00
43.47	156.49	2.00	0.00	1.00	0.00	43.64	151.24	2.00	0.00	1.00	0.00
43.80	156.77	2.00	0.00	1.00	0.00	43.97	168.48	2.00	0.00	1.00	0.00
44.13	182.76	2.00	0.00	1.00	0.00	44.29	187.17	2.00	0.00	1.00	0.00
44.46	175.01	2.00	0.00	1.00	0.00	44.62	167.40	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
44.79	164.49	2.00	0.00	1.00	0.00	44.95	180.18	2.00	0.00	1.00	0.00
45.11	190.37	2.00	0.00	1.00	0.00	45.28	188.59	2.00	0.00	1.00	0.00
45.44	178.96	2.00	0.00	1.00	0.00	45.61	167.37	2.00	0.00	1.00	0.00
45.77	166.96	2.00	0.00	1.00	0.00	45.93	165.04	2.00	0.00	1.00	0.00
46.10	170.45	2.00	0.00	1.00	0.00	46.26	177.79	2.00	0.00	1.00	0.00
46.43	191.62	2.00	0.00	1.00	0.00	46.59	195.00	2.00	0.00	1.00	0.00
46.75	200.88	2.00	0.00	1.00	0.00	46.92	196.09	2.00	0.00	1.00	0.00
47.08	189.97	2.00	0.00	1.00	0.00	47.25	186.25	2.00	0.00	1.00	0.00
47.41	182.63	2.00	0.00	1.00	0.00	47.57	178.20	2.00	0.00	1.00	0.00
47.74	169.63	2.00	0.00	1.00	0.00	47.90	162.41	2.00	0.00	1.00	0.00
48.07	164.97	2.00	0.00	1.00	0.00	48.23	168.48	2.00	0.00	1.00	0.00
48.39	176.18	2.00	0.00	1.00	0.00	48.56	175.45	2.00	0.00	1.00	0.00
48.72	169.27	2.00	0.00	1.00	0.00	48.89	160.24	2.00	0.00	1.00	0.00
49.05	150.28	2.00	0.00	1.00	0.00	49.22	140.76	2.00	0.00	1.00	0.00
49.38	131.22	2.00	0.00	1.00	0.00	49.54	130.52	2.00	0.00	1.00	0.00
49.71	132.08	2.00	0.00	1.00	0.00	49.87	131.66	2.00	0.00	1.00	0.00
50.04	123.58	2.00	0.00	1.00	0.00	50.20	119.82	2.00	0.00	1.00	0.00
50.36	126.99	2.00	0.00	1.00	0.00	50.53	140.03	2.00	0.00	1.00	0.00
50.69	147.95	2.00	0.00	1.00	0.00	50.86	150.34	2.00	0.00	1.00	0.00
51.02	151.69	2.00	0.00	1.00	0.00	51.18	156.60	2.00	0.00	1.00	0.00
51.35	163.90	2.00	0.00	1.00	0.00	51.51	171.54	2.00	0.00	1.00	0.00
51.68	173.19	2.00	0.00	1.00	0.00	51.84	167.88	2.00	0.00	1.00	0.00
52.00	158.93	2.00	0.00	1.00	0.00	52.17	155.43	2.00	0.00	1.00	0.00
52.33	158.47	2.00	0.00	1.00	0.00	52.50	160.87	2.00	0.00	1.00	0.00
52.66	155.48	2.00	0.00	1.00	0.00	52.82	143.71	2.00	0.00	1.00	0.00
52.99	132.06	2.00	0.00	1.00	0.00	53.15	127.79	2.00	0.00	1.00	0.00
53.32	134.63	2.00	0.00	1.00	0.00	53.48	142.86	2.00	0.00	1.00	0.00
53.64	150.73	2.00	0.00	1.00	0.00	53.81	150.38	2.00	0.00	1.00	0.00
53.97	148.65	2.00	0.00	1.00	0.00	54.14	149.25	2.00	0.00	1.00	0.00
54.30	146.24	2.00	0.00	1.00	0.00	54.46	145.70	2.00	0.00	1.00	0.00
54.63	148.71	2.00	0.00	1.00	0.00	54.79	150.87	2.00	0.00	1.00	0.00
54.96	157.76	2.00	0.00	1.00	0.00	55.12	154.98	2.00	0.00	1.00	0.00
55.28	148.06	2.00	0.00	1.00	0.00	55.45	145.85	2.00	0.00	1.00	0.00
55.61	146.06	2.00	0.00	1.00	0.00	55.78	140.63	2.00	0.00	1.00	0.00
55.94	136.91	2.00	0.00	1.00	0.00	56.11	133.30	2.00	0.00	1.00	0.00
56.27	132.14	2.00	0.00	1.00	0.00	56.43	133.28	2.00	0.00	1.00	0.00
56.60	138.36	2.00	0.00	1.00	0.00	56.76	139.20	2.00	0.00	1.00	0.00
56.93	143.60	2.00	0.00	1.00	0.00	57.09	152.97	2.00	0.00	1.00	0.00
57.25	160.02	2.00	0.00	1.00	0.00	57.42	163.97	2.00	0.00	1.00	0.00
57.58	162.10	2.00	0.00	1.00	0.00	57.75	160.25	2.00	0.00	1.00	0.00
57.91	157.58	2.00	0.00	1.00	0.00	58.07	156.38	2.00	0.00	1.00	0.00
58.24	152.86	2.00	0.00	1.00	0.00	58.40	146.95	2.00	0.00	1.00	0.00
58.57	138.98	2.00	0.00	1.00	0.00	58.73	133.60	2.00	0.00	1.00	0.00
58.89	132.84	2.00	0.00	1.00	0.00	59.06	138.10	2.00	0.00	1.00	0.00
59.22	159.76	2.00	0.00	1.00	0.00	59.39	181.51	2.00	0.00	1.00	0.00
59.55	195.80	2.00	0.00	1.00	0.00	59.71	189.89	2.00	0.00	1.00	0.00
59.88	177.41	2.00	0.00	1.00	0.00	60.04	165.37	2.00	0.00	1.00	0.00
60.21	161.72	2.00	0.00	1.00	0.00	60.37	160.58	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
60.53	161.85	2.00	0.00	1.00	0.00	60.70	161.55	2.00	0.00	1.00	0.00
60.86	162.66	2.00	0.00	1.00	0.00	61.03	165.00	2.00	0.00	1.00	0.00
61.19	168.40	2.00	0.00	1.00	0.00	61.35	171.71	2.00	0.00	1.00	0.00
61.52	171.97	2.00	0.00	1.00	0.00	61.68	171.91	2.00	0.00	1.00	0.00
61.85	171.61	2.00	0.00	1.00	0.00	62.01	173.64	2.00	0.00	1.00	0.00
62.17	175.45	2.00	0.00	1.00	0.00	62.34	175.65	2.00	0.00	1.00	0.00
62.50	174.80	2.00	0.00	1.00	0.00	62.67	174.72	2.00	0.00	1.00	0.00
62.83	183.55	2.00	0.00	1.00	0.00	63.00	197.20	2.00	0.00	1.00	0.00
63.16	208.20	2.00	0.00	1.00	0.00	63.32	205.02	2.00	0.00	1.00	0.00
63.49	189.20	2.00	0.00	1.00	0.00	63.65	163.39	2.00	0.00	1.00	0.00
63.82	148.78	2.00	0.00	1.00	0.00	63.98	137.52	2.00	0.00	1.00	0.00
64.14	128.08	2.00	0.00	1.00	0.00	64.31	121.15	2.00	0.00	1.00	0.00
64.47	114.29	2.00	0.00	1.00	0.00	64.64	109.32	2.00	0.00	1.00	0.00
64.80	103.94	2.00	0.00	1.00	0.00	64.96	103.71	2.00	0.00	1.00	0.00
65.13	108.96	2.00	0.00	1.00	0.00	65.29	123.06	2.00	0.00	1.00	0.00
65.46	142.05	2.00	0.00	1.00	0.00	65.62	160.91	2.00	0.00	1.00	0.00
65.78	172.62	2.00	0.00	1.00	0.00	65.95	178.37	2.00	0.00	1.00	0.00
66.11	183.37	2.00	0.00	1.00	0.00	66.28	203.60	2.00	0.00	1.00	0.00
66.44	221.63	2.00	0.00	1.00	0.00	66.60	229.17	2.00	0.00	1.00	0.00
66.77	227.29	2.00	0.00	1.00	0.00	66.93	216.21	2.00	0.00	1.00	0.00
67.10	198.77	2.00	0.00	1.00	0.00	67.26	190.70	2.00	0.00	1.00	0.00
67.42	182.40	2.00	0.00	1.00	0.00	67.59	173.45	2.00	0.00	1.00	0.00
67.75	171.54	2.00	0.00	1.00	0.00	67.92	176.31	2.00	0.00	1.00	0.00
68.08	192.79	2.00	0.00	1.00	0.00	68.24	196.81	2.00	0.00	1.00	0.00
68.41	195.99	2.00	0.00	1.00	0.00	68.57	192.53	2.00	0.00	1.00	0.00
68.74	188.73	2.00	0.00	1.00	0.00	68.90	185.32	2.00	0.00	1.00	0.00
69.07	185.59	2.00	0.00	1.00	0.00	69.23	186.52	2.00	0.00	1.00	0.00
69.39	193.40	2.00	0.00	1.00	0.00	69.56	205.00	2.00	0.00	1.00	0.00
69.72	220.65	2.00	0.00	1.00	0.00	69.89	230.66	2.00	0.00	1.00	0.00
70.05	228.16	2.00	0.00	1.00	0.00	70.21	218.45	2.00	0.00	1.00	0.00
70.38	205.88	2.00	0.00	1.00	0.00	70.54	196.52	2.00	0.00	1.00	0.00
70.71	182.18	2.00	0.00	1.00	0.00	70.87	175.84	2.00	0.00	1.00	0.00
71.03	169.41	2.00	0.00	1.00	0.00	71.20	159.89	2.00	0.00	1.00	0.00
71.36	151.41	2.00	0.00	1.00	0.00	71.53	141.44	2.00	0.00	1.00	0.00
71.69	134.97	2.00	0.00	1.00	0.00	71.85	132.34	2.00	0.00	1.00	0.00
72.02	137.08	2.00	0.00	1.00	0.00	72.18	142.00	2.00	0.00	1.00	0.00
72.35	147.49	2.00	0.00	1.00	0.00	72.51	149.49	2.00	0.00	1.00	0.00
72.67	156.33	2.00	0.00	1.00	0.00	72.84	155.57	2.00	0.00	1.00	0.00
73.00	155.50	2.00	0.00	1.00	0.00	73.17	153.70	2.00	0.00	1.00	0.00
73.33	150.59	2.00	0.00	1.00	0.00	73.49	146.70	2.00	0.00	1.00	0.00
73.66	145.58	2.00	0.00	1.00	0.00	73.82	146.05	2.00	0.00	1.00	0.00
73.99	147.44	2.00	0.00	1.00	0.00	74.15	152.15	2.00	0.00	1.00	0.00
74.31	157.98	2.00	0.00	1.00	0.00	74.48	164.63	2.00	0.00	1.00	0.00
74.64	168.76	2.00	0.00	1.00	0.00	74.81	171.22	2.00	0.00	1.00	0.00
74.97	171.61	2.00	0.00	1.00	0.00	75.13	174.73	2.00	0.00	1.00	0.00
75.30	177.32	2.00	0.00	1.00	0.00	75.46	178.37	2.00	0.00	1.00	0.00
75.63	173.83	2.00	0.00	1.00	0.00	75.79	168.46	2.00	0.00	1.00	0.00
75.96	167.33	2.00	0.00	1.00	0.00	76.12	173.49	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
76.28	186.77	2.00	0.00	1.00	0.00	76.45	213.43	2.00	0.00	1.00	0.00
76.61	231.08	2.00	0.00	1.00	0.00	76.78	237.22	2.00	0.00	1.00	0.00
76.94	204.41	2.00	0.00	1.00	0.00	77.10	183.61	2.00	0.00	1.00	0.00
77.27	164.40	2.00	0.00	1.00	0.00	77.43	159.75	2.00	0.00	1.00	0.00
77.60	160.77	2.00	0.00	1.00	0.00	77.76	172.38	2.00	0.00	1.00	0.00
77.92	182.36	2.00	0.00	1.00	0.00	78.09	191.67	2.00	0.00	1.00	0.00
78.25	192.46	2.00	0.00	1.00	0.00	78.42	189.88	2.00	0.00	1.00	0.00
78.58	184.04	2.00	0.00	1.00	0.00	78.74	178.74	2.00	0.00	1.00	0.00
78.91	176.81	2.00	0.00	1.00	0.00	79.07	177.05	2.00	0.00	1.00	0.00
79.24	175.98	2.00	0.00	1.00	0.00	79.40	169.72	2.00	0.00	1.00	0.00
79.56	167.46	2.00	0.00	1.00	0.00	79.73	175.78	2.00	0.00	1.00	0.00
79.89	190.05	2.00	0.00	1.00	0.00	80.06	201.84	2.00	0.00	1.00	0.00
80.22	211.75	2.00	0.00	1.00	0.00	80.38	217.69	2.00	0.00	1.00	0.00
80.55	215.32	2.00	0.00	1.00	0.00	80.71	203.70	2.00	0.00	1.00	0.00
80.88	189.89	2.00	0.00	1.00	0.00	81.04	184.67	2.00	0.00	1.00	0.00
81.20	181.45	2.00	0.00	1.00	0.00	81.37	179.73	2.00	0.00	1.00	0.00
81.53	173.69	2.00	0.00	1.00	0.00	81.70	168.65	2.00	0.00	1.00	0.00
81.86	163.20	2.00	0.00	1.00	0.00	82.02	160.00	2.00	0.00	1.00	0.00
82.19	158.56	2.00	0.00	1.00	0.00	82.35	162.28	2.00	0.00	1.00	0.00
82.52	165.99	2.00	0.00	1.00	0.00	82.68	167.51	2.00	0.00	1.00	0.00
82.85	167.47	2.00	0.00	1.00	0.00	83.01	168.01	2.00	0.00	1.00	0.00
83.17	177.77	2.00	0.00	1.00	0.00	83.34	180.91	2.00	0.00	1.00	0.00
83.50	179.72	2.00	0.00	1.00	0.00	83.67	164.70	2.00	0.00	1.00	0.00
83.83	150.59	2.00	0.00	1.00	0.00	83.99	138.68	2.00	0.00	1.00	0.00
84.16	137.37	2.00	0.00	1.00	0.00	84.32	141.71	2.00	0.00	1.00	0.00
84.49	146.17	2.00	0.00	1.00	0.00	84.65	152.28	2.00	0.00	1.00	0.00
84.81	157.22	2.00	0.00	1.00	0.00	84.98	158.11	2.00	0.00	1.00	0.00
85.14	153.30	2.00	0.00	1.00	0.00	85.31	143.91	2.00	0.00	1.00	0.00
85.47	134.73	2.00	0.00	1.00	0.00	85.63	127.81	2.00	0.00	1.00	0.00
85.80	121.53	2.00	0.00	1.00	0.00	85.96	116.80	2.00	0.00	1.00	0.00
86.13	112.10	2.00	0.00	1.00	0.00	86.29	111.62	2.00	0.00	1.00	0.00
86.45	111.79	2.00	0.00	1.00	0.00	86.62	111.64	2.00	0.00	1.00	0.00
86.78	107.30	2.00	0.00	1.00	0.00	86.95	103.19	2.00	0.00	1.00	0.00
87.11	102.49	2.00	0.00	1.00	0.00	87.27	108.74	2.00	0.00	1.00	0.00
87.44	115.10	2.00	0.00	1.00	0.00	87.60	120.81	2.00	0.00	1.00	0.00
87.77	123.52	2.00	0.00	1.00	0.00	87.93	128.83	2.00	0.00	1.00	0.00
88.09	134.41	2.00	0.00	1.00	0.00	88.26	139.16	2.00	0.00	1.00	0.00
88.42	138.73	2.00	0.00	1.00	0.00	88.59	132.46	2.00	0.00	1.00	0.00
88.75	122.98	2.00	0.00	1.00	0.00	88.92	115.73	2.00	0.00	1.00	0.00
89.08	113.40	2.00	0.00	1.00	0.00	89.24	114.58	2.00	0.00	1.00	0.00
89.41	115.44	2.00	0.00	1.00	0.00	89.57	119.38	2.00	0.00	1.00	0.00
89.74	121.32	2.00	0.00	1.00	0.00	89.90	120.54	2.00	0.00	1.00	0.00
90.06	114.70	2.00	0.00	1.00	0.00	90.23	108.63	2.00	0.00	1.00	0.00
90.39	105.50	2.00	0.00	1.00	0.00	90.56	103.38	2.00	0.00	1.00	0.00
90.72	103.34	2.00	0.00	1.00	0.00	90.88	104.31	2.00	0.00	1.00	0.00
91.05	106.21	2.00	0.00	1.00	0.00	91.21	109.91	2.00	0.00	1.00	0.00
91.38	111.33	2.00	0.00	1.00	0.00	91.54	111.79	2.00	0.00	1.00	0.00
91.70	114.52	2.00	0.00	1.00	0.00	91.87	124.50	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
92.03	133.22	2.00	0.00	1.00	0.00	92.20	135.22	2.00	0.00	1.00	0.00
92.36	125.80	2.00	0.00	1.00	0.00	92.52	115.44	2.00	0.00	1.00	0.00
92.69	107.39	2.00	0.00	1.00	0.00	92.85	109.54	2.00	0.00	1.00	0.00
93.02	121.46	2.00	0.00	1.00	0.00	93.18	134.26	2.00	0.00	1.00	0.00
93.34	151.36	2.00	0.00	1.00	0.00	93.51	167.12	2.00	0.00	1.00	0.00
93.67	182.46	2.00	0.00	1.00	0.00	93.84	196.59	2.00	0.00	1.00	0.00
94.00	215.80	2.00	0.00	1.00	0.00	94.16	228.70	2.00	0.00	1.00	0.00
94.33	236.23	2.00	0.00	1.00	0.00	94.49	231.91	2.00	0.00	1.00	0.00
94.66	234.69	2.00	0.00	1.00	0.00	94.82	232.69	2.00	0.00	1.00	0.00
94.98	232.97	2.00	0.00	1.00	0.00	95.15	231.61	2.00	0.00	1.00	0.00
95.31	221.09	2.00	0.00	1.00	0.00	95.48	197.16	2.00	0.00	1.00	0.00
95.64	159.72	2.00	0.00	1.00	0.00	95.81	138.60	1.76	0.00	1.00	0.00
95.97	134.94	1.66	0.00	1.00	0.00	96.13	139.15	2.00	0.00	1.00	0.00
96.30	137.77	2.00	0.00	1.00	0.00	96.46	127.85	2.00	0.00	1.00	0.00
96.63	124.51	2.00	0.00	1.00	0.00	96.79	122.98	2.00	0.00	1.00	0.00

Total estimated settlement: 0.00

Abbreviations

$Q_{tn,cs}$: Equivalent dean sand normalized cone resistance
FS: Factor of safety against liquefaction
e_v (%): Post-liquefaction volumentric strain
DF: e_v depth weighting factor
Settlement: Calculated settlement

U.S. Geological Survey - Earthquake Hazards Program

Unified Hazard Tool

Please do not use this tool to obtain ground motion parameter values for the design code reference documents covered by the U.S. Seismic Design Maps web tools (e.g., the International Building Code and the ASCE 7 or 41 Standard). The values returned by the two applications are not identical.

Input

Edition

Dynamic: Conterminous U.S. 2014 (u…

Spectral Period

Peak Ground Acceleration

Latitude

Decimal degrees

37.9721

Time Horizon

Return period in years

2475

Longitude

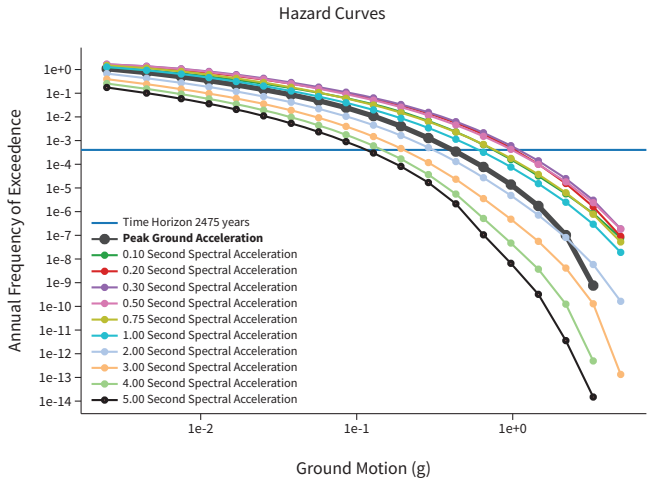
Decimal degrees, negative values for western longitudes

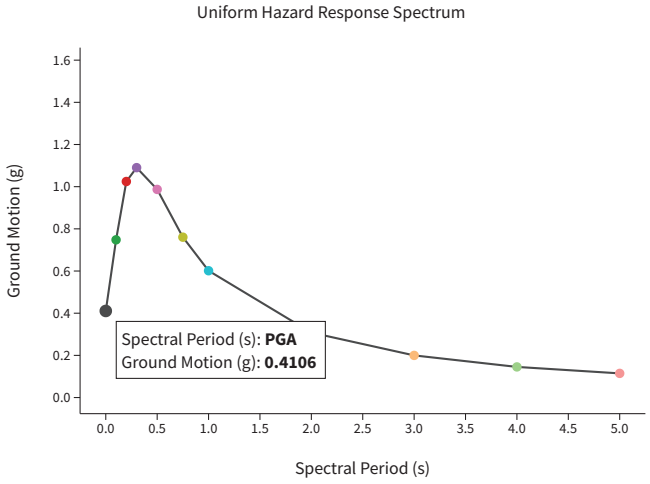
-121.2888

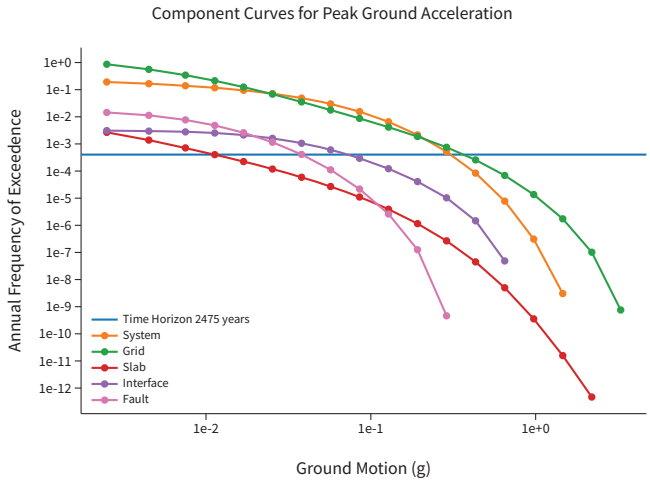
Site Class

259 m/s (Site class D)

Hazard Curve





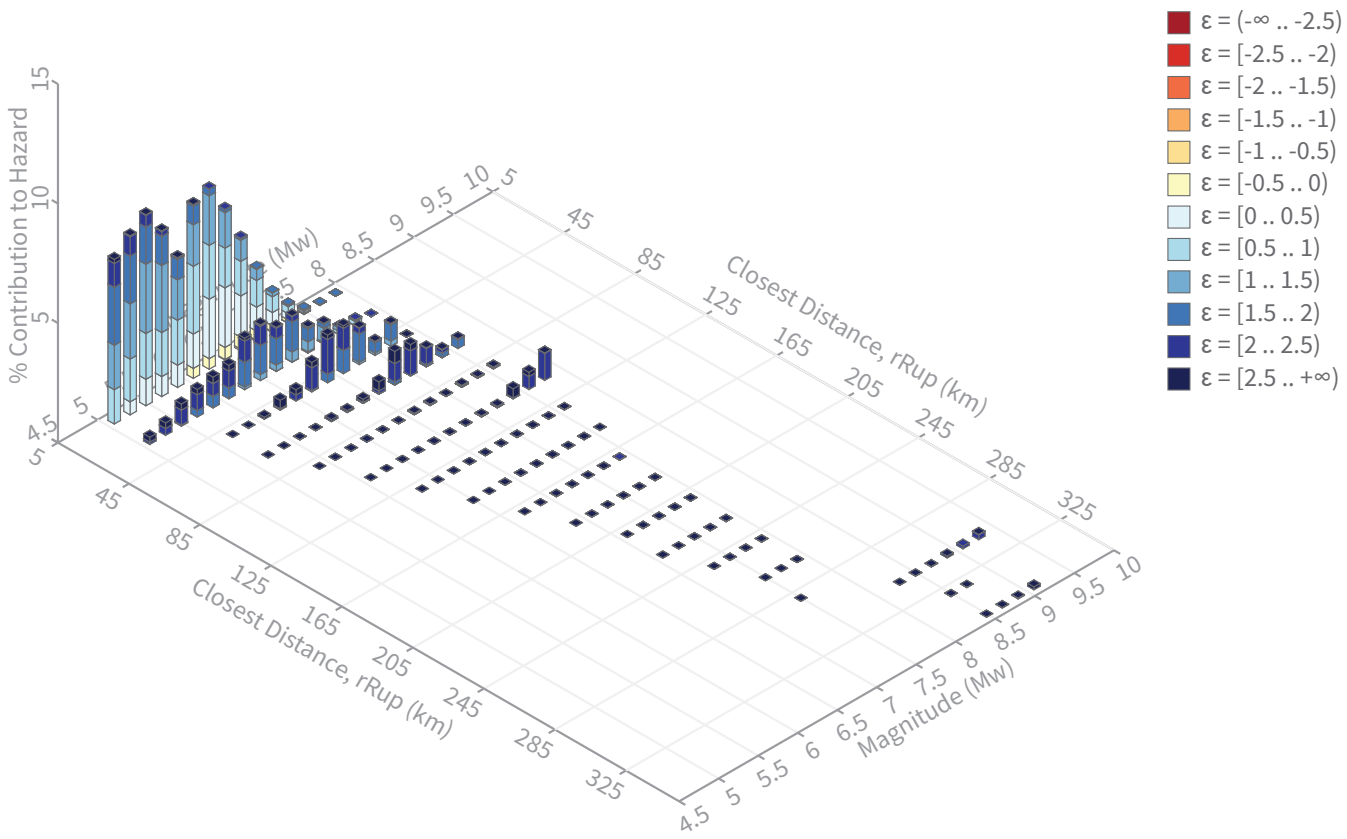


View Raw Data

Deaggregation

Component

Total



Summary statistics for, Deaggregation: Total

Deaggregation targets

Return period: 2475 yrs
Exceedance rate: 0.0004040404 yr^{-1}
PGA ground motion: 0.41063027 g

Recovered targets

Return period: 2857.5969 yrs
Exceedance rate: 0.00034994439 yr^{-1}

Totals

Binned: 100 %
Residual: 0 %
Trace: 0.18 %

Mean (over all sources)

m: 6.28
r: 23.98 km
ε_0: 1.33 σ

Mode (largest m-r bin)

m: 5.5
r: 10.58 km
ε_0: 1.15 σ
Contribution: 7.98 %

Mode (largest m-r-ε_0 bin)

m: 5.5
r: 11 km
ε_0: 1.27 σ
Contribution: 2.9 %

Discretization

r: min = 0.0, max = 1000.0, Δ = 20.0 km
m: min = 4.4, max = 9.4, Δ = 0.2
ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys

ε0: [-∞ .. -2.5)
ε1: [-2.5 .. -2.0)
ε2: [-2.0 .. -1.5)
ε3: [-1.5 .. -1.0)
ε4: [-1.0 .. -0.5)
ε5: [-0.5 .. 0.0)
ε6: [0.0 .. 0.5)
ε7: [0.5 .. 1.0)
ε8: [1.0 .. 1.5)
ε9: [1.5 .. 2.0)
ε10: [2.0 .. 2.5)
ε11: [2.5 .. +∞]

Deaggregation Contributors

Source Set ↳ Source	Type	r	m	ε_0	lon	lat	az	%
UC33brAvg_FM32 (opt)	Grid							39.10
PointSourceFinite: -121.289, 38.004		6.09	5.70	0.51	121.289°W	38.004°N	0.00	3.88
PointSourceFinite: -121.289, 38.004		6.09	5.70	0.51	121.289°W	38.004°N	0.00	3.88
PointSourceFinite: -121.289, 38.049		9.19	5.84	0.88	121.289°W	38.049°N	0.00	3.88
PointSourceFinite: -121.289, 38.049		9.19	5.84	0.88	121.289°W	38.049°N	0.00	3.88
PointSourceFinite: -121.289, 38.067		10.57	5.91	1.01	121.289°W	38.067°N	0.00	1.79
PointSourceFinite: -121.289, 38.067		10.57	5.91	1.01	121.289°W	38.067°N	0.00	1.79
PointSourceFinite: -121.289, 38.085		12.00	5.98	1.13	121.289°W	38.085°N	0.00	1.62
PointSourceFinite: -121.289, 38.085		12.00	5.98	1.13	121.289°W	38.085°N	0.00	1.62
PointSourceFinite: -121.289, 38.076		11.28	5.94	1.07	121.289°W	38.076°N	0.00	1.15
PointSourceFinite: -121.289, 38.076		11.28	5.94	1.07	121.289°W	38.076°N	0.00	1.15
UC33brAvg_FM31 (opt)	Grid							38.97
PointSourceFinite: -121.289, 38.004		6.09	5.70	0.50	121.289°W	38.004°N	0.00	3.89
PointSourceFinite: -121.289, 38.004		6.09	5.70	0.50	121.289°W	38.004°N	0.00	3.89
PointSourceFinite: -121.289, 38.049		9.18	5.84	0.88	121.289°W	38.049°N	0.00	3.88
PointSourceFinite: -121.289, 38.049		9.18	5.84	0.88	121.289°W	38.049°N	0.00	3.88
PointSourceFinite: -121.289, 38.067		10.57	5.91	1.01	121.289°W	38.067°N	0.00	1.79
PointSourceFinite: -121.289, 38.067		10.57	5.91	1.01	121.289°W	38.067°N	0.00	1.79
PointSourceFinite: -121.289, 38.085		12.00	5.98	1.13	121.289°W	38.085°N	0.00	1.62
PointSourceFinite: -121.289, 38.085		12.00	5.98	1.13	121.289°W	38.085°N	0.00	1.62
PointSourceFinite: -121.289, 38.076		11.28	5.94	1.07	121.289°W	38.076°N	0.00	1.15
PointSourceFinite: -121.289, 38.076		11.28	5.94	1.07	121.289°W	38.076°N	0.00	1.15
UC33brAvg_FM32	System							10.99
Greenville (No) [4]		46.09	7.18	1.99	121.710°W	37.730°N	234.06	2.84
Great Valley 06 Midland alt2 [2]		33.76	7.40	1.32	121.671°W	37.956°N	267.13	1.05
UC33brAvg_FM31	System							10.36
Mount Diablo Thrust South [0]		42.24	7.06	2.00	121.778°W	37.736°N	238.77	1.62
Greenville (No) [4]		46.13	7.20	1.99	121.709°W	37.730°N	234.05	1.53
Great Valley 06 (Midland) alt1 [6]		30.26	6.87	1.79	121.632°W	37.995°N	275.01	1.11

APPENDIX D
Liquefaction Analysis

Wallace-Kuhl & Associates
3050 Industrial Blvd
West Sacramento, CA 95691
http://www.wallace-kuhl.com

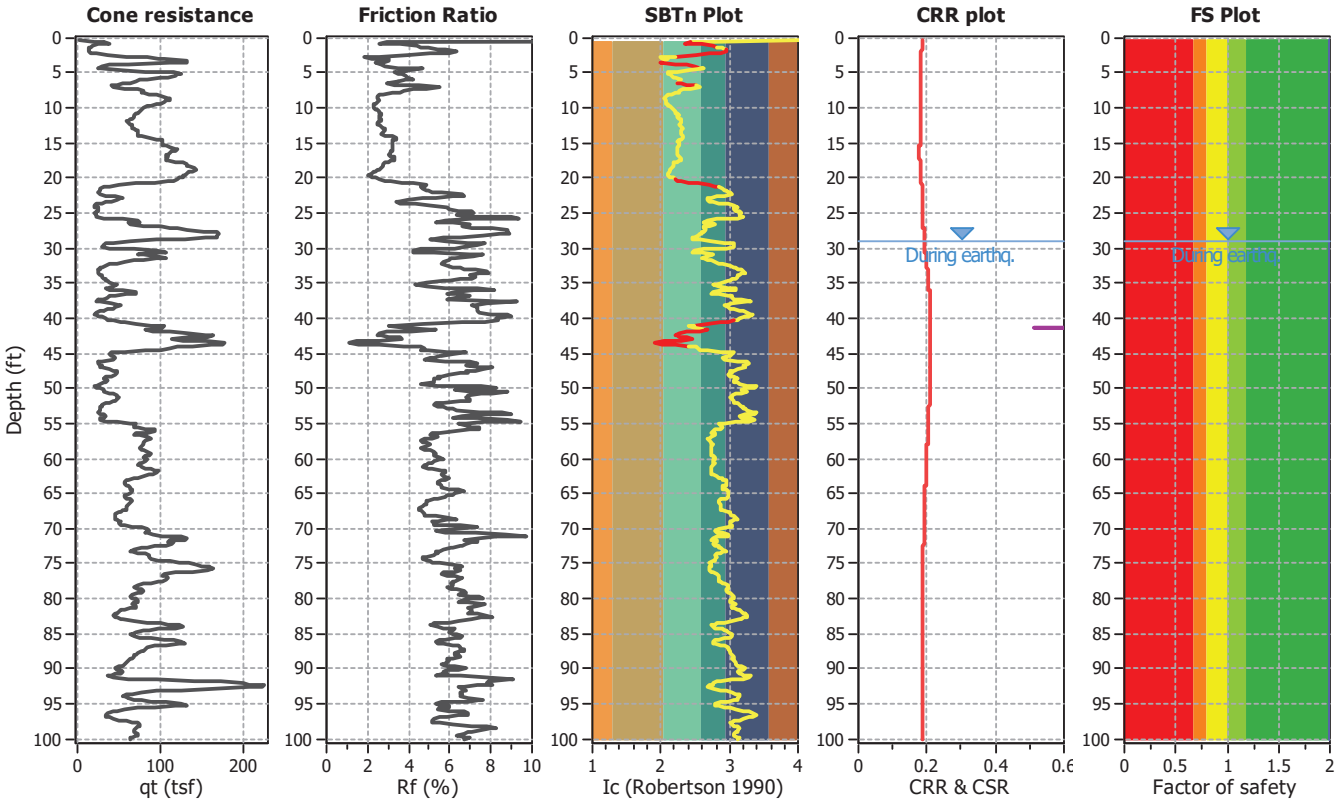
LIQUEFACTION ANALYSIS REPORT

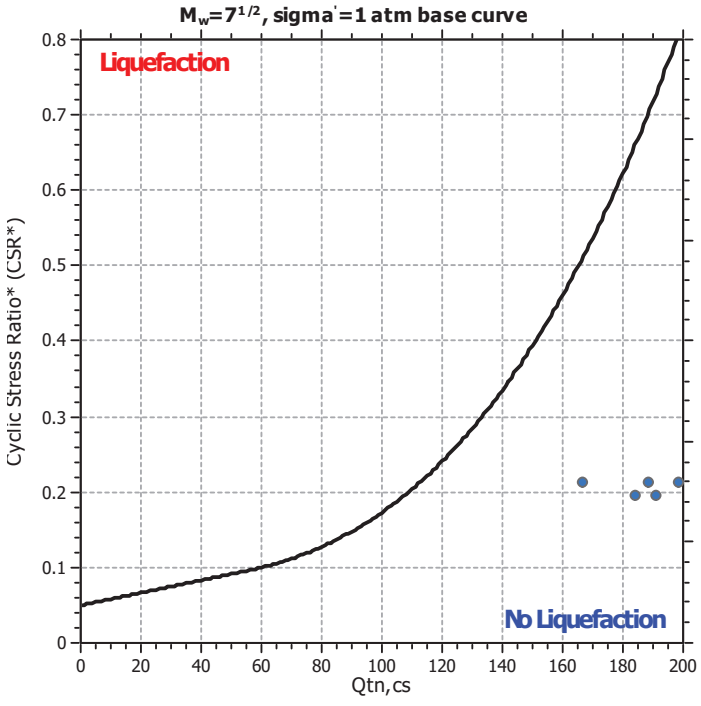
Project title : ST. JOSEPH'S MEDICAL CENTER **Location : Stockton, CA**

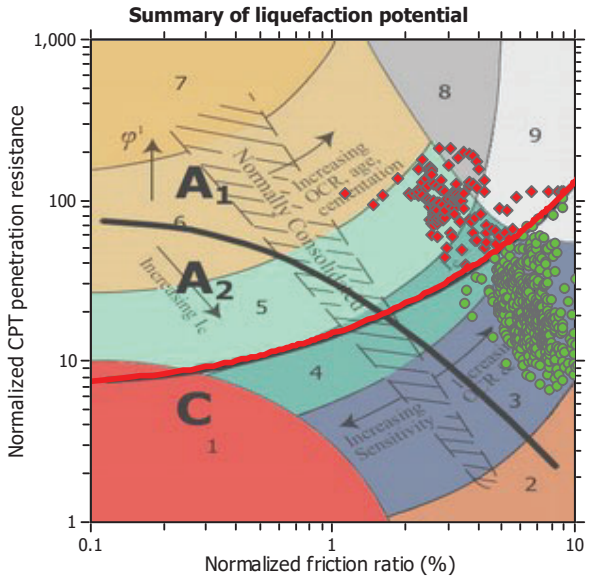
CPT file : CPT-01

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	23.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	29.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	6.50	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.41	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

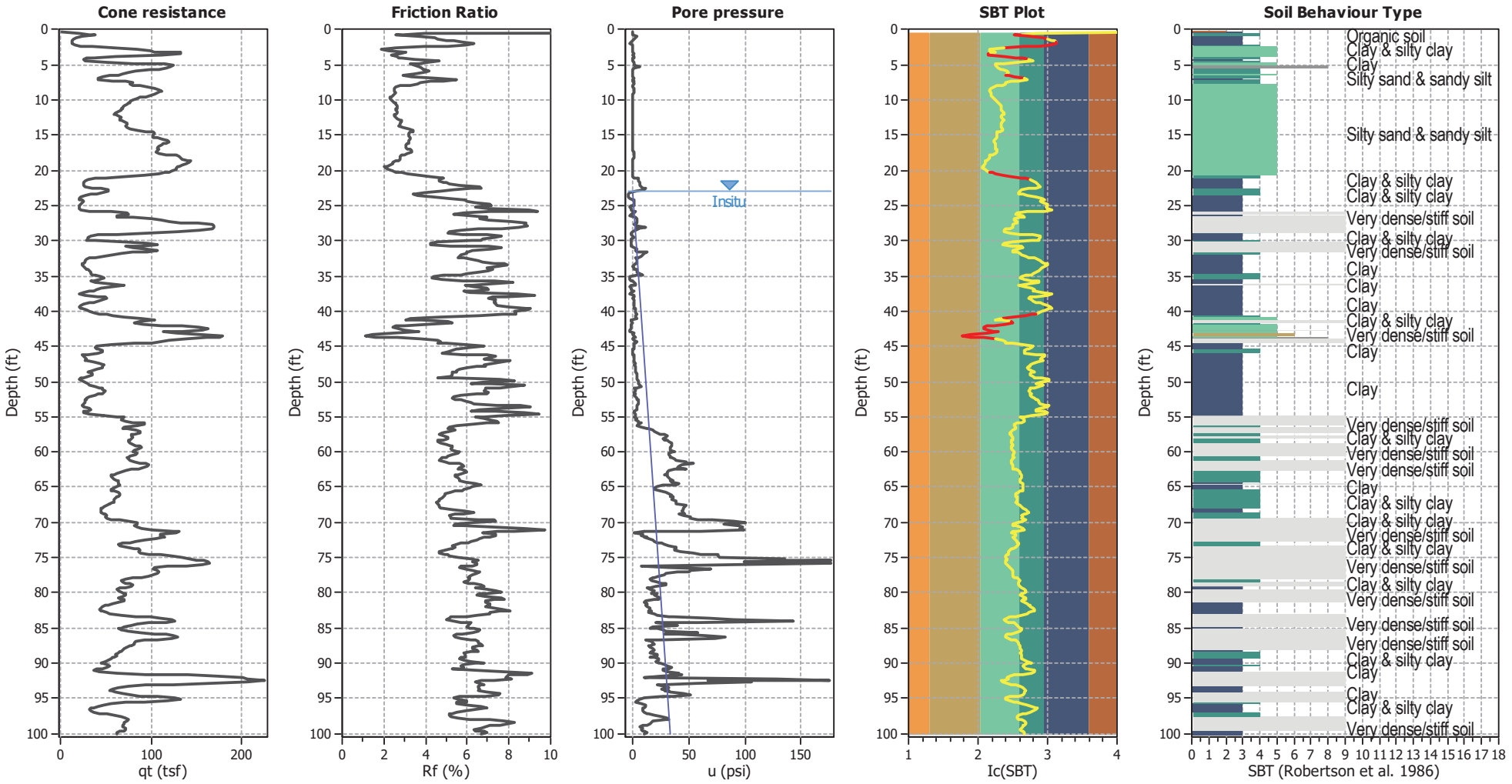






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



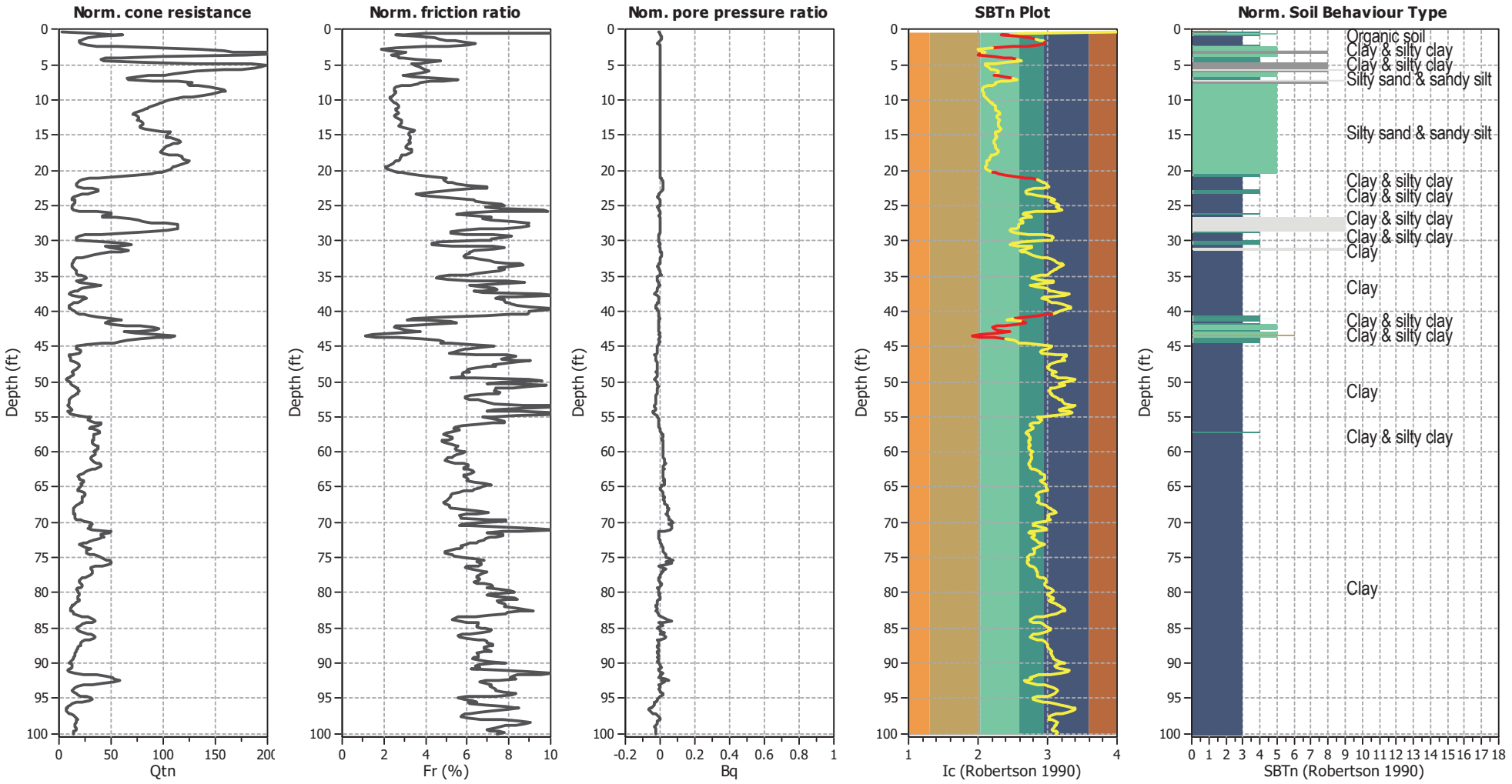
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

CPT basic interpretation plots (normalized)



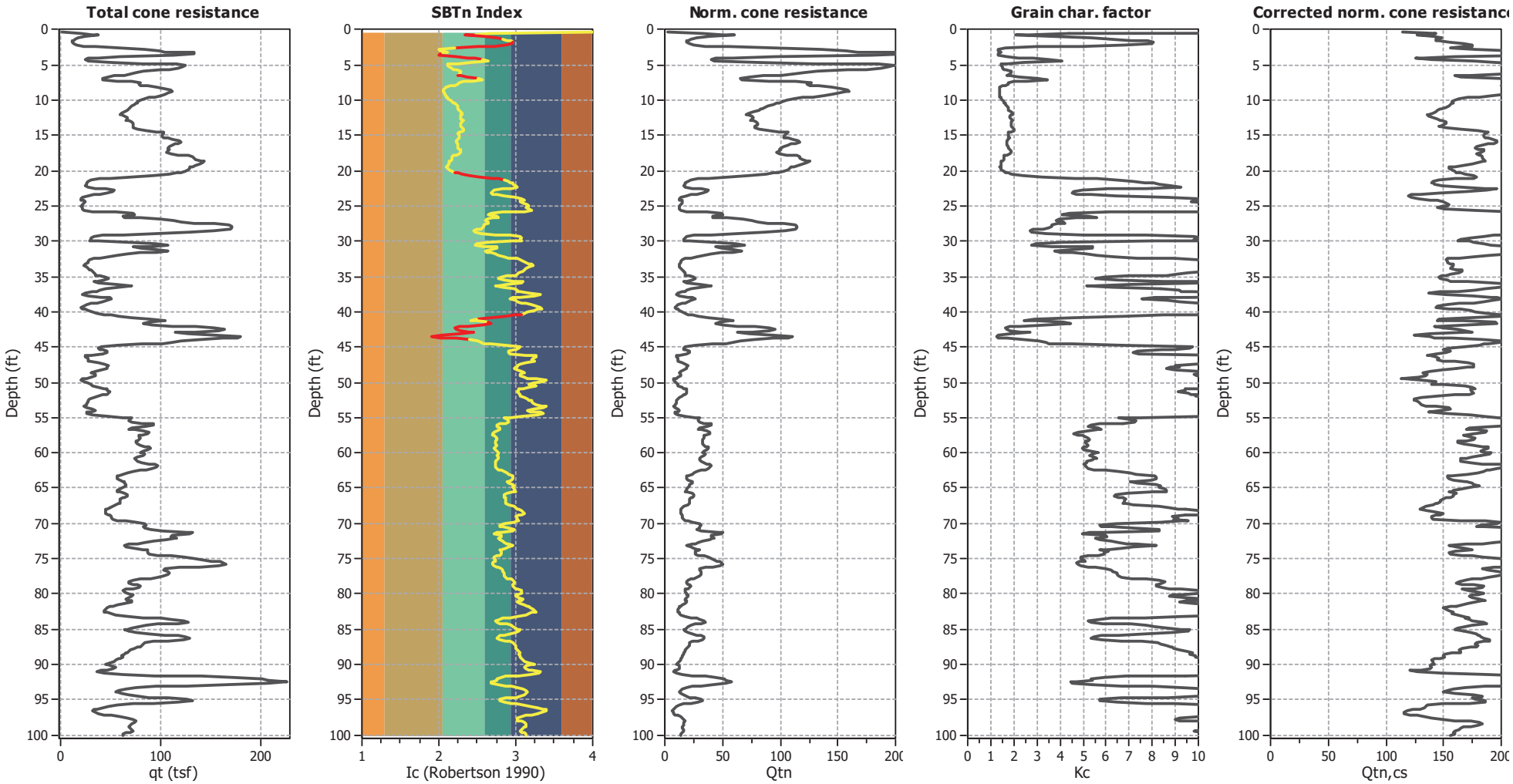
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

SBTn legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

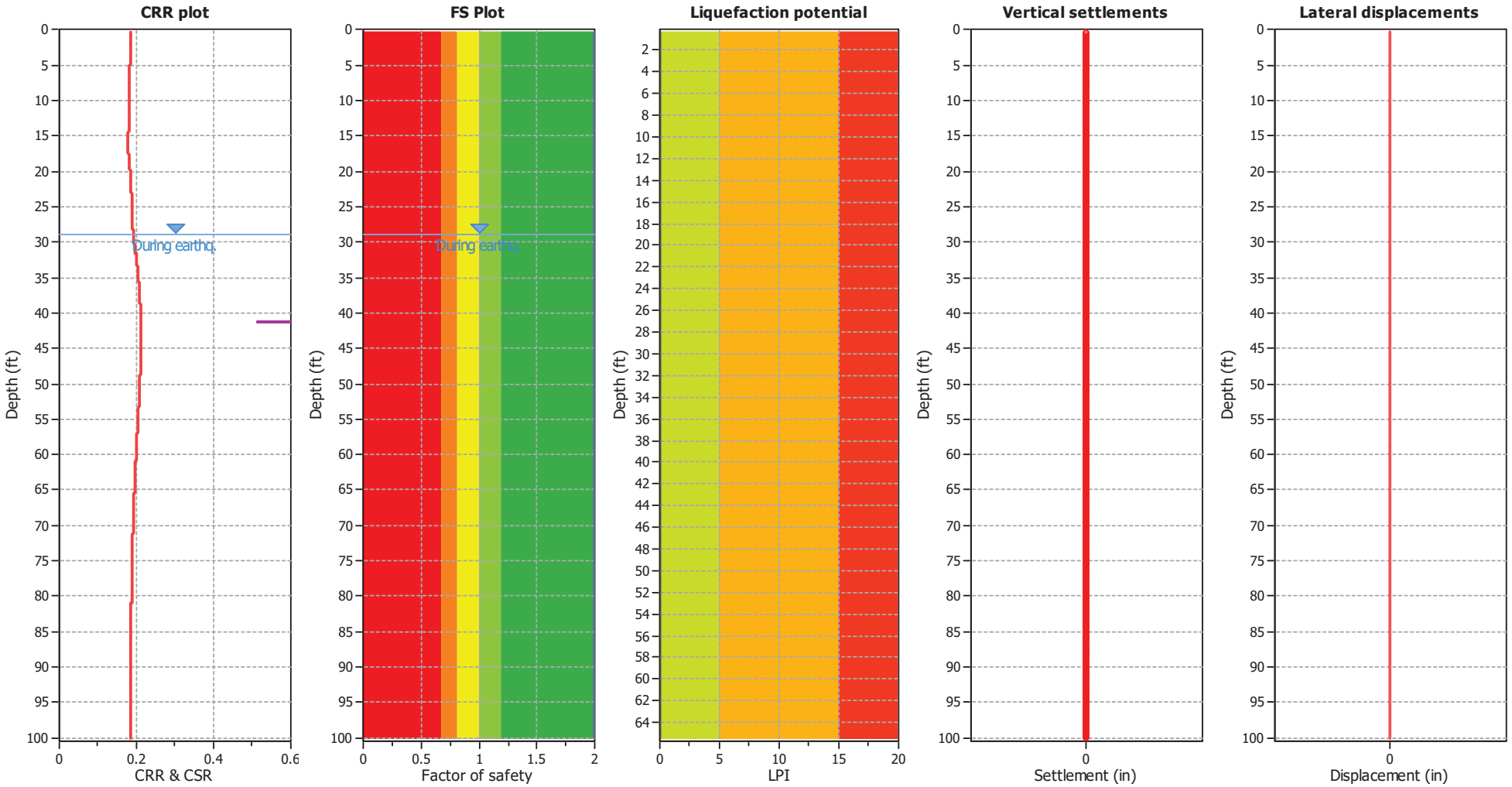
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

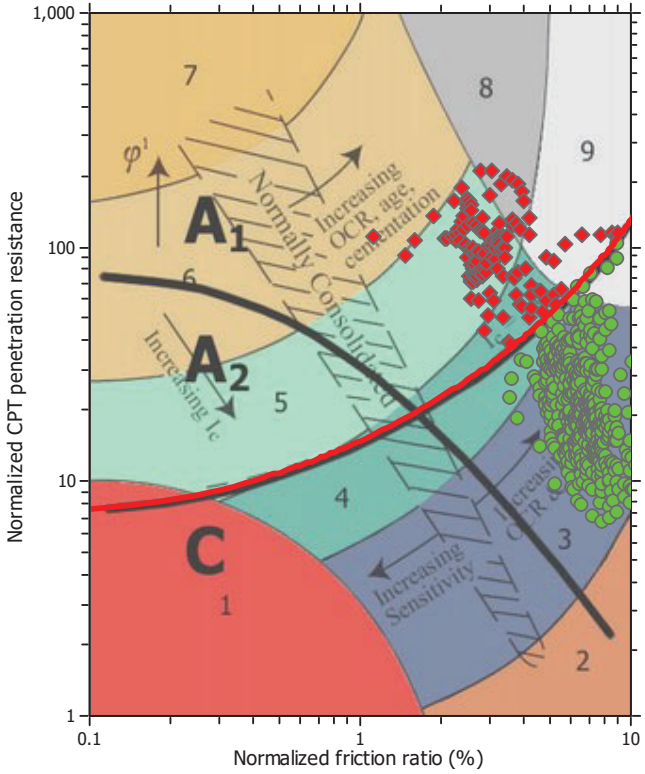
F.S. color scheme

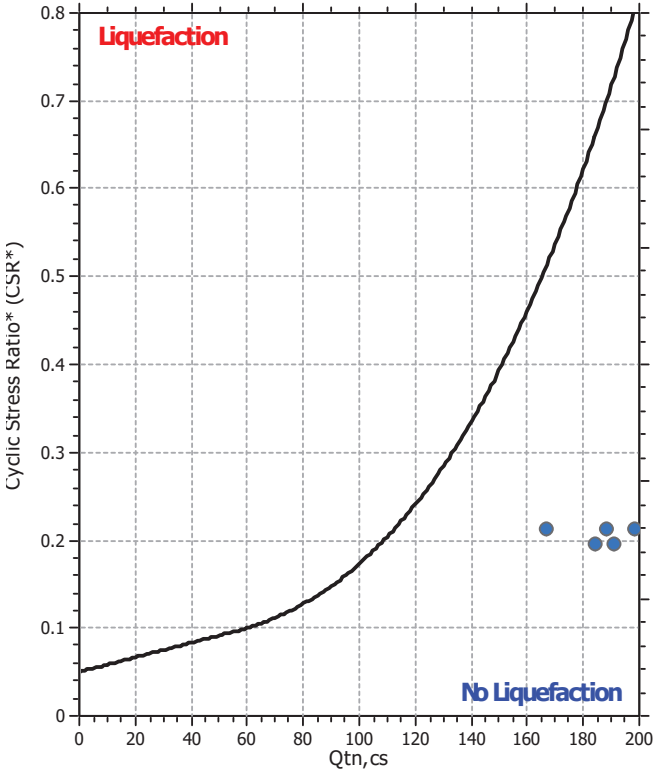
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

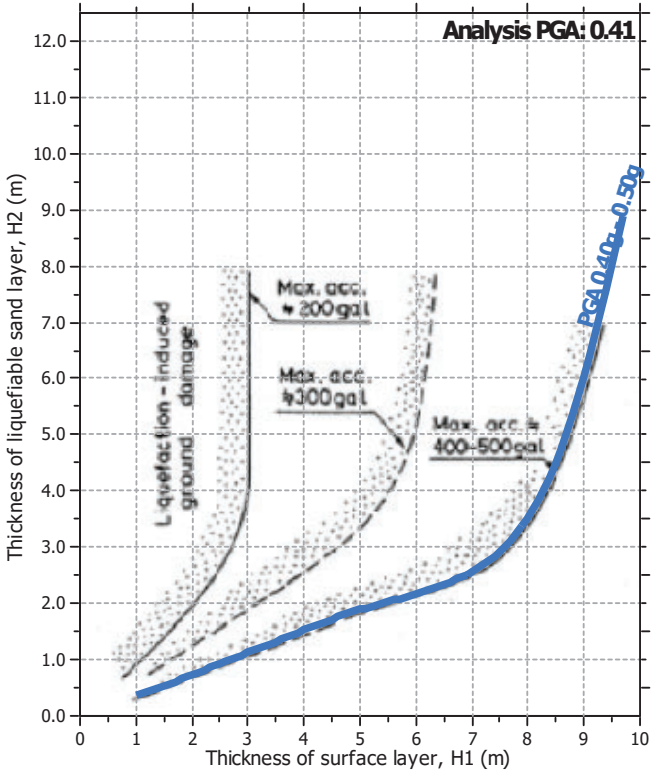
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



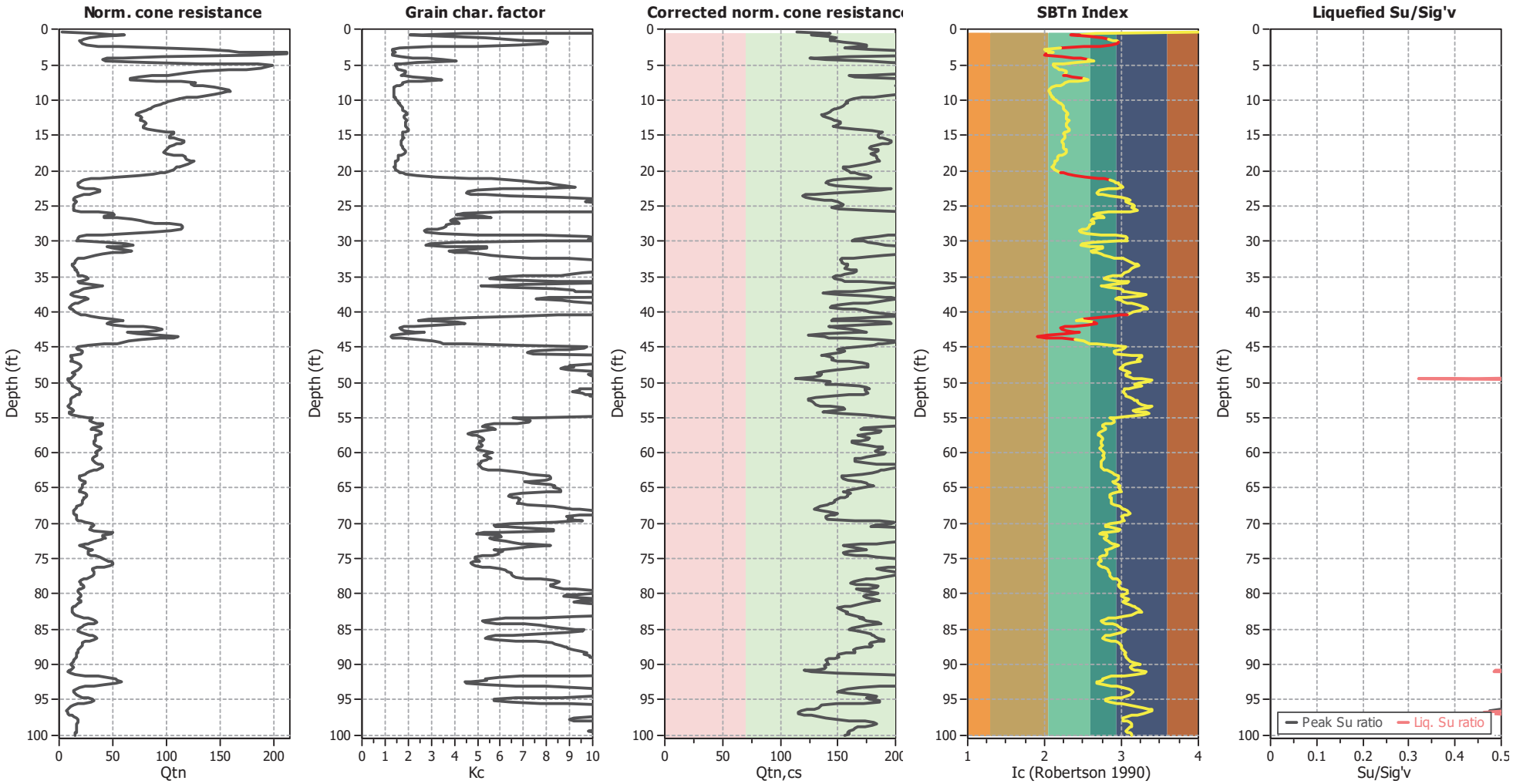




Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

Check for strength loss plots (Robertson (2010))



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
0.33	2.00	0.00	0.00	0.16	0.00	0.49	2.00	0.00	0.00	0.16	0.00
0.66	2.00	0.00	0.00	0.17	0.00	0.82	2.00	0.00	0.00	0.16	0.00
0.98	2.00	0.00	0.00	0.16	0.00	1.15	2.00	0.00	0.00	0.17	0.00
1.31	2.00	0.00	0.00	0.16	0.00	1.48	2.00	0.00	0.00	0.17	0.00
1.64	2.00	0.00	0.00	0.16	0.00	1.80	2.00	0.00	0.00	0.16	0.00
1.97	2.00	0.00	0.00	0.17	0.00	2.13	2.00	0.00	0.00	0.16	0.00
2.30	2.00	0.00	0.00	0.17	0.00	2.46	2.00	0.00	0.00	0.16	0.00
2.62	2.00	0.00	0.00	0.16	0.00	2.79	2.00	0.00	0.00	0.17	0.00
2.95	2.00	0.00	0.00	0.16	0.00	3.12	2.00	0.00	0.00	0.17	0.00
3.28	2.00	0.00	0.00	0.16	0.00	3.45	2.00	0.00	0.00	0.17	0.00
3.61	2.00	0.00	0.00	0.16	0.00	3.77	2.00	0.00	0.00	0.16	0.00
3.94	2.00	0.00	0.00	0.17	0.00	4.10	2.00	0.00	0.00	0.16	0.00
4.27	2.00	0.00	0.00	0.17	0.00	4.43	2.00	0.00	0.00	0.16	0.00
4.59	2.00	0.00	0.00	0.16	0.00	4.76	2.00	0.00	0.00	0.17	0.00
4.92	2.00	0.00	0.00	0.16	0.00	5.09	2.00	0.00	0.00	0.17	0.00
5.25	2.00	0.00	0.00	0.16	0.00	5.41	2.00	0.00	0.00	0.16	0.00
5.58	2.00	0.00	0.00	0.17	0.00	5.74	2.00	0.00	0.00	0.16	0.00
5.91	2.00	0.00	0.00	0.17	0.00	6.07	2.00	0.00	0.00	0.16	0.00
6.23	2.00	0.00	0.00	0.16	0.00	6.40	2.00	0.00	0.00	0.17	0.00
6.56	2.00	0.00	0.00	0.16	0.00	6.73	2.00	0.00	0.00	0.17	0.00
6.89	2.00	0.00	0.00	0.16	0.00	7.05	2.00	0.00	0.00	0.16	0.00
7.22	2.00	0.00	0.00	0.17	0.00	7.38	2.00	0.00	0.00	0.16	0.00
7.55	2.00	0.00	0.00	0.17	0.00	7.71	2.00	0.00	0.00	0.16	0.00
7.87	2.00	0.00	0.00	0.16	0.00	8.04	2.00	0.00	0.00	0.17	0.00
8.20	2.00	0.00	0.00	0.16	0.00	8.37	2.00	0.00	0.00	0.17	0.00
8.53	2.00	0.00	0.00	0.16	0.00	8.69	2.00	0.00	0.00	0.16	0.00
8.86	2.00	0.00	0.00	0.17	0.00	9.02	2.00	0.00	0.00	0.16	0.00
9.19	2.00	0.00	0.00	0.17	0.00	9.35	2.00	0.00	0.00	0.16	0.00
9.51	2.00	0.00	0.00	0.16	0.00	9.68	2.00	0.00	0.00	0.17	0.00
9.84	2.00	0.00	0.00	0.16	0.00	10.01	2.00	0.00	0.00	0.17	0.00
10.17	2.00	0.00	0.00	0.16	0.00	10.34	2.00	0.00	0.00	0.17	0.00
10.50	2.00	0.00	0.00	0.16	0.00	10.66	2.00	0.00	0.00	0.16	0.00
10.83	2.00	0.00	0.00	0.17	0.00	10.99	2.00	0.00	0.00	0.16	0.00
11.16	2.00	0.00	0.00	0.17	0.00	11.32	2.00	0.00	0.00	0.16	0.00
11.48	2.00	0.00	0.00	0.16	0.00	11.65	2.00	0.00	0.00	0.17	0.00
11.81	2.00	0.00	0.00	0.16	0.00	11.98	2.00	0.00	0.00	0.17	0.00
12.14	2.00	0.00	0.00	0.16	0.00	12.30	2.00	0.00	0.00	0.16	0.00
12.47	2.00	0.00	0.00	0.17	0.00	12.63	2.00	0.00	0.00	0.16	0.00
12.80	2.00	0.00	0.00	0.17	0.00	12.96	2.00	0.00	0.00	0.16	0.00
13.12	2.00	0.00	0.00	0.16	0.00	13.29	2.00	0.00	0.00	0.17	0.00
13.45	2.00	0.00	0.00	0.16	0.00	13.62	2.00	0.00	0.00	0.17	0.00
13.78	2.00	0.00	0.00	0.16	0.00	13.94	2.00	0.00	0.00	0.16	0.00
14.11	2.00	0.00	0.00	0.17	0.00	14.27	2.00	0.00	0.00	0.16	0.00
14.44	2.00	0.00	0.00	0.17	0.00	14.60	2.00	0.00	0.00	0.16	0.00
14.76	2.00	0.00	0.00	0.16	0.00	14.93	2.00	0.00	0.00	0.17	0.00
15.09	2.00	0.00	0.00	0.16	0.00	15.26	2.00	0.00	0.00	0.17	0.00
15.42	2.00	0.00	0.00	0.16	0.00	15.58	2.00	0.00	0.00	0.16	0.00
15.75	2.00	0.00	0.00	0.17	0.00	15.91	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
16.08	2.00	0.00	0.00	0.17	0.00	16.24	2.00	0.00	0.00	0.16	0.00
16.40	2.00	0.00	0.00	0.16	0.00	16.57	2.00	0.00	0.00	0.17	0.00
16.73	2.00	0.00	0.00	0.16	0.00	16.90	2.00	0.00	0.00	0.17	0.00
17.06	2.00	0.00	0.00	0.16	0.00	17.23	2.00	0.00	0.00	0.17	0.00
17.39	2.00	0.00	0.00	0.16	0.00	17.55	2.00	0.00	0.00	0.16	0.00
17.72	2.00	0.00	0.00	0.17	0.00	17.88	2.00	0.00	0.00	0.16	0.00
18.05	2.00	0.00	0.00	0.17	0.00	18.21	2.00	0.00	0.00	0.16	0.00
18.37	2.00	0.00	0.00	0.16	0.00	18.54	2.00	0.00	0.00	0.17	0.00
18.70	2.00	0.00	0.00	0.16	0.00	18.87	2.00	0.00	0.00	0.17	0.00
19.03	2.00	0.00	0.00	0.16	0.00	19.19	2.00	0.00	0.00	0.16	0.00
19.36	2.00	0.00	0.00	0.17	0.00	19.52	2.00	0.00	0.00	0.16	0.00
19.69	2.00	0.00	0.00	0.17	0.00	19.85	2.00	0.00	0.00	0.16	0.00
20.01	2.00	0.00	0.00	0.16	0.00	20.18	2.00	0.00	0.00	0.17	0.00
20.34	2.00	0.00	0.00	0.16	0.00	20.51	2.00	0.00	0.00	0.17	0.00
20.67	2.00	0.00	0.00	0.16	0.00	20.83	2.00	0.00	0.00	0.16	0.00
21.00	2.00	0.00	0.00	0.17	0.00	21.16	2.00	0.00	0.00	0.16	0.00
21.33	2.00	0.00	0.00	0.17	0.00	21.49	2.00	0.00	0.00	0.16	0.00
21.65	2.00	0.00	0.00	0.16	0.00	21.82	2.00	0.00	0.00	0.17	0.00
21.98	2.00	0.00	0.00	0.16	0.00	22.15	2.00	0.00	0.00	0.17	0.00
22.31	2.00	0.00	0.00	0.16	0.00	22.47	2.00	0.00	0.00	0.16	0.00
22.64	2.00	0.00	0.00	0.17	0.00	22.80	2.00	0.00	0.00	0.16	0.00
22.97	2.00	0.00	0.00	0.17	0.00	23.13	2.00	0.00	0.00	0.16	0.00
23.30	2.00	0.00	0.00	0.17	0.00	23.46	2.00	0.00	0.00	0.16	0.00
23.62	2.00	0.00	0.00	0.16	0.00	23.79	2.00	0.00	0.00	0.17	0.00
23.95	2.00	0.00	0.00	0.16	0.00	24.12	2.00	0.00	0.00	0.17	0.00
24.28	2.00	0.00	0.00	0.16	0.00	24.44	2.00	0.00	0.00	0.16	0.00
24.61	2.00	0.00	0.00	0.17	0.00	24.77	2.00	0.00	0.00	0.16	0.00
24.94	2.00	0.00	0.00	0.17	0.00	25.10	2.00	0.00	0.00	0.16	0.00
25.26	2.00	0.00	0.00	0.16	0.00	25.43	2.00	0.00	0.00	0.17	0.00
25.59	2.00	0.00	0.00	0.16	0.00	25.76	2.00	0.00	0.00	0.17	0.00
25.92	2.00	0.00	0.00	0.16	0.00	26.08	2.00	0.00	0.00	0.16	0.00
26.25	2.00	0.00	0.00	0.17	0.00	26.41	2.00	0.00	0.00	0.16	0.00
26.58	2.00	0.00	0.00	0.17	0.00	26.74	2.00	0.00	0.00	0.16	0.00
26.90	2.00	0.00	0.00	0.16	0.00	27.07	2.00	0.00	0.00	0.17	0.00
27.23	2.00	0.00	0.00	0.16	0.00	27.40	2.00	0.00	0.00	0.17	0.00
27.56	2.00	0.00	0.00	0.16	0.00	27.72	2.00	0.00	0.00	0.16	0.00
27.89	2.00	0.00	0.00	0.17	0.00	28.05	2.00	0.00	0.00	0.16	0.00
28.22	2.00	0.00	0.00	0.17	0.00	28.38	2.00	0.00	0.00	0.16	0.00
28.54	2.00	0.00	0.00	0.16	0.00	28.71	2.00	0.00	0.00	0.17	0.00
28.87	2.00	0.00	0.00	0.16	0.00	29.04	2.00	0.00	0.00	0.17	0.00
29.20	2.00	0.00	0.00	0.16	0.00	29.36	2.00	0.00	0.00	0.16	0.00
29.53	2.00	0.00	0.00	0.17	0.00	29.69	2.00	0.00	0.00	0.16	0.00
29.86	2.00	0.00	0.00	0.17	0.00	30.02	2.00	0.00	0.00	0.16	0.00
30.19	2.00	0.00	0.00	0.17	0.00	30.35	2.00	0.00	0.00	0.16	0.00
30.51	2.00	0.00	0.00	0.16	0.00	30.68	2.00	0.00	0.00	0.17	0.00
30.84	2.00	0.00	0.00	0.16	0.00	31.01	2.00	0.00	0.00	0.17	0.00
31.17	2.00	0.00	0.00	0.16	0.00	31.33	2.00	0.00	0.00	0.16	0.00
31.50	2.00	0.00	0.00	0.17	0.00	31.66	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
31.83	2.00	0.00	0.00	0.17	0.00	31.99	2.00	0.00	0.00	0.16	0.00
32.15	2.00	0.00	0.00	0.16	0.00	32.32	2.00	0.00	0.00	0.17	0.00
32.48	2.00	0.00	0.00	0.16	0.00	32.65	2.00	0.00	0.00	0.17	0.00
32.81	2.00	0.00	0.00	0.16	0.00	32.97	2.00	0.00	0.00	0.16	0.00
33.14	2.00	0.00	0.00	0.17	0.00	33.30	2.00	0.00	0.00	0.16	0.00
33.47	2.00	0.00	0.00	0.17	0.00	33.63	2.00	0.00	0.00	0.16	0.00
33.79	2.00	0.00	0.00	0.16	0.00	33.96	2.00	0.00	0.00	0.17	0.00
34.12	2.00	0.00	0.00	0.16	0.00	34.29	2.00	0.00	0.00	0.17	0.00
34.45	2.00	0.00	0.00	0.16	0.00	34.61	2.00	0.00	0.00	0.16	0.00
34.78	2.00	0.00	0.00	0.17	0.00	34.94	2.00	0.00	0.00	0.16	0.00
35.11	2.00	0.00	0.00	0.17	0.00	35.27	2.00	0.00	0.00	0.16	0.00
35.43	2.00	0.00	0.00	0.16	0.00	35.60	2.00	0.00	0.00	0.17	0.00
35.76	2.00	0.00	0.00	0.16	0.00	35.93	2.00	0.00	0.00	0.17	0.00
36.09	2.00	0.00	0.00	0.16	0.00	36.26	2.00	0.00	0.00	0.17	0.00
36.42	2.00	0.00	0.00	0.16	0.00	36.58	2.00	0.00	0.00	0.16	0.00
36.75	2.00	0.00	0.00	0.17	0.00	36.91	2.00	0.00	0.00	0.16	0.00
37.08	2.00	0.00	0.00	0.17	0.00	37.24	2.00	0.00	0.00	0.16	0.00
37.40	2.00	0.00	0.00	0.16	0.00	37.57	2.00	0.00	0.00	0.17	0.00
37.73	2.00	0.00	0.00	0.16	0.00	37.90	2.00	0.00	0.00	0.17	0.00
38.06	2.00	0.00	0.00	0.16	0.00	38.22	2.00	0.00	0.00	0.16	0.00
38.39	2.00	0.00	0.00	0.17	0.00	38.55	2.00	0.00	0.00	0.16	0.00
38.72	2.00	0.00	0.00	0.17	0.00	38.88	2.00	0.00	0.00	0.16	0.00
39.04	2.00	0.00	0.00	0.16	0.00	39.21	2.00	0.00	0.00	0.17	0.00
39.37	2.00	0.00	0.00	0.16	0.00	39.54	2.00	0.00	0.00	0.17	0.00
39.70	2.00	0.00	0.00	0.16	0.00	39.86	2.00	0.00	0.00	0.16	0.00
40.03	2.00	0.00	0.00	0.17	0.00	40.19	2.00	0.00	0.00	0.16	0.00
40.36	2.00	0.00	0.00	0.17	0.00	40.52	2.00	0.00	0.00	0.16	0.00
40.68	2.00	0.00	0.00	0.16	0.00	40.85	2.00	0.00	0.00	0.17	0.00
41.01	2.00	0.00	0.00	0.16	0.00	41.18	2.00	0.00	0.00	0.17	0.00
41.34	2.00	0.00	0.00	0.16	0.00	41.50	2.00	0.00	0.00	0.16	0.00
41.67	2.00	0.00	0.00	0.17	0.00	41.83	2.00	0.00	0.00	0.16	0.00
42.00	2.00	0.00	0.00	0.17	0.00	42.16	2.00	0.00	0.00	0.16	0.00
42.32	2.00	0.00	0.00	0.16	0.00	42.49	2.00	0.00	0.00	0.17	0.00
42.65	2.00	0.00	0.00	0.16	0.00	42.82	2.00	0.00	0.00	0.17	0.00
42.98	2.00	0.00	0.00	0.16	0.00	43.15	2.00	0.00	0.00	0.17	0.00
43.31	2.00	0.00	0.00	0.16	0.00	43.47	2.00	0.00	0.00	0.16	0.00
43.64	2.00	0.00	0.00	0.17	0.00	43.80	2.00	0.00	0.00	0.16	0.00
43.97	2.00	0.00	0.00	0.17	0.00	44.13	2.00	0.00	0.00	0.16	0.00
44.29	2.00	0.00	0.00	0.16	0.00	44.46	2.00	0.00	0.00	0.17	0.00
44.62	2.00	0.00	0.00	0.16	0.00	44.79	2.00	0.00	0.00	0.17	0.00
44.95	2.00	0.00	0.00	0.16	0.00	45.11	2.00	0.00	0.00	0.16	0.00
45.28	2.00	0.00	0.00	0.17	0.00	45.44	2.00	0.00	0.00	0.16	0.00
45.61	2.00	0.00	0.00	0.17	0.00	45.77	2.00	0.00	0.00	0.16	0.00
45.93	2.00	0.00	0.00	0.16	0.00	46.10	2.00	0.00	0.00	0.17	0.00
46.26	2.00	0.00	0.00	0.16	0.00	46.43	2.00	0.00	0.00	0.17	0.00
46.59	2.00	0.00	0.00	0.16	0.00	46.75	2.00	0.00	0.00	0.16	0.00
46.92	2.00	0.00	0.00	0.17	0.00	47.08	2.00	0.00	0.00	0.16	0.00
47.25	2.00	0.00	0.00	0.17	0.00	47.41	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
47.57	2.00	0.00	0.00	0.16	0.00	47.74	2.00	0.00	0.00	0.17	0.00
47.90	2.00	0.00	0.00	0.16	0.00	48.07	2.00	0.00	0.00	0.17	0.00
48.23	2.00	0.00	0.00	0.16	0.00	48.39	2.00	0.00	0.00	0.16	0.00
48.56	2.00	0.00	0.00	0.17	0.00	48.72	2.00	0.00	0.00	0.16	0.00
48.89	2.00	0.00	0.00	0.17	0.00	49.05	2.00	0.00	0.00	0.16	0.00
49.22	2.00	0.00	0.00	0.17	0.00	49.38	2.00	0.00	0.00	0.16	0.00
49.54	2.00	0.00	0.00	0.16	0.00	49.71	2.00	0.00	0.00	0.17	0.00
49.87	2.00	0.00	0.00	0.16	0.00	50.04	2.00	0.00	0.00	0.17	0.00
50.20	2.00	0.00	0.00	0.16	0.00	50.36	2.00	0.00	0.00	0.16	0.00
50.53	2.00	0.00	0.00	0.17	0.00	50.69	2.00	0.00	0.00	0.16	0.00
50.86	2.00	0.00	0.00	0.17	0.00	51.02	2.00	0.00	0.00	0.16	0.00
51.18	2.00	0.00	0.00	0.16	0.00	51.35	2.00	0.00	0.00	0.17	0.00
51.51	2.00	0.00	0.00	0.16	0.00	51.68	2.00	0.00	0.00	0.17	0.00
51.84	2.00	0.00	0.00	0.16	0.00	52.00	2.00	0.00	0.00	0.16	0.00
52.17	2.00	0.00	0.00	0.17	0.00	52.33	2.00	0.00	0.00	0.16	0.00
52.50	2.00	0.00	0.00	0.17	0.00	52.66	2.00	0.00	0.00	0.16	0.00
52.82	2.00	0.00	0.00	0.16	0.00	52.99	2.00	0.00	0.00	0.17	0.00
53.15	2.00	0.00	0.00	0.16	0.00	53.32	2.00	0.00	0.00	0.17	0.00
53.48	2.00	0.00	0.00	0.16	0.00	53.64	2.00	0.00	0.00	0.16	0.00
53.81	2.00	0.00	0.00	0.17	0.00	53.97	2.00	0.00	0.00	0.16	0.00
54.14	2.00	0.00	0.00	0.17	0.00	54.30	2.00	0.00	0.00	0.16	0.00
54.46	2.00	0.00	0.00	0.16	0.00	54.63	2.00	0.00	0.00	0.17	0.00
54.79	2.00	0.00	0.00	0.16	0.00	54.96	2.00	0.00	0.00	0.17	0.00
55.12	2.00	0.00	0.00	0.16	0.00	55.28	2.00	0.00	0.00	0.16	0.00
55.45	2.00	0.00	0.00	0.17	0.00	55.61	2.00	0.00	0.00	0.16	0.00
55.78	2.00	0.00	0.00	0.17	0.00	55.94	2.00	0.00	0.00	0.16	0.00
56.11	2.00	0.00	0.00	0.17	0.00	56.27	2.00	0.00	0.00	0.16	0.00
56.43	2.00	0.00	0.00	0.16	0.00	56.60	2.00	0.00	0.00	0.17	0.00
56.76	2.00	0.00	0.00	0.16	0.00	56.93	2.00	0.00	0.00	0.17	0.00
57.09	2.00	0.00	0.00	0.16	0.00	57.25	2.00	0.00	0.00	0.16	0.00
57.42	2.00	0.00	0.00	0.17	0.00	57.58	2.00	0.00	0.00	0.16	0.00
57.75	2.00	0.00	0.00	0.17	0.00	57.91	2.00	0.00	0.00	0.16	0.00
58.07	2.00	0.00	0.00	0.16	0.00	58.24	2.00	0.00	0.00	0.17	0.00
58.40	2.00	0.00	0.00	0.16	0.00	58.57	2.00	0.00	0.00	0.17	0.00
58.73	2.00	0.00	0.00	0.16	0.00	58.89	2.00	0.00	0.00	0.16	0.00
59.06	2.00	0.00	0.00	0.17	0.00	59.22	2.00	0.00	0.00	0.16	0.00
59.39	2.00	0.00	0.00	0.17	0.00	59.55	2.00	0.00	0.00	0.16	0.00
59.71	2.00	0.00	0.00	0.16	0.00	59.88	2.00	0.00	0.00	0.17	0.00
60.04	2.00	0.00	0.00	0.16	0.00	60.21	2.00	0.00	0.00	0.17	0.00
60.37	2.00	0.00	0.00	0.16	0.00	60.53	2.00	0.00	0.00	0.16	0.00
60.70	2.00	0.00	0.00	0.17	0.00	60.86	2.00	0.00	0.00	0.16	0.00
61.03	2.00	0.00	0.00	0.17	0.00	61.19	2.00	0.00	0.00	0.16	0.00
61.35	2.00	0.00	0.00	0.16	0.00	61.52	2.00	0.00	0.00	0.17	0.00
61.68	2.00	0.00	0.00	0.16	0.00	61.85	2.00	0.00	0.00	0.17	0.00
62.01	2.00	0.00	0.00	0.16	0.00	62.17	2.00	0.00	0.00	0.16	0.00
62.34	2.00	0.00	0.00	0.17	0.00	62.50	2.00	0.00	0.00	0.16	0.00
62.67	2.00	0.00	0.00	0.17	0.00	62.83	2.00	0.00	0.00	0.16	0.00
63.00	2.00	0.00	0.00	0.17	0.00	63.16	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
63.32	2.00	0.00	0.00	0.16	0.00	63.49	2.00	0.00	0.00	0.17	0.00
63.65	2.00	0.00	0.00	0.16	0.00	63.82	2.00	0.00	0.00	0.17	0.00
63.98	2.00	0.00	0.00	0.16	0.00	64.14	2.00	0.00	0.00	0.16	0.00
64.31	2.00	0.00	0.00	0.17	0.00	64.47	2.00	0.00	0.00	0.16	0.00
64.64	2.00	0.00	0.00	0.17	0.00	64.80	2.00	0.00	0.00	0.16	0.00
64.96	2.00	0.00	0.00	0.16	0.00	65.13	2.00	0.00	0.00	0.17	0.00
65.29	2.00	0.00	0.00	0.16	0.00	65.46	2.00	0.00	0.00	0.17	0.00
65.62	2.00	0.00	0.00	0.16	0.00	65.78	2.00	0.00	0.00	0.16	0.00
65.95	2.00	0.00	0.00	0.17	0.00	66.11	2.00	0.00	0.00	0.16	0.00
66.28	2.00	0.00	0.00	0.17	0.00	66.44	2.00	0.00	0.00	0.16	0.00
66.60	2.00	0.00	0.00	0.16	0.00	66.77	2.00	0.00	0.00	0.17	0.00
66.93	2.00	0.00	0.00	0.16	0.00	67.10	2.00	0.00	0.00	0.17	0.00
67.26	2.00	0.00	0.00	0.16	0.00	67.42	2.00	0.00	0.00	0.16	0.00
67.59	2.00	0.00	0.00	0.17	0.00	67.75	2.00	0.00	0.00	0.16	0.00
67.92	2.00	0.00	0.00	0.17	0.00	68.08	2.00	0.00	0.00	0.16	0.00
68.24	2.00	0.00	0.00	0.16	0.00	68.41	2.00	0.00	0.00	0.17	0.00
68.57	2.00	0.00	0.00	0.16	0.00	68.74	2.00	0.00	0.00	0.17	0.00
68.90	2.00	0.00	0.00	0.16	0.00	69.07	2.00	0.00	0.00	0.17	0.00
69.23	2.00	0.00	0.00	0.16	0.00	69.39	2.00	0.00	0.00	0.16	0.00
69.56	2.00	0.00	0.00	0.17	0.00	69.72	2.00	0.00	0.00	0.16	0.00
69.89	2.00	0.00	0.00	0.17	0.00	70.05	2.00	0.00	0.00	0.16	0.00
70.21	2.00	0.00	0.00	0.16	0.00	70.38	2.00	0.00	0.00	0.17	0.00
70.54	2.00	0.00	0.00	0.16	0.00	70.71	2.00	0.00	0.00	0.17	0.00
70.87	2.00	0.00	0.00	0.16	0.00	71.03	2.00	0.00	0.00	0.16	0.00
71.20	2.00	0.00	0.00	0.17	0.00	71.36	2.00	0.00	0.00	0.16	0.00
71.53	2.00	0.00	0.00	0.17	0.00	71.69	2.00	0.00	0.00	0.16	0.00
71.85	2.00	0.00	0.00	0.16	0.00	72.02	2.00	0.00	0.00	0.17	0.00
72.18	2.00	0.00	0.00	0.16	0.00	72.35	2.00	0.00	0.00	0.17	0.00
72.51	2.00	0.00	0.00	0.16	0.00	72.67	2.00	0.00	0.00	0.16	0.00
72.84	2.00	0.00	0.00	0.17	0.00	73.00	2.00	0.00	0.00	0.16	0.00
73.17	2.00	0.00	0.00	0.17	0.00	73.33	2.00	0.00	0.00	0.16	0.00
73.49	2.00	0.00	0.00	0.16	0.00	73.66	2.00	0.00	0.00	0.17	0.00
73.82	2.00	0.00	0.00	0.16	0.00	73.99	2.00	0.00	0.00	0.17	0.00
74.15	2.00	0.00	0.00	0.16	0.00	74.31	2.00	0.00	0.00	0.16	0.00
74.48	2.00	0.00	0.00	0.17	0.00	74.64	2.00	0.00	0.00	0.16	0.00
74.81	2.00	0.00	0.00	0.17	0.00	74.97	2.00	0.00	0.00	0.16	0.00
75.13	2.00	0.00	0.00	0.16	0.00	75.30	2.00	0.00	0.00	0.17	0.00
75.46	2.00	0.00	0.00	0.16	0.00	75.63	2.00	0.00	0.00	0.17	0.00
75.79	2.00	0.00	0.00	0.16	0.00	75.96	2.00	0.00	0.00	0.17	0.00
76.12	2.00	0.00	0.00	0.16	0.00	76.28	2.00	0.00	0.00	0.16	0.00
76.45	2.00	0.00	0.00	0.17	0.00	76.61	2.00	0.00	0.00	0.16	0.00
76.78	2.00	0.00	0.00	0.17	0.00	76.94	2.00	0.00	0.00	0.16	0.00
77.10	2.00	0.00	0.00	0.16	0.00	77.27	2.00	0.00	0.00	0.17	0.00
77.43	2.00	0.00	0.00	0.16	0.00	77.60	2.00	0.00	0.00	0.17	0.00
77.76	2.00	0.00	0.00	0.16	0.00	77.92	2.00	0.00	0.00	0.16	0.00
78.09	2.00	0.00	0.00	0.17	0.00	78.25	2.00	0.00	0.00	0.16	0.00
78.42	2.00	0.00	0.00	0.17	0.00	78.58	2.00	0.00	0.00	0.16	0.00
78.74	2.00	0.00	0.00	0.16	0.00	78.91	2.00	0.00	0.00	0.17	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
79.07	2.00	0.00	0.00	0.16	0.00	79.24	2.00	0.00	0.00	0.17	0.00
79.40	2.00	0.00	0.00	0.16	0.00	79.56	2.00	0.00	0.00	0.16	0.00
79.73	2.00	0.00	0.00	0.17	0.00	79.89	2.00	0.00	0.00	0.16	0.00
80.06	2.00	0.00	0.00	0.17	0.00	80.22	2.00	0.00	0.00	0.16	0.00
80.38	2.00	0.00	0.00	0.16	0.00	80.55	2.00	0.00	0.00	0.17	0.00
80.71	2.00	0.00	0.00	0.16	0.00	80.88	2.00	0.00	0.00	0.17	0.00
81.04	2.00	0.00	0.00	0.16	0.00	81.20	2.00	0.00	0.00	0.16	0.00
81.37	2.00	0.00	0.00	0.17	0.00	81.53	2.00	0.00	0.00	0.16	0.00
81.70	2.00	0.00	0.00	0.17	0.00	81.86	2.00	0.00	0.00	0.16	0.00
82.02	2.00	0.00	0.00	0.16	0.00	82.19	2.00	0.00	0.00	0.17	0.00
82.35	2.00	0.00	0.00	0.16	0.00	82.52	2.00	0.00	0.00	0.17	0.00
82.68	2.00	0.00	0.00	0.16	0.00	82.85	2.00	0.00	0.00	0.17	0.00
83.01	2.00	0.00	0.00	0.16	0.00	83.17	2.00	0.00	0.00	0.16	0.00
83.34	2.00	0.00	0.00	0.17	0.00	83.50	2.00	0.00	0.00	0.16	0.00
83.67	2.00	0.00	0.00	0.17	0.00	83.83	2.00	0.00	0.00	0.16	0.00
83.99	2.00	0.00	0.00	0.16	0.00	84.16	2.00	0.00	0.00	0.17	0.00
84.32	2.00	0.00	0.00	0.16	0.00	84.49	2.00	0.00	0.00	0.17	0.00
84.65	2.00	0.00	0.00	0.16	0.00	84.81	2.00	0.00	0.00	0.16	0.00
84.98	2.00	0.00	0.00	0.17	0.00	85.14	2.00	0.00	0.00	0.16	0.00
85.31	2.00	0.00	0.00	0.17	0.00	85.47	2.00	0.00	0.00	0.16	0.00
85.63	2.00	0.00	0.00	0.16	0.00	85.80	2.00	0.00	0.00	0.17	0.00
85.96	2.00	0.00	0.00	0.16	0.00	86.13	2.00	0.00	0.00	0.17	0.00
86.29	2.00	0.00	0.00	0.16	0.00	86.45	2.00	0.00	0.00	0.16	0.00
86.62	2.00	0.00	0.00	0.17	0.00	86.78	2.00	0.00	0.00	0.16	0.00
86.95	2.00	0.00	0.00	0.17	0.00	87.11	2.00	0.00	0.00	0.16	0.00
87.27	2.00	0.00	0.00	0.16	0.00	87.44	2.00	0.00	0.00	0.17	0.00
87.60	2.00	0.00	0.00	0.16	0.00	87.77	2.00	0.00	0.00	0.17	0.00
87.93	2.00	0.00	0.00	0.16	0.00	88.09	2.00	0.00	0.00	0.16	0.00
88.26	2.00	0.00	0.00	0.17	0.00	88.42	2.00	0.00	0.00	0.16	0.00
88.59	2.00	0.00	0.00	0.17	0.00	88.75	2.00	0.00	0.00	0.16	0.00
88.92	2.00	0.00	0.00	0.17	0.00	89.08	2.00	0.00	0.00	0.16	0.00
89.24	2.00	0.00	0.00	0.16	0.00	89.41	2.00	0.00	0.00	0.17	0.00
89.57	2.00	0.00	0.00	0.16	0.00	89.74	2.00	0.00	0.00	0.17	0.00
89.90	2.00	0.00	0.00	0.16	0.00	90.06	2.00	0.00	0.00	0.16	0.00
90.23	2.00	0.00	0.00	0.17	0.00	90.39	2.00	0.00	0.00	0.16	0.00
90.56	2.00	0.00	0.00	0.17	0.00	90.72	2.00	0.00	0.00	0.16	0.00
90.88	2.00	0.00	0.00	0.16	0.00	91.05	2.00	0.00	0.00	0.17	0.00
91.21	2.00	0.00	0.00	0.16	0.00	91.38	2.00	0.00	0.00	0.17	0.00
91.54	2.00	0.00	0.00	0.16	0.00	91.70	2.00	0.00	0.00	0.16	0.00
91.87	2.00	0.00	0.00	0.17	0.00	92.03	2.00	0.00	0.00	0.16	0.00
92.20	2.00	0.00	0.00	0.17	0.00	92.36	2.00	0.00	0.00	0.16	0.00
92.52	2.00	0.00	0.00	0.16	0.00	92.69	2.00	0.00	0.00	0.17	0.00
92.85	2.00	0.00	0.00	0.16	0.00	93.02	2.00	0.00	0.00	0.17	0.00
93.18	2.00	0.00	0.00	0.16	0.00	93.34	2.00	0.00	0.00	0.16	0.00
93.51	2.00	0.00	0.00	0.17	0.00	93.67	2.00	0.00	0.00	0.16	0.00
93.84	2.00	0.00	0.00	0.17	0.00	94.00	2.00	0.00	0.00	0.16	0.00
94.16	2.00	0.00	0.00	0.16	0.00	94.33	2.00	0.00	0.00	0.17	0.00
94.49	2.00	0.00	0.00	0.16	0.00	94.66	2.00	0.00	0.00	0.17	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
94.82	2.00	0.00	0.00	0.16	0.00	94.98	2.00	0.00	0.00	0.16	0.00
95.15	2.00	0.00	0.00	0.17	0.00	95.31	2.00	0.00	0.00	0.16	0.00
95.48	2.00	0.00	0.00	0.17	0.00	95.64	2.00	0.00	0.00	0.16	0.00
95.81	2.00	0.00	0.00	0.17	0.00	95.97	2.00	0.00	0.00	0.16	0.00
96.13	2.00	0.00	0.00	0.16	0.00	96.30	2.00	0.00	0.00	0.17	0.00
96.46	2.00	0.00	0.00	0.16	0.00	96.63	2.00	0.00	0.00	0.17	0.00
96.79	2.00	0.00	0.00	0.16	0.00	96.95	2.00	0.00	0.00	0.16	0.00
97.12	2.00	0.00	0.00	0.17	0.00	97.28	2.00	0.00	0.00	0.16	0.00
97.45	2.00	0.00	0.00	0.17	0.00	97.61	2.00	0.00	0.00	0.16	0.00
97.77	2.00	0.00	0.00	0.16	0.00	97.94	2.00	0.00	0.00	0.17	0.00
98.10	2.00	0.00	0.00	0.16	0.00	98.27	2.00	0.00	0.00	0.17	0.00
98.43	2.00	0.00	0.00	0.16	0.00	98.59	2.00	0.00	0.00	0.16	0.00
98.76	2.00	0.00	0.00	0.17	0.00	98.92	2.00	0.00	0.00	0.16	0.00
99.09	2.00	0.00	0.00	0.17	0.00	99.25	2.00	0.00	0.00	0.16	0.00
99.41	2.00	0.00	0.00	0.16	0.00	99.58	2.00	0.00	0.00	0.17	0.00
99.74	2.00	0.00	0.00	0.16	0.00	99.91	2.00	0.00	0.00	0.17	0.00
100.07	2.00	0.00	0.00	0.16	0.00						

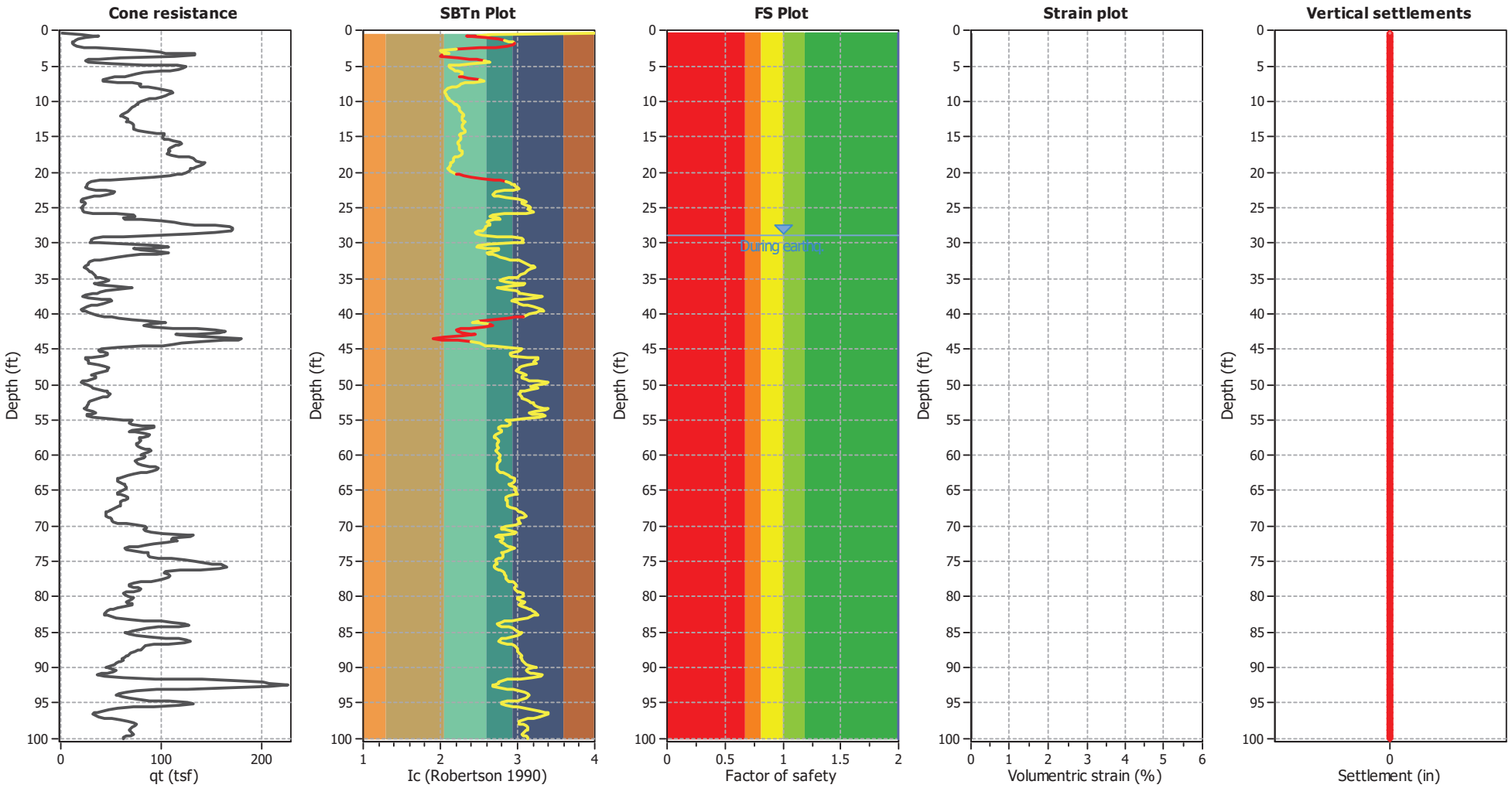
Overall liquefaction potential: 0.00

LPI = 0.00 - Liquefaction risk very low
LPI between 0.00 and 5.00 - Liquefaction risk low
LPI between 5.00 and 15.00 - Liquefaction risk high
LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
F_L: 1 - FS
w_z: Function value of the extend of soil liquefaction according to depth
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
29.04	201.27	2.00	0.00	1.00	0.00	29.20	194.01	2.00	0.00	1.00	0.00
29.36	184.76	2.00	0.00	1.00	0.00	29.53	174.14	2.00	0.00	1.00	0.00
29.69	164.18	2.00	0.00	1.00	0.00	29.86	161.70	2.00	0.00	1.00	0.00
30.02	172.09	2.00	0.00	1.00	0.00	30.19	176.41	2.00	0.00	1.00	0.00
30.35	184.61	2.00	0.00	1.00	0.00	30.51	190.95	2.00	0.00	1.00	0.00
30.68	210.38	2.00	0.00	1.00	0.00	30.84	239.83	2.00	0.00	1.00	0.00
31.01	264.42	2.00	0.00	1.00	0.00	31.17	270.25	2.00	0.00	1.00	0.00
31.33	255.17	2.00	0.00	1.00	0.00	31.50	238.56	2.00	0.00	1.00	0.00
31.66	222.25	2.00	0.00	1.00	0.00	31.83	207.28	2.00	0.00	1.00	0.00
31.99	190.08	2.00	0.00	1.00	0.00	32.15	175.65	2.00	0.00	1.00	0.00
32.32	163.31	2.00	0.00	1.00	0.00	32.48	153.99	2.00	0.00	1.00	0.00
32.65	152.11	2.00	0.00	1.00	0.00	32.81	153.32	2.00	0.00	1.00	0.00
32.97	153.83	2.00	0.00	1.00	0.00	33.14	156.37	2.00	0.00	1.00	0.00
33.30	158.55	2.00	0.00	1.00	0.00	33.47	158.57	2.00	0.00	1.00	0.00
33.63	157.29	2.00	0.00	1.00	0.00	33.79	155.84	2.00	0.00	1.00	0.00
33.96	161.44	2.00	0.00	1.00	0.00	34.12	166.07	2.00	0.00	1.00	0.00
34.29	166.19	2.00	0.00	1.00	0.00	34.45	162.93	2.00	0.00	1.00	0.00
34.61	156.55	2.00	0.00	1.00	0.00	34.78	152.81	2.00	0.00	1.00	0.00
34.94	148.13	2.00	0.00	1.00	0.00	35.11	145.99	2.00	0.00	1.00	0.00
35.27	147.25	2.00	0.00	1.00	0.00	35.43	152.87	2.00	0.00	1.00	0.00
35.60	156.23	2.00	0.00	1.00	0.00	35.76	171.40	2.00	0.00	1.00	0.00
35.93	192.49	2.00	0.00	1.00	0.00	36.09	211.73	2.00	0.00	1.00	0.00
36.26	211.92	2.00	0.00	1.00	0.00	36.42	205.72	2.00	0.00	1.00	0.00
36.58	199.16	2.00	0.00	1.00	0.00	36.75	186.41	2.00	0.00	1.00	0.00
36.91	177.67	2.00	0.00	1.00	0.00	37.08	162.08	2.00	0.00	1.00	0.00
37.24	147.60	2.00	0.00	1.00	0.00	37.40	137.39	2.00	0.00	1.00	0.00
37.57	151.26	2.00	0.00	1.00	0.00	37.73	175.78	2.00	0.00	1.00	0.00
37.90	191.71	2.00	0.00	1.00	0.00	38.06	196.82	2.00	0.00	1.00	0.00
38.22	200.81	2.00	0.00	1.00	0.00	38.39	192.86	2.00	0.00	1.00	0.00
38.55	185.44	2.00	0.00	1.00	0.00	38.72	176.27	2.00	0.00	1.00	0.00
38.88	164.07	2.00	0.00	1.00	0.00	39.04	152.57	2.00	0.00	1.00	0.00
39.21	144.59	2.00	0.00	1.00	0.00	39.37	143.92	2.00	0.00	1.00	0.00
39.54	154.43	2.00	0.00	1.00	0.00	39.70	164.67	2.00	0.00	1.00	0.00
39.86	173.68	2.00	0.00	1.00	0.00	40.03	176.78	2.00	0.00	1.00	0.00
40.19	187.57	2.00	0.00	1.00	0.00	40.36	199.42	2.00	0.00	1.00	0.00
40.52	203.42	2.00	0.00	1.00	0.00	40.68	199.86	2.00	0.00	1.00	0.00
40.85	172.58	2.00	0.00	1.00	0.00	41.01	145.56	2.00	0.00	1.00	0.00
41.18	144.71	2.00	0.00	1.00	0.00	41.34	167.06	2.00	0.00	1.00	0.00
41.50	195.13	2.00	0.00	1.00	0.00	41.67	196.26	2.00	0.00	1.00	0.00
41.83	169.88	2.00	0.00	1.00	0.00	42.00	144.99	2.00	0.00	1.00	0.00
42.16	142.11	2.00	0.00	1.00	0.00	42.32	149.58	2.00	0.00	1.00	0.00
42.49	161.84	2.00	0.00	1.00	0.00	42.65	168.42	2.00	0.00	1.00	0.00
42.82	175.27	2.00	0.00	1.00	0.00	42.98	168.75	2.00	0.00	1.00	0.00
43.15	138.12	2.00	0.00	1.00	0.00	43.31	124.95	2.00	0.00	1.00	0.00
43.47	137.88	2.00	0.00	1.00	0.00	43.64	141.76	2.00	0.00	1.00	0.00
43.80	157.46	2.00	0.00	1.00	0.00	43.97	183.88	2.00	0.00	1.00	0.00
44.13	199.70	2.00	0.00	1.00	0.00	44.29	198.86	2.00	0.00	1.00	0.00
44.46	188.59	2.00	0.00	1.00	0.00	44.62	185.52	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
44.79	181.05	2.00	0.00	1.00	0.00	44.95	168.09	2.00	0.00	1.00	0.00
45.11	155.32	2.00	0.00	1.00	0.00	45.28	149.22	2.00	0.00	1.00	0.00
45.44	150.91	2.00	0.00	1.00	0.00	45.61	156.38	2.00	0.00	1.00	0.00
45.77	152.60	2.00	0.00	1.00	0.00	45.93	143.39	2.00	0.00	1.00	0.00
46.10	135.70	2.00	0.00	1.00	0.00	46.26	138.43	2.00	0.00	1.00	0.00
46.43	143.35	2.00	0.00	1.00	0.00	46.59	145.87	2.00	0.00	1.00	0.00
46.75	144.19	2.00	0.00	1.00	0.00	46.92	149.37	2.00	0.00	1.00	0.00
47.08	160.25	2.00	0.00	1.00	0.00	47.25	171.44	2.00	0.00	1.00	0.00
47.41	176.01	2.00	0.00	1.00	0.00	47.57	176.14	2.00	0.00	1.00	0.00
47.74	175.58	2.00	0.00	1.00	0.00	47.90	170.67	2.00	0.00	1.00	0.00
48.07	161.56	2.00	0.00	1.00	0.00	48.23	148.69	2.00	0.00	1.00	0.00
48.39	137.84	2.00	0.00	1.00	0.00	48.56	132.13	2.00	0.00	1.00	0.00
48.72	132.18	2.00	0.00	1.00	0.00	48.89	135.74	2.00	0.00	1.00	0.00
49.05	134.71	2.00	0.00	1.00	0.00	49.22	127.85	2.00	0.00	1.00	0.00
49.38	112.80	2.00	0.00	1.00	0.00	49.54	115.93	2.00	0.00	1.00	0.00
49.71	130.77	2.00	0.00	1.00	0.00	49.87	143.88	2.00	0.00	1.00	0.00
50.04	140.52	2.00	0.00	1.00	0.00	50.20	140.05	2.00	0.00	1.00	0.00
50.36	149.77	2.00	0.00	1.00	0.00	50.53	168.34	2.00	0.00	1.00	0.00
50.69	175.15	2.00	0.00	1.00	0.00	50.86	177.09	2.00	0.00	1.00	0.00
51.02	173.48	2.00	0.00	1.00	0.00	51.18	173.18	2.00	0.00	1.00	0.00
51.35	174.80	2.00	0.00	1.00	0.00	51.51	175.75	2.00	0.00	1.00	0.00
51.68	172.43	2.00	0.00	1.00	0.00	51.84	160.08	2.00	0.00	1.00	0.00
52.00	144.04	2.00	0.00	1.00	0.00	52.17	131.23	2.00	0.00	1.00	0.00
52.33	125.06	2.00	0.00	1.00	0.00	52.50	124.32	2.00	0.00	1.00	0.00
52.66	126.07	2.00	0.00	1.00	0.00	52.82	128.53	2.00	0.00	1.00	0.00
52.99	129.97	2.00	0.00	1.00	0.00	53.15	130.22	2.00	0.00	1.00	0.00
53.32	134.91	2.00	0.00	1.00	0.00	53.48	143.35	2.00	0.00	1.00	0.00
53.64	154.75	2.00	0.00	1.00	0.00	53.81	155.48	2.00	0.00	1.00	0.00
53.97	147.53	2.00	0.00	1.00	0.00	54.14	137.23	2.00	0.00	1.00	0.00
54.30	138.35	2.00	0.00	1.00	0.00	54.46	151.89	2.00	0.00	1.00	0.00
54.63	173.14	2.00	0.00	1.00	0.00	54.79	184.65	2.00	0.00	1.00	0.00
54.96	197.03	2.00	0.00	1.00	0.00	55.12	198.47	2.00	0.00	1.00	0.00
55.28	203.85	2.00	0.00	1.00	0.00	55.45	207.84	2.00	0.00	1.00	0.00
55.61	218.23	2.00	0.00	1.00	0.00	55.78	229.94	2.00	0.00	1.00	0.00
55.94	231.95	2.00	0.00	1.00	0.00	56.11	216.95	2.00	0.00	1.00	0.00
56.27	192.30	2.00	0.00	1.00	0.00	56.43	172.77	2.00	0.00	1.00	0.00
56.60	169.19	2.00	0.00	1.00	0.00	56.76	178.44	2.00	0.00	1.00	0.00
56.93	188.01	2.00	0.00	1.00	0.00	57.09	186.19	2.00	0.00	1.00	0.00
57.25	176.60	2.00	0.00	1.00	0.00	57.42	168.42	2.00	0.00	1.00	0.00
57.58	167.23	2.00	0.00	1.00	0.00	57.75	171.78	2.00	0.00	1.00	0.00
57.91	176.95	2.00	0.00	1.00	0.00	58.07	175.62	2.00	0.00	1.00	0.00
58.24	169.67	2.00	0.00	1.00	0.00	58.40	162.63	2.00	0.00	1.00	0.00
58.57	162.45	2.00	0.00	1.00	0.00	58.73	167.36	2.00	0.00	1.00	0.00
58.89	175.98	2.00	0.00	1.00	0.00	59.06	183.32	2.00	0.00	1.00	0.00
59.22	188.43	2.00	0.00	1.00	0.00	59.39	188.33	2.00	0.00	1.00	0.00
59.55	184.54	2.00	0.00	1.00	0.00	59.71	182.30	2.00	0.00	1.00	0.00
59.88	186.22	2.00	0.00	1.00	0.00	60.04	190.73	2.00	0.00	1.00	0.00
60.21	189.50	2.00	0.00	1.00	0.00	60.37	182.26	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
60.53	174.52	2.00	0.00	1.00	0.00	60.70	169.70	2.00	0.00	1.00	0.00
60.86	165.34	2.00	0.00	1.00	0.00	61.03	164.57	2.00	0.00	1.00	0.00
61.19	164.64	2.00	0.00	1.00	0.00	61.35	173.15	2.00	0.00	1.00	0.00
61.52	183.34	2.00	0.00	1.00	0.00	61.68	198.25	2.00	0.00	1.00	0.00
61.85	204.52	2.00	0.00	1.00	0.00	62.01	204.16	2.00	0.00	1.00	0.00
62.17	196.03	2.00	0.00	1.00	0.00	62.34	190.17	2.00	0.00	1.00	0.00
62.50	187.40	2.00	0.00	1.00	0.00	62.67	185.05	2.00	0.00	1.00	0.00
62.83	180.01	2.00	0.00	1.00	0.00	63.00	171.45	2.00	0.00	1.00	0.00
63.16	157.36	2.00	0.00	1.00	0.00	63.32	152.83	2.00	0.00	1.00	0.00
63.49	152.84	2.00	0.00	1.00	0.00	63.65	155.09	2.00	0.00	1.00	0.00
63.82	158.93	2.00	0.00	1.00	0.00	63.98	168.07	2.00	0.00	1.00	0.00
64.14	169.79	2.00	0.00	1.00	0.00	64.31	175.13	2.00	0.00	1.00	0.00
64.47	176.53	2.00	0.00	1.00	0.00	64.64	181.66	2.00	0.00	1.00	0.00
64.80	180.02	2.00	0.00	1.00	0.00	64.96	172.16	2.00	0.00	1.00	0.00
65.13	165.63	2.00	0.00	1.00	0.00	65.29	158.85	2.00	0.00	1.00	0.00
65.46	157.20	2.00	0.00	1.00	0.00	65.62	154.41	2.00	0.00	1.00	0.00
65.78	161.63	2.00	0.00	1.00	0.00	65.95	159.11	2.00	0.00	1.00	0.00
66.11	158.03	2.00	0.00	1.00	0.00	66.28	155.36	2.00	0.00	1.00	0.00
66.44	152.56	2.00	0.00	1.00	0.00	66.60	150.31	2.00	0.00	1.00	0.00
66.77	147.59	2.00	0.00	1.00	0.00	66.93	146.60	2.00	0.00	1.00	0.00
67.10	144.51	2.00	0.00	1.00	0.00	67.26	143.09	2.00	0.00	1.00	0.00
67.42	141.27	2.00	0.00	1.00	0.00	67.59	134.37	2.00	0.00	1.00	0.00
67.75	131.76	2.00	0.00	1.00	0.00	67.92	129.90	2.00	0.00	1.00	0.00
68.08	129.45	2.00	0.00	1.00	0.00	68.24	135.90	2.00	0.00	1.00	0.00
68.41	143.75	2.00	0.00	1.00	0.00	68.57	149.28	2.00	0.00	1.00	0.00
68.74	146.77	2.00	0.00	1.00	0.00	68.90	142.82	2.00	0.00	1.00	0.00
69.07	139.87	2.00	0.00	1.00	0.00	69.23	140.21	2.00	0.00	1.00	0.00
69.39	141.43	2.00	0.00	1.00	0.00	69.56	165.13	2.00	0.00	1.00	0.00
69.72	186.71	2.00	0.00	1.00	0.00	69.89	199.07	2.00	0.00	1.00	0.00
70.05	196.31	2.00	0.00	1.00	0.00	70.21	182.02	2.00	0.00	1.00	0.00
70.38	178.11	2.00	0.00	1.00	0.00	70.54	185.33	2.00	0.00	1.00	0.00
70.71	214.86	2.00	0.00	1.00	0.00	70.87	235.53	2.00	0.00	1.00	0.00
71.03	265.01	2.00	0.00	1.00	0.00	71.20	276.79	2.00	0.00	1.00	0.00
71.36	263.21	2.00	0.00	1.00	0.00	71.53	243.46	2.00	0.00	1.00	0.00
71.69	243.44	2.00	0.00	1.00	0.00	71.85	242.44	2.00	0.00	1.00	0.00
72.02	240.89	2.00	0.00	1.00	0.00	72.18	233.10	2.00	0.00	1.00	0.00
72.35	220.98	2.00	0.00	1.00	0.00	72.51	207.73	2.00	0.00	1.00	0.00
72.67	193.67	2.00	0.00	1.00	0.00	72.84	183.91	2.00	0.00	1.00	0.00
73.00	170.43	2.00	0.00	1.00	0.00	73.17	155.13	2.00	0.00	1.00	0.00
73.33	160.39	2.00	0.00	1.00	0.00	73.49	168.81	2.00	0.00	1.00	0.00
73.66	174.35	2.00	0.00	1.00	0.00	73.82	175.29	2.00	0.00	1.00	0.00
73.99	160.16	2.00	0.00	1.00	0.00	74.15	154.52	2.00	0.00	1.00	0.00
74.31	156.13	2.00	0.00	1.00	0.00	74.48	165.74	2.00	0.00	1.00	0.00
74.64	175.38	2.00	0.00	1.00	0.00	74.81	183.88	2.00	0.00	1.00	0.00
74.97	198.62	2.00	0.00	1.00	0.00	75.13	218.60	2.00	0.00	1.00	0.00
75.30	232.54	2.00	0.00	1.00	0.00	75.46	232.63	2.00	0.00	1.00	0.00
75.63	231.47	2.00	0.00	1.00	0.00	75.79	236.91	2.00	0.00	1.00	0.00
75.96	233.94	2.00	0.00	1.00	0.00	76.12	218.74	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
76.28	193.57	2.00	0.00	1.00	0.00	76.45	183.50	2.00	0.00	1.00	0.00
76.61	188.25	2.00	0.00	1.00	0.00	76.78	197.53	2.00	0.00	1.00	0.00
76.94	205.04	2.00	0.00	1.00	0.00	77.10	206.06	2.00	0.00	1.00	0.00
77.27	202.14	2.00	0.00	1.00	0.00	77.43	195.84	2.00	0.00	1.00	0.00
77.60	188.29	2.00	0.00	1.00	0.00	77.76	181.78	2.00	0.00	1.00	0.00
77.92	174.84	2.00	0.00	1.00	0.00	78.09	168.40	2.00	0.00	1.00	0.00
78.25	163.46	2.00	0.00	1.00	0.00	78.42	161.53	2.00	0.00	1.00	0.00
78.58	166.58	2.00	0.00	1.00	0.00	78.74	175.85	2.00	0.00	1.00	0.00
78.91	184.49	2.00	0.00	1.00	0.00	79.07	184.02	2.00	0.00	1.00	0.00
79.24	176.12	2.00	0.00	1.00	0.00	79.40	166.28	2.00	0.00	1.00	0.00
79.56	171.27	2.00	0.00	1.00	0.00	79.73	178.43	2.00	0.00	1.00	0.00
79.89	184.70	2.00	0.00	1.00	0.00	80.06	179.32	2.00	0.00	1.00	0.00
80.22	175.02	2.00	0.00	1.00	0.00	80.38	172.17	2.00	0.00	1.00	0.00
80.55	175.19	2.00	0.00	1.00	0.00	80.71	181.57	2.00	0.00	1.00	0.00
80.88	185.86	2.00	0.00	1.00	0.00	81.04	183.93	2.00	0.00	1.00	0.00
81.20	177.03	2.00	0.00	1.00	0.00	81.37	170.57	2.00	0.00	1.00	0.00
81.53	165.58	2.00	0.00	1.00	0.00	81.70	160.45	2.00	0.00	1.00	0.00
81.86	155.45	2.00	0.00	1.00	0.00	82.02	150.11	2.00	0.00	1.00	0.00
82.19	151.59	2.00	0.00	1.00	0.00	82.35	154.15	2.00	0.00	1.00	0.00
82.52	158.47	2.00	0.00	1.00	0.00	82.68	157.45	2.00	0.00	1.00	0.00
82.85	157.39	2.00	0.00	1.00	0.00	83.01	161.79	2.00	0.00	1.00	0.00
83.17	167.09	2.00	0.00	1.00	0.00	83.34	171.81	2.00	0.00	1.00	0.00
83.50	168.57	2.00	0.00	1.00	0.00	83.67	171.81	2.00	0.00	1.00	0.00
83.83	175.36	2.00	0.00	1.00	0.00	83.99	185.19	2.00	0.00	1.00	0.00
84.16	186.98	2.00	0.00	1.00	0.00	84.32	185.65	2.00	0.00	1.00	0.00
84.49	175.43	2.00	0.00	1.00	0.00	84.65	168.28	2.00	0.00	1.00	0.00
84.81	161.65	2.00	0.00	1.00	0.00	84.98	160.00	2.00	0.00	1.00	0.00
85.14	160.24	2.00	0.00	1.00	0.00	85.31	167.31	2.00	0.00	1.00	0.00
85.47	172.99	2.00	0.00	1.00	0.00	85.63	179.07	2.00	0.00	1.00	0.00
85.80	180.37	2.00	0.00	1.00	0.00	85.96	181.18	2.00	0.00	1.00	0.00
86.13	181.92	2.00	0.00	1.00	0.00	86.29	185.16	2.00	0.00	1.00	0.00
86.45	189.56	2.00	0.00	1.00	0.00	86.62	190.24	2.00	0.00	1.00	0.00
86.78	184.36	2.00	0.00	1.00	0.00	86.95	179.14	2.00	0.00	1.00	0.00
87.11	177.28	2.00	0.00	1.00	0.00	87.27	179.62	2.00	0.00	1.00	0.00
87.44	178.31	2.00	0.00	1.00	0.00	87.60	173.47	2.00	0.00	1.00	0.00
87.77	166.06	2.00	0.00	1.00	0.00	87.93	163.14	2.00	0.00	1.00	0.00
88.09	164.40	2.00	0.00	1.00	0.00	88.26	164.28	2.00	0.00	1.00	0.00
88.42	157.31	2.00	0.00	1.00	0.00	88.59	151.25	2.00	0.00	1.00	0.00
88.75	149.82	2.00	0.00	1.00	0.00	88.92	150.32	2.00	0.00	1.00	0.00
89.08	146.90	2.00	0.00	1.00	0.00	89.24	142.75	2.00	0.00	1.00	0.00
89.41	140.22	2.00	0.00	1.00	0.00	89.57	141.08	2.00	0.00	1.00	0.00
89.74	140.85	2.00	0.00	1.00	0.00	89.90	141.59	2.00	0.00	1.00	0.00
90.06	139.31	2.00	0.00	1.00	0.00	90.23	138.32	2.00	0.00	1.00	0.00
90.39	140.21	2.00	0.00	1.00	0.00	90.56	138.81	2.00	0.00	1.00	0.00
90.72	130.95	2.00	0.00	1.00	0.00	90.88	120.35	2.00	0.00	1.00	0.00
91.05	126.77	2.00	0.00	1.00	0.00	91.21	148.87	2.00	0.00	1.00	0.00
91.38	188.32	2.00	0.00	1.00	0.00	91.54	222.47	2.00	0.00	1.00	0.00
91.70	244.81	2.00	0.00	1.00	0.00	91.87	262.74	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
92.03	276.92	2.00	0.00	1.00	0.00	92.20	286.99	2.00	0.00	1.00	0.00
92.36	274.99	2.00	0.00	1.00	0.00	92.52	256.02	2.00	0.00	1.00	0.00
92.69	240.56	2.00	0.00	1.00	0.00	92.85	227.53	2.00	0.00	1.00	0.00
93.02	209.78	2.00	0.00	1.00	0.00	93.18	186.65	2.00	0.00	1.00	0.00
93.34	168.98	2.00	0.00	1.00	0.00	93.51	158.86	2.00	0.00	1.00	0.00
93.67	152.86	2.00	0.00	1.00	0.00	93.84	149.47	2.00	0.00	1.00	0.00
94.00	150.47	2.00	0.00	1.00	0.00	94.16	160.35	2.00	0.00	1.00	0.00
94.33	176.33	2.00	0.00	1.00	0.00	94.49	183.70	2.00	0.00	1.00	0.00
94.66	182.99	2.00	0.00	1.00	0.00	94.82	174.77	2.00	0.00	1.00	0.00
94.98	177.32	2.00	0.00	1.00	0.00	95.15	185.57	2.00	0.00	1.00	0.00
95.31	186.54	2.00	0.00	1.00	0.00	95.48	172.32	2.00	0.00	1.00	0.00
95.64	149.29	2.00	0.00	1.00	0.00	95.81	136.09	2.00	0.00	1.00	0.00
95.97	134.23	2.00	0.00	1.00	0.00	96.13	133.62	2.00	0.00	1.00	0.00
96.30	129.09	2.00	0.00	1.00	0.00	96.46	123.88	2.00	0.00	1.00	0.00
96.63	118.01	2.00	0.00	1.00	0.00	96.79	115.85	2.00	0.00	1.00	0.00
96.95	115.97	2.00	0.00	1.00	0.00	97.12	120.42	2.00	0.00	1.00	0.00
97.28	126.47	2.00	0.00	1.00	0.00	97.45	133.00	2.00	0.00	1.00	0.00
97.61	139.75	2.00	0.00	1.00	0.00	97.77	149.49	2.00	0.00	1.00	0.00
97.94	160.17	2.00	0.00	1.00	0.00	98.10	173.42	2.00	0.00	1.00	0.00
98.27	180.70	2.00	0.00	1.00	0.00	98.43	183.86	2.00	0.00	1.00	0.00
98.59	179.31	2.00	0.00	1.00	0.00	98.76	173.05	2.00	0.00	1.00	0.00
98.92	166.85	2.00	0.00	1.00	0.00	99.09	164.69	2.00	0.00	1.00	0.00
99.25	163.71	2.00	0.00	1.00	0.00	99.41	160.03	2.00	0.00	1.00	0.00
99.58	158.95	2.00	0.00	1.00	0.00	99.74	159.29	2.00	0.00	1.00	0.00
99.91	159.33	2.00	0.00	1.00	0.00	100.07	155.37	2.00	0.00	1.00	0.00

Total estimated settlement: 0.00

Abbreviations

$Q_{tn,cs}$:	Equivalent dean sand normalized cone resistance
FS:	Factor of safety against liquefaction
e_v (%):	Post-liquefaction volumentric strain
DF:	e_v depth weighting factor
Settlement:	Calculated settlement

Wallace-Kuhl & Associates
3050 Industrial Blvd
West Sacramento, CA 95691
http://www.wallace-kuhl.com

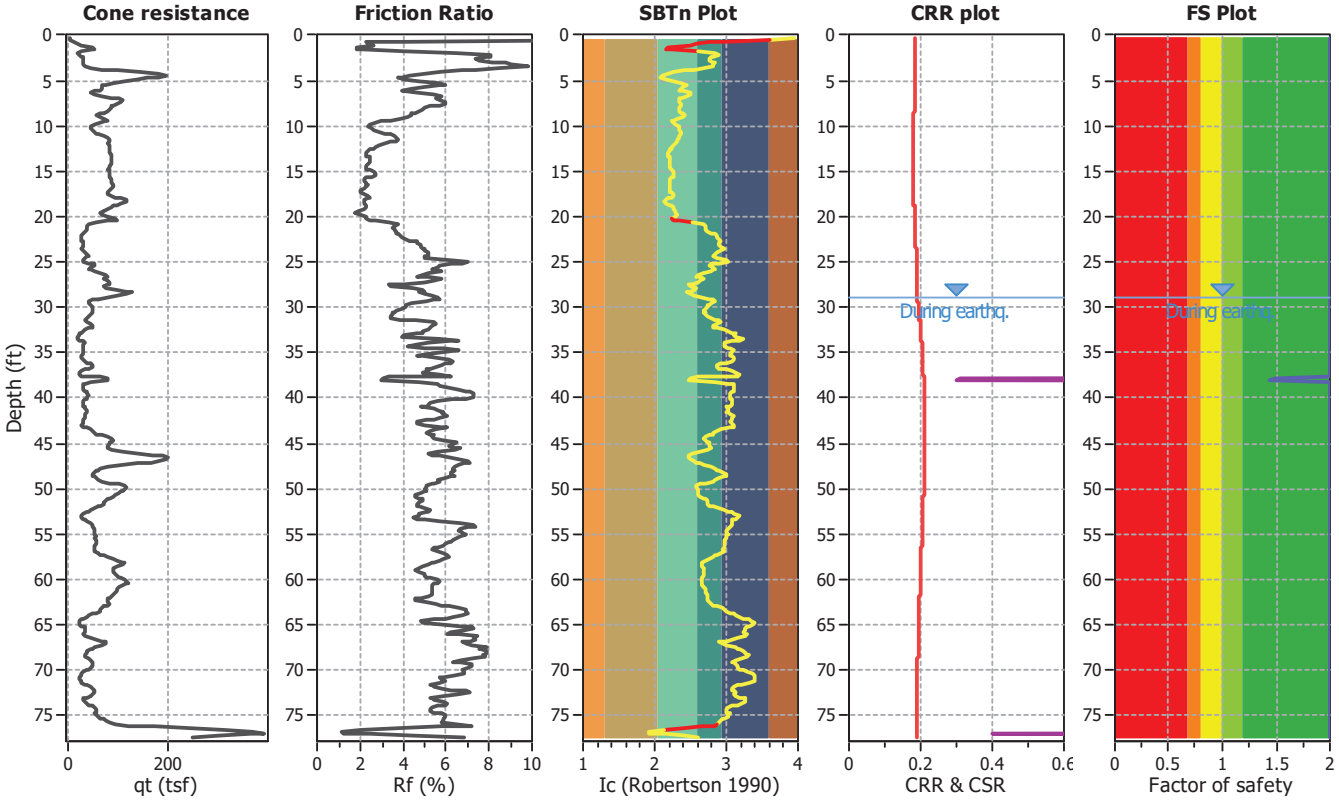
LIQUEFACTION ANALYSIS REPORT

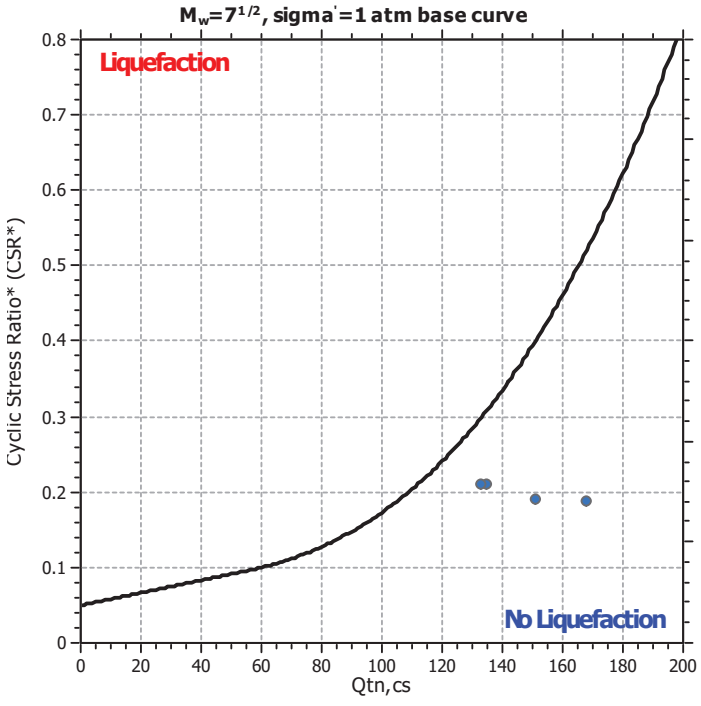
Project title : ST. JOSEPH'S MEDICAL CENTER **Location : Stockton, CA**

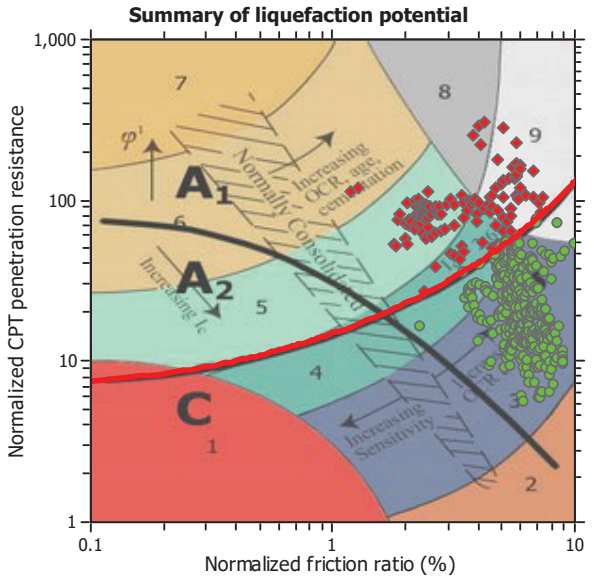
CPT file : CPT-02

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	23.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	29.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	6.50	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.41	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

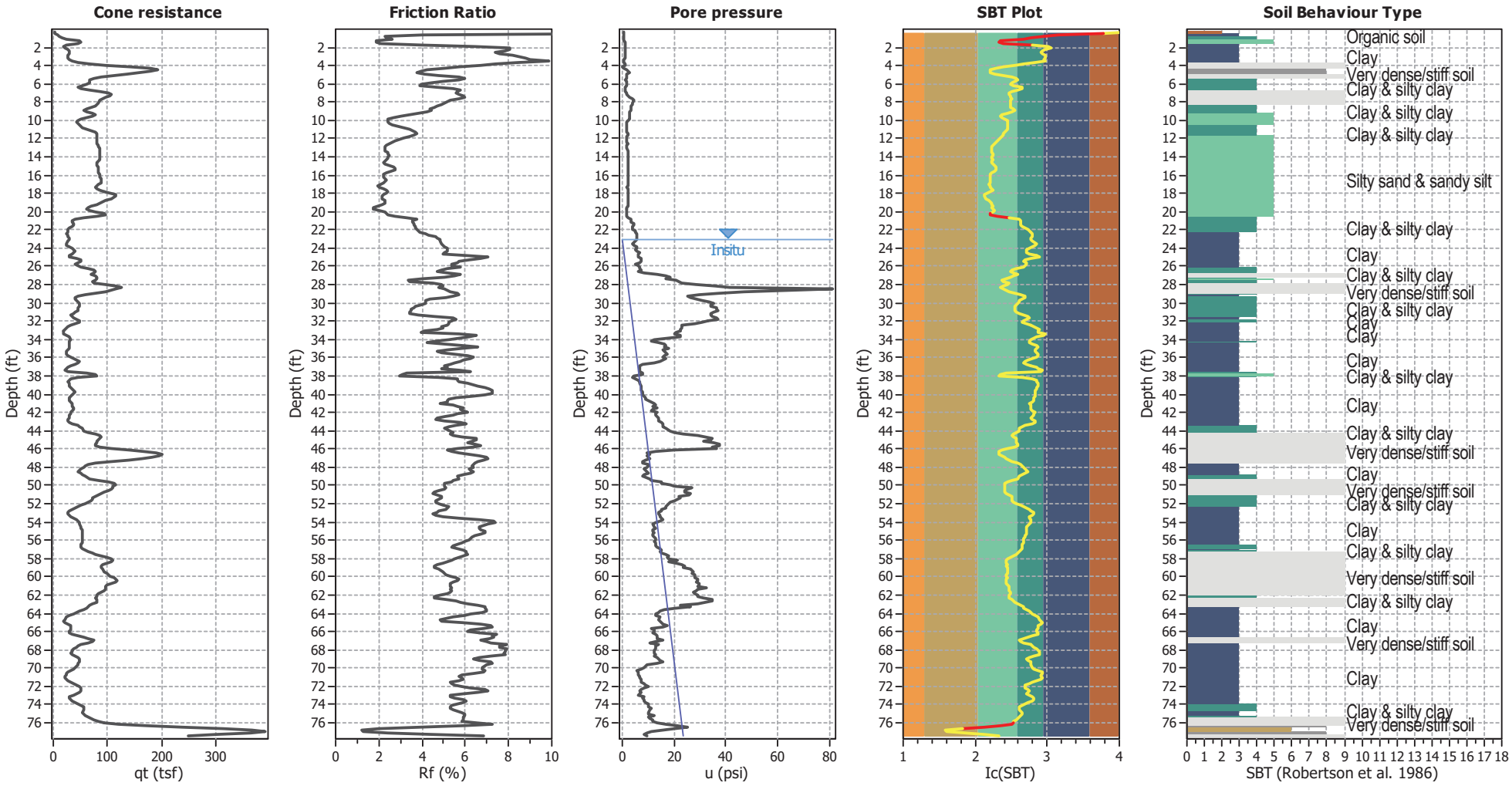






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



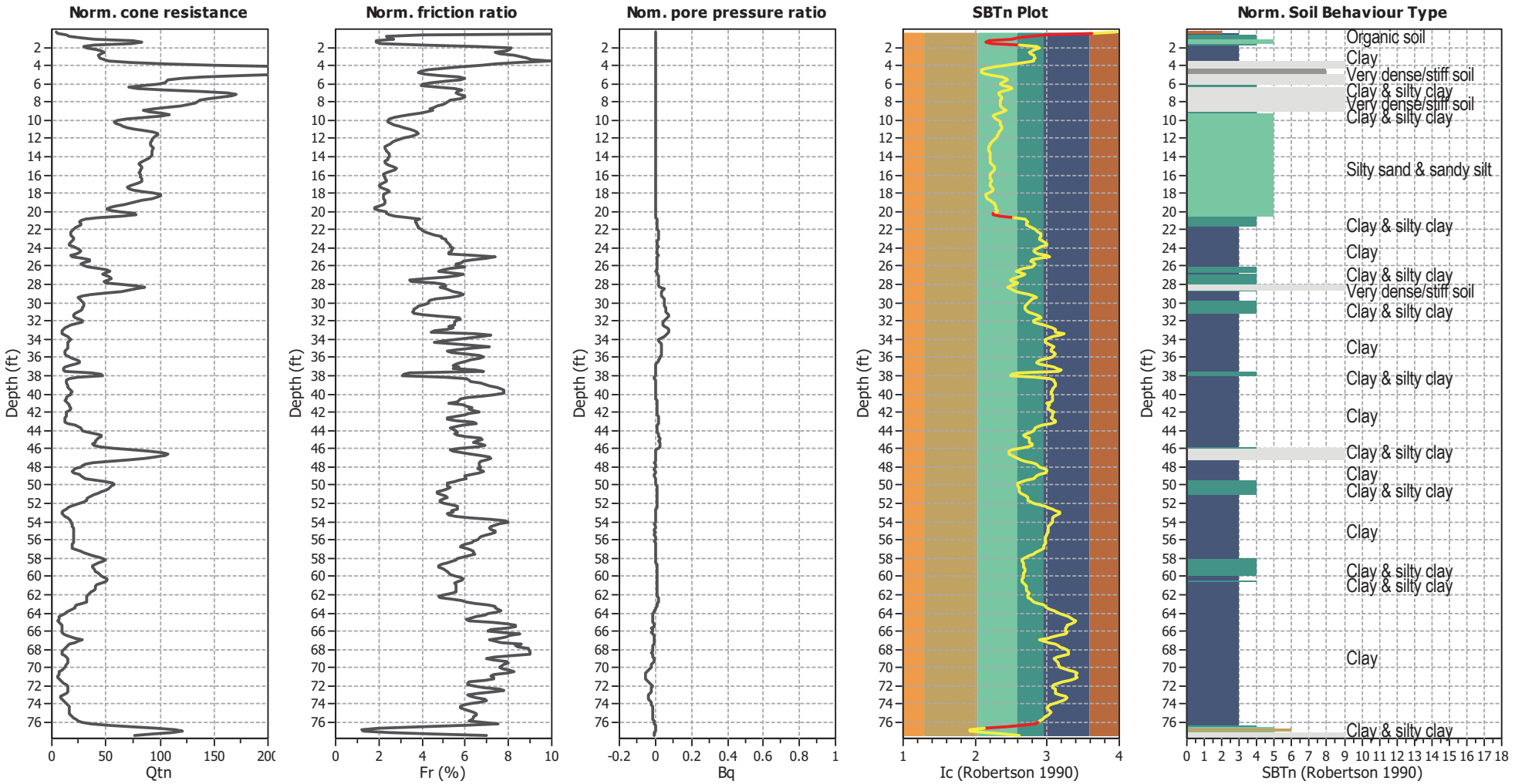
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

CPT basic interpretation plots (normalized)



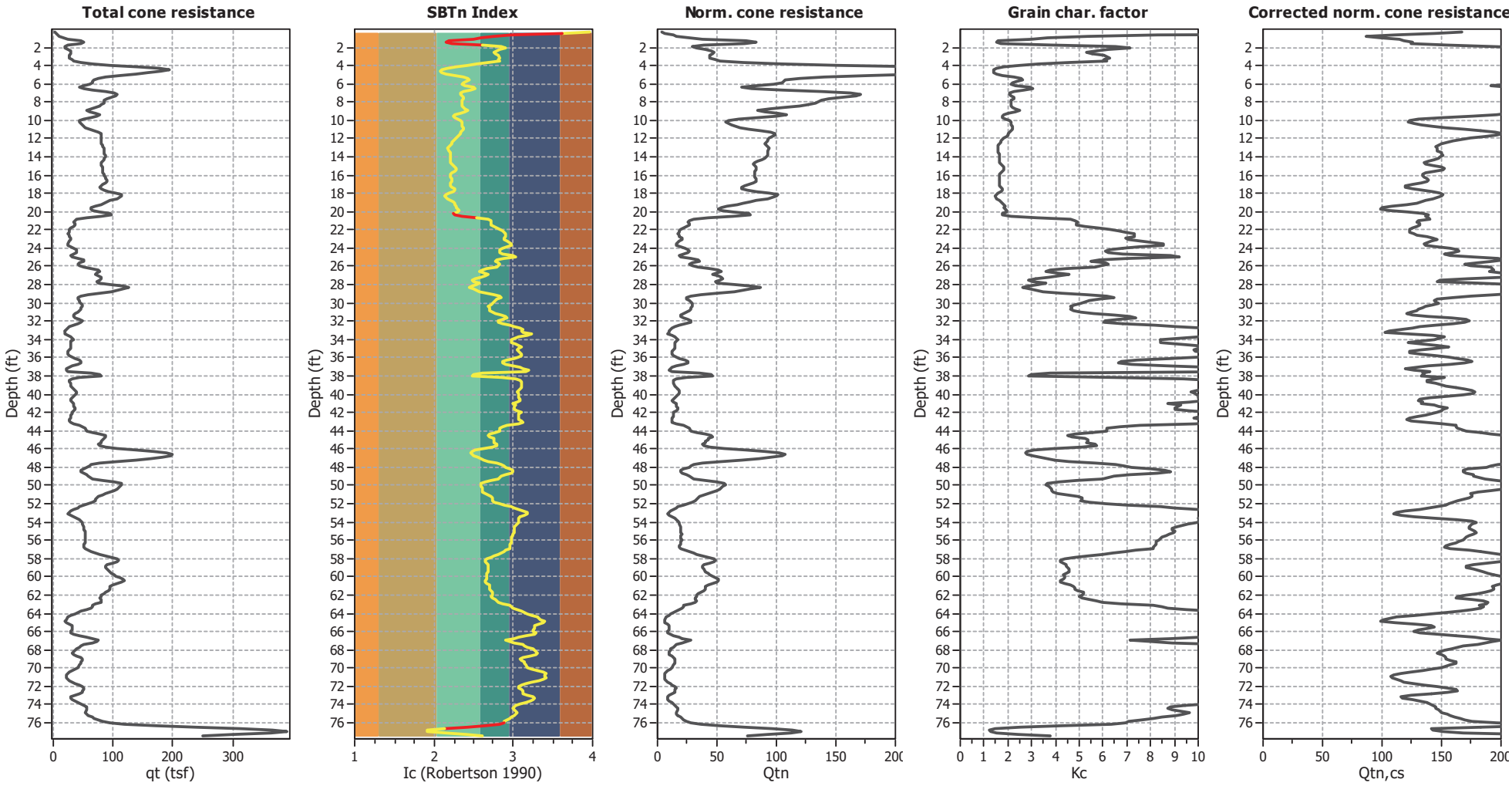
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

SBTn legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

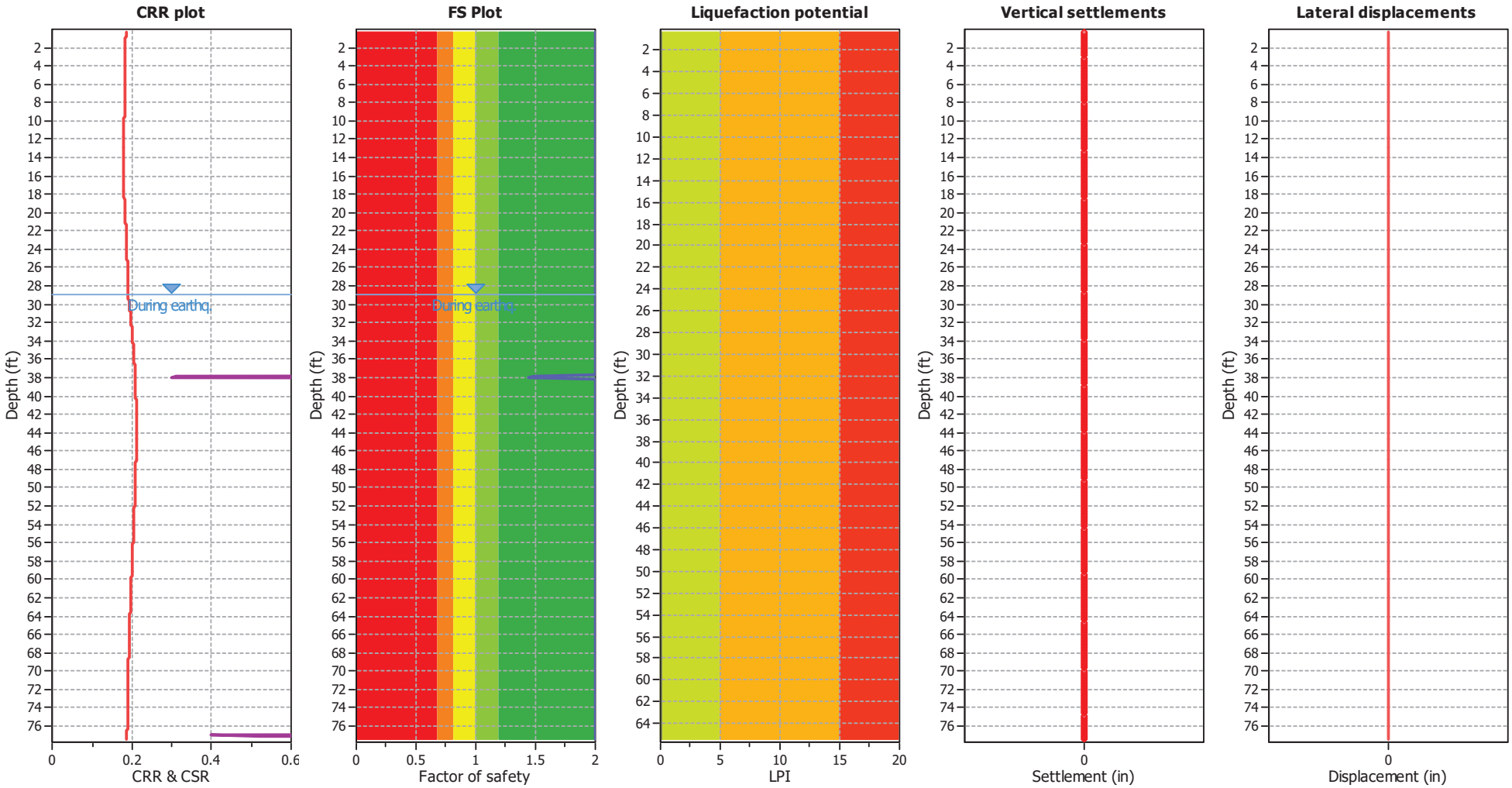
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

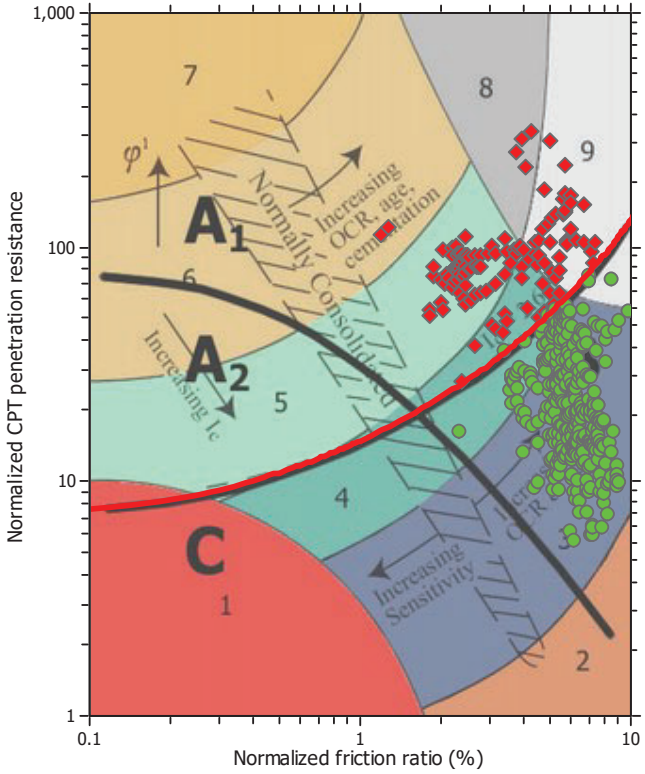
F.S. color scheme

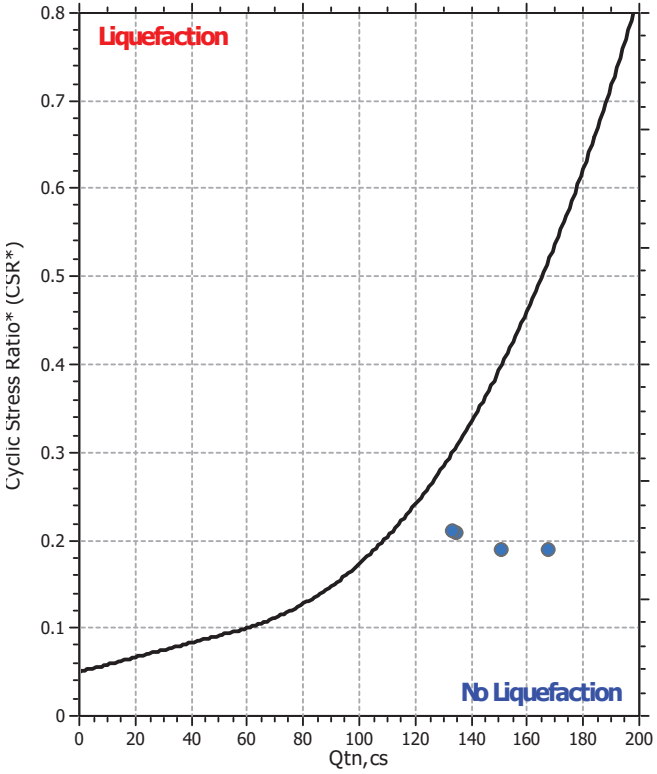
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

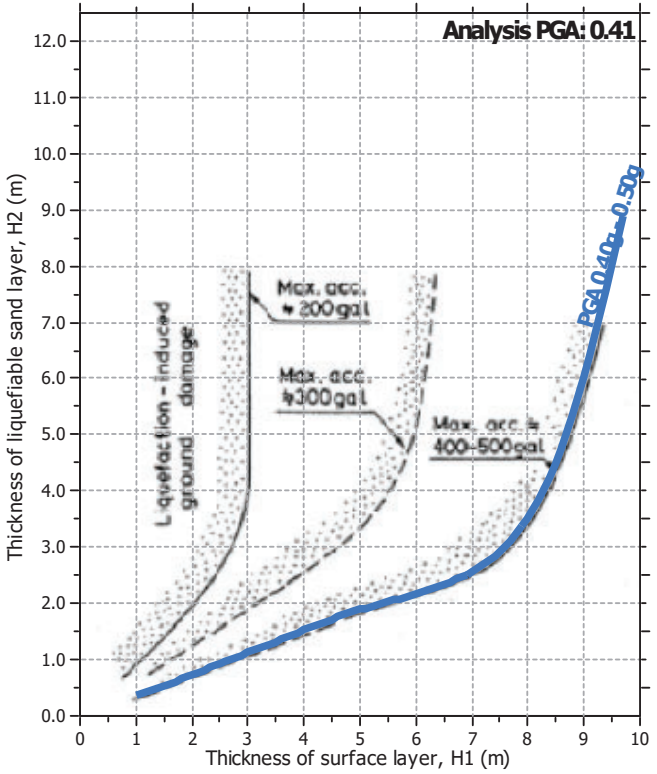
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



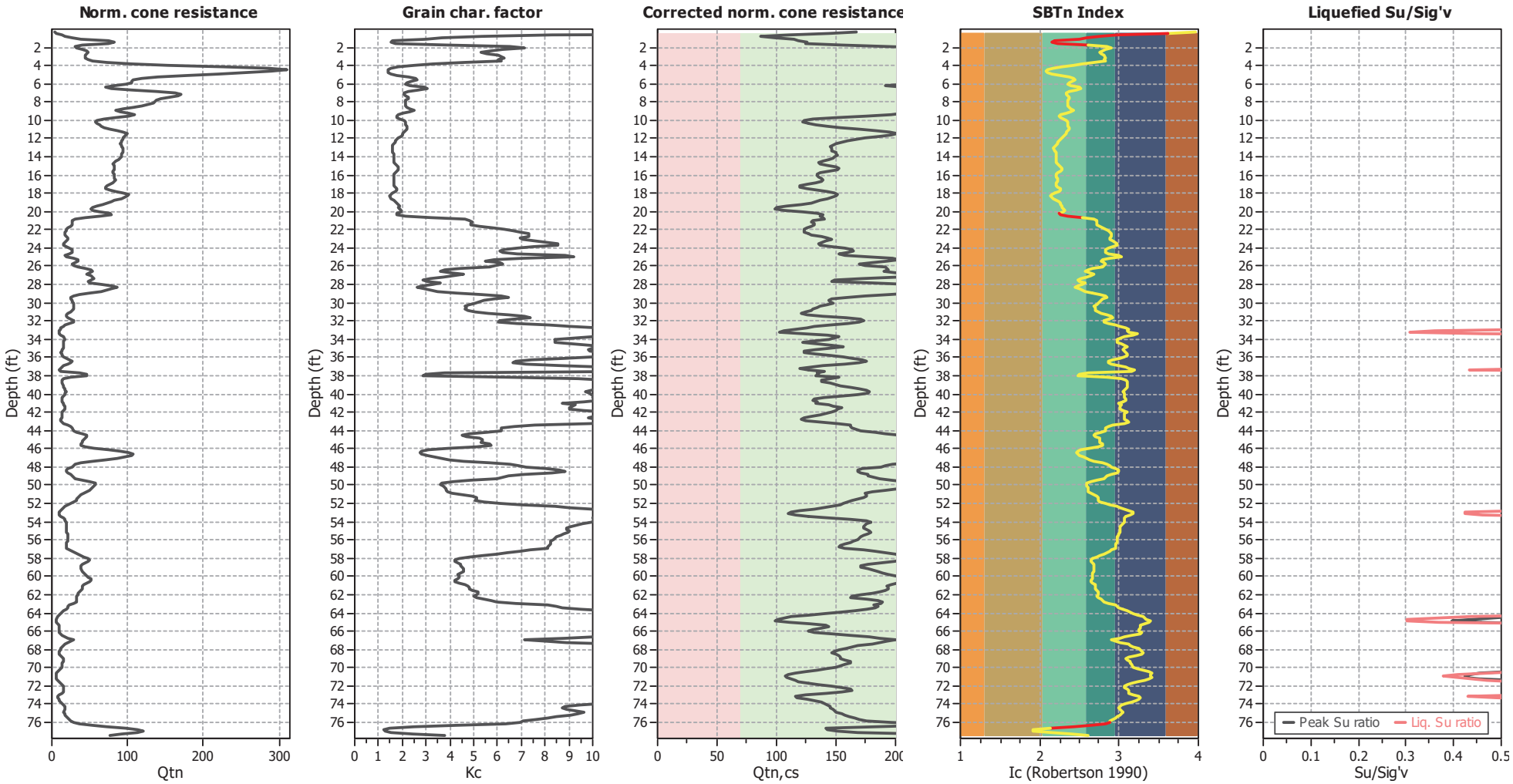




Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

Check for strength loss plots (Robertson (2010))



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
0.33	2.00	0.00	0.00	0.16	0.00	0.49	2.00	0.00	0.00	0.16	0.00
0.66	2.00	0.00	0.00	0.17	0.00	0.82	2.00	0.00	0.00	0.16	0.00
0.98	2.00	0.00	0.00	0.16	0.00	1.15	2.00	0.00	0.00	0.17	0.00
1.31	2.00	0.00	0.00	0.16	0.00	1.48	2.00	0.00	0.00	0.17	0.00
1.64	2.00	0.00	0.00	0.16	0.00	1.80	2.00	0.00	0.00	0.16	0.00
1.97	2.00	0.00	0.00	0.17	0.00	2.13	2.00	0.00	0.00	0.16	0.00
2.30	2.00	0.00	0.00	0.17	0.00	2.46	2.00	0.00	0.00	0.16	0.00
2.62	2.00	0.00	0.00	0.16	0.00	2.79	2.00	0.00	0.00	0.17	0.00
2.95	2.00	0.00	0.00	0.16	0.00	3.12	2.00	0.00	0.00	0.17	0.00
3.28	2.00	0.00	0.00	0.16	0.00	3.45	2.00	0.00	0.00	0.17	0.00
3.61	2.00	0.00	0.00	0.16	0.00	3.77	2.00	0.00	0.00	0.16	0.00
3.94	2.00	0.00	0.00	0.17	0.00	4.10	2.00	0.00	0.00	0.16	0.00
4.27	2.00	0.00	0.00	0.17	0.00	4.43	2.00	0.00	0.00	0.16	0.00
4.59	2.00	0.00	0.00	0.16	0.00	4.76	2.00	0.00	0.00	0.17	0.00
4.92	2.00	0.00	0.00	0.16	0.00	5.09	2.00	0.00	0.00	0.17	0.00
5.25	2.00	0.00	0.00	0.16	0.00	5.41	2.00	0.00	0.00	0.16	0.00
5.58	2.00	0.00	0.00	0.17	0.00	5.74	2.00	0.00	0.00	0.16	0.00
5.91	2.00	0.00	0.00	0.17	0.00	6.07	2.00	0.00	0.00	0.16	0.00
6.23	2.00	0.00	0.00	0.16	0.00	6.40	2.00	0.00	0.00	0.17	0.00
6.56	2.00	0.00	0.00	0.16	0.00	6.73	2.00	0.00	0.00	0.17	0.00
6.89	2.00	0.00	0.00	0.16	0.00	7.05	2.00	0.00	0.00	0.16	0.00
7.22	2.00	0.00	0.00	0.17	0.00	7.38	2.00	0.00	0.00	0.16	0.00
7.55	2.00	0.00	0.00	0.17	0.00	7.71	2.00	0.00	0.00	0.16	0.00
7.87	2.00	0.00	0.00	0.16	0.00	8.04	2.00	0.00	0.00	0.17	0.00
8.20	2.00	0.00	0.00	0.16	0.00	8.37	2.00	0.00	0.00	0.17	0.00
8.53	2.00	0.00	0.00	0.16	0.00	8.69	2.00	0.00	0.00	0.16	0.00
8.86	2.00	0.00	0.00	0.17	0.00	9.02	2.00	0.00	0.00	0.16	0.00
9.19	2.00	0.00	0.00	0.17	0.00	9.35	2.00	0.00	0.00	0.16	0.00
9.51	2.00	0.00	0.00	0.16	0.00	9.68	2.00	0.00	0.00	0.17	0.00
9.84	2.00	0.00	0.00	0.16	0.00	10.01	2.00	0.00	0.00	0.17	0.00
10.17	2.00	0.00	0.00	0.16	0.00	10.34	2.00	0.00	0.00	0.17	0.00
10.50	2.00	0.00	0.00	0.16	0.00	10.66	2.00	0.00	0.00	0.16	0.00
10.83	2.00	0.00	0.00	0.17	0.00	10.99	2.00	0.00	0.00	0.16	0.00
11.16	2.00	0.00	0.00	0.17	0.00	11.32	2.00	0.00	0.00	0.16	0.00
11.48	2.00	0.00	0.00	0.16	0.00	11.65	2.00	0.00	0.00	0.17	0.00
11.81	2.00	0.00	0.00	0.16	0.00	11.98	2.00	0.00	0.00	0.17	0.00
12.14	2.00	0.00	0.00	0.16	0.00	12.30	2.00	0.00	0.00	0.16	0.00
12.47	2.00	0.00	0.00	0.17	0.00	12.63	2.00	0.00	0.00	0.16	0.00
12.80	2.00	0.00	0.00	0.17	0.00	12.96	2.00	0.00	0.00	0.16	0.00
13.12	2.00	0.00	0.00	0.16	0.00	13.29	2.00	0.00	0.00	0.17	0.00
13.45	2.00	0.00	0.00	0.16	0.00	13.62	2.00	0.00	0.00	0.17	0.00
13.78	2.00	0.00	0.00	0.16	0.00	13.94	2.00	0.00	0.00	0.16	0.00
14.11	2.00	0.00	0.00	0.17	0.00	14.27	2.00	0.00	0.00	0.16	0.00
14.44	2.00	0.00	0.00	0.17	0.00	14.60	2.00	0.00	0.00	0.16	0.00
14.76	2.00	0.00	0.00	0.16	0.00	14.93	2.00	0.00	0.00	0.17	0.00
15.09	2.00	0.00	0.00	0.16	0.00	15.26	2.00	0.00	0.00	0.17	0.00
15.42	2.00	0.00	0.00	0.16	0.00	15.58	2.00	0.00	0.00	0.16	0.00
15.75	2.00	0.00	0.00	0.17	0.00	15.91	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
16.08	2.00	0.00	0.00	0.17	0.00	16.24	2.00	0.00	0.00	0.16	0.00
16.40	2.00	0.00	0.00	0.16	0.00	16.57	2.00	0.00	0.00	0.17	0.00
16.73	2.00	0.00	0.00	0.16	0.00	16.90	2.00	0.00	0.00	0.17	0.00
17.06	2.00	0.00	0.00	0.16	0.00	17.23	2.00	0.00	0.00	0.17	0.00
17.39	2.00	0.00	0.00	0.16	0.00	17.55	2.00	0.00	0.00	0.16	0.00
17.72	2.00	0.00	0.00	0.17	0.00	17.88	2.00	0.00	0.00	0.16	0.00
18.05	2.00	0.00	0.00	0.17	0.00	18.21	2.00	0.00	0.00	0.16	0.00
18.37	2.00	0.00	0.00	0.16	0.00	18.54	2.00	0.00	0.00	0.17	0.00
18.70	2.00	0.00	0.00	0.16	0.00	18.87	2.00	0.00	0.00	0.17	0.00
19.03	2.00	0.00	0.00	0.16	0.00	19.19	2.00	0.00	0.00	0.16	0.00
19.36	2.00	0.00	0.00	0.17	0.00	19.52	2.00	0.00	0.00	0.16	0.00
19.69	2.00	0.00	0.00	0.17	0.00	19.85	2.00	0.00	0.00	0.16	0.00
20.01	2.00	0.00	0.00	0.16	0.00	20.18	2.00	0.00	0.00	0.17	0.00
20.34	2.00	0.00	0.00	0.16	0.00	20.51	2.00	0.00	0.00	0.17	0.00
20.67	2.00	0.00	0.00	0.16	0.00	20.83	2.00	0.00	0.00	0.16	0.00
21.00	2.00	0.00	0.00	0.17	0.00	21.16	2.00	0.00	0.00	0.16	0.00
21.33	2.00	0.00	0.00	0.17	0.00	21.49	2.00	0.00	0.00	0.16	0.00
21.65	2.00	0.00	0.00	0.16	0.00	21.82	2.00	0.00	0.00	0.17	0.00
21.98	2.00	0.00	0.00	0.16	0.00	22.15	2.00	0.00	0.00	0.17	0.00
22.31	2.00	0.00	0.00	0.16	0.00	22.47	2.00	0.00	0.00	0.16	0.00
22.64	2.00	0.00	0.00	0.17	0.00	22.80	2.00	0.00	0.00	0.16	0.00
22.97	2.00	0.00	0.00	0.17	0.00	23.13	2.00	0.00	0.00	0.16	0.00
23.30	2.00	0.00	0.00	0.17	0.00	23.46	2.00	0.00	0.00	0.16	0.00
23.62	2.00	0.00	0.00	0.16	0.00	23.79	2.00	0.00	0.00	0.17	0.00
23.95	2.00	0.00	0.00	0.16	0.00	24.12	2.00	0.00	0.00	0.17	0.00
24.28	2.00	0.00	0.00	0.16	0.00	24.44	2.00	0.00	0.00	0.16	0.00
24.61	2.00	0.00	0.00	0.17	0.00	24.77	2.00	0.00	0.00	0.16	0.00
24.94	2.00	0.00	0.00	0.17	0.00	25.10	2.00	0.00	0.00	0.16	0.00
25.26	2.00	0.00	0.00	0.16	0.00	25.43	2.00	0.00	0.00	0.17	0.00
25.59	2.00	0.00	0.00	0.16	0.00	25.76	2.00	0.00	0.00	0.17	0.00
25.92	2.00	0.00	0.00	0.16	0.00	26.08	2.00	0.00	0.00	0.16	0.00
26.25	2.00	0.00	0.00	0.17	0.00	26.41	2.00	0.00	0.00	0.16	0.00
26.58	2.00	0.00	0.00	0.17	0.00	26.74	2.00	0.00	0.00	0.16	0.00
26.90	2.00	0.00	0.00	0.16	0.00	27.07	2.00	0.00	0.00	0.17	0.00
27.23	2.00	0.00	0.00	0.16	0.00	27.40	2.00	0.00	0.00	0.17	0.00
27.56	2.00	0.00	0.00	0.16	0.00	27.72	2.00	0.00	0.00	0.16	0.00
27.89	2.00	0.00	0.00	0.17	0.00	28.05	2.00	0.00	0.00	0.16	0.00
28.22	2.00	0.00	0.00	0.17	0.00	28.38	2.00	0.00	0.00	0.16	0.00
28.54	2.00	0.00	0.00	0.16	0.00	28.71	2.00	0.00	0.00	0.17	0.00
28.87	2.00	0.00	0.00	0.16	0.00	29.04	2.00	0.00	0.00	0.17	0.00
29.20	2.00	0.00	0.00	0.16	0.00	29.36	2.00	0.00	0.00	0.16	0.00
29.53	2.00	0.00	0.00	0.17	0.00	29.69	2.00	0.00	0.00	0.16	0.00
29.86	2.00	0.00	0.00	0.17	0.00	30.02	2.00	0.00	0.00	0.16	0.00
30.19	2.00	0.00	0.00	0.17	0.00	30.35	2.00	0.00	0.00	0.16	0.00
30.51	2.00	0.00	0.00	0.16	0.00	30.68	2.00	0.00	0.00	0.17	0.00
30.84	2.00	0.00	0.00	0.16	0.00	31.01	2.00	0.00	0.00	0.17	0.00
31.17	2.00	0.00	0.00	0.16	0.00	31.33	2.00	0.00	0.00	0.16	0.00
31.50	2.00	0.00	0.00	0.17	0.00	31.66	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
31.83	2.00	0.00	0.00	0.17	0.00	31.99	2.00	0.00	0.00	0.16	0.00
32.15	2.00	0.00	0.00	0.16	0.00	32.32	2.00	0.00	0.00	0.17	0.00
32.48	2.00	0.00	0.00	0.16	0.00	32.65	2.00	0.00	0.00	0.17	0.00
32.81	2.00	0.00	0.00	0.16	0.00	32.97	2.00	0.00	0.00	0.16	0.00
33.14	2.00	0.00	0.00	0.17	0.00	33.30	2.00	0.00	0.00	0.16	0.00
33.47	2.00	0.00	0.00	0.17	0.00	33.63	2.00	0.00	0.00	0.16	0.00
33.79	2.00	0.00	0.00	0.16	0.00	33.96	2.00	0.00	0.00	0.17	0.00
34.12	2.00	0.00	0.00	0.16	0.00	34.29	2.00	0.00	0.00	0.17	0.00
34.45	2.00	0.00	0.00	0.16	0.00	34.61	2.00	0.00	0.00	0.16	0.00
34.78	2.00	0.00	0.00	0.17	0.00	34.94	2.00	0.00	0.00	0.16	0.00
35.11	2.00	0.00	0.00	0.17	0.00	35.27	2.00	0.00	0.00	0.16	0.00
35.43	2.00	0.00	0.00	0.16	0.00	35.60	2.00	0.00	0.00	0.17	0.00
35.76	2.00	0.00	0.00	0.16	0.00	35.93	2.00	0.00	0.00	0.17	0.00
36.09	2.00	0.00	0.00	0.16	0.00	36.26	2.00	0.00	0.00	0.17	0.00
36.42	2.00	0.00	0.00	0.16	0.00	36.58	2.00	0.00	0.00	0.16	0.00
36.75	2.00	0.00	0.00	0.17	0.00	36.91	2.00	0.00	0.00	0.16	0.00
37.08	2.00	0.00	0.00	0.17	0.00	37.24	2.00	0.00	0.00	0.16	0.00
37.40	2.00	0.00	0.00	0.16	0.00	37.57	2.00	0.00	0.00	0.17	0.00
37.73	2.00	0.00	0.00	0.16	0.00	37.90	1.49	0.00	0.00	0.17	0.00
38.06	1.44	0.00	0.00	0.16	0.00	38.22	2.00	0.00	0.00	0.16	0.00
38.39	2.00	0.00	0.00	0.17	0.00	38.55	2.00	0.00	0.00	0.16	0.00
38.72	2.00	0.00	0.00	0.17	0.00	38.88	2.00	0.00	0.00	0.16	0.00
39.04	2.00	0.00	0.00	0.16	0.00	39.21	2.00	0.00	0.00	0.17	0.00
39.37	2.00	0.00	0.00	0.16	0.00	39.54	2.00	0.00	0.00	0.17	0.00
39.70	2.00	0.00	0.00	0.16	0.00	39.86	2.00	0.00	0.00	0.16	0.00
40.03	2.00	0.00	0.00	0.17	0.00	40.19	2.00	0.00	0.00	0.16	0.00
40.36	2.00	0.00	0.00	0.17	0.00	40.52	2.00	0.00	0.00	0.16	0.00
40.68	2.00	0.00	0.00	0.16	0.00	40.85	2.00	0.00	0.00	0.17	0.00
41.01	2.00	0.00	0.00	0.16	0.00	41.18	2.00	0.00	0.00	0.17	0.00
41.34	2.00	0.00	0.00	0.16	0.00	41.50	2.00	0.00	0.00	0.16	0.00
41.67	2.00	0.00	0.00	0.17	0.00	41.83	2.00	0.00	0.00	0.16	0.00
42.00	2.00	0.00	0.00	0.17	0.00	42.16	2.00	0.00	0.00	0.16	0.00
42.32	2.00	0.00	0.00	0.16	0.00	42.49	2.00	0.00	0.00	0.17	0.00
42.65	2.00	0.00	0.00	0.16	0.00	42.82	2.00	0.00	0.00	0.17	0.00
42.98	2.00	0.00	0.00	0.16	0.00	43.15	2.00	0.00	0.00	0.17	0.00
43.31	2.00	0.00	0.00	0.16	0.00	43.47	2.00	0.00	0.00	0.16	0.00
43.64	2.00	0.00	0.00	0.17	0.00	43.80	2.00	0.00	0.00	0.16	0.00
43.97	2.00	0.00	0.00	0.17	0.00	44.13	2.00	0.00	0.00	0.16	0.00
44.29	2.00	0.00	0.00	0.16	0.00	44.46	2.00	0.00	0.00	0.17	0.00
44.62	2.00	0.00	0.00	0.16	0.00	44.79	2.00	0.00	0.00	0.17	0.00
44.95	2.00	0.00	0.00	0.16	0.00	45.11	2.00	0.00	0.00	0.16	0.00
45.28	2.00	0.00	0.00	0.17	0.00	45.44	2.00	0.00	0.00	0.16	0.00
45.61	2.00	0.00	0.00	0.17	0.00	45.77	2.00	0.00	0.00	0.16	0.00
45.93	2.00	0.00	0.00	0.16	0.00	46.10	2.00	0.00	0.00	0.17	0.00
46.26	2.00	0.00	0.00	0.16	0.00	46.43	2.00	0.00	0.00	0.17	0.00
46.59	2.00	0.00	0.00	0.16	0.00	46.75	2.00	0.00	0.00	0.16	0.00
46.92	2.00	0.00	0.00	0.17	0.00	47.08	2.00	0.00	0.00	0.16	0.00
47.25	2.00	0.00	0.00	0.17	0.00	47.41	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
47.57	2.00	0.00	0.00	0.16	0.00	47.74	2.00	0.00	0.00	0.17	0.00
47.90	2.00	0.00	0.00	0.16	0.00	48.07	2.00	0.00	0.00	0.17	0.00
48.23	2.00	0.00	0.00	0.16	0.00	48.39	2.00	0.00	0.00	0.16	0.00
48.56	2.00	0.00	0.00	0.17	0.00	48.72	2.00	0.00	0.00	0.16	0.00
48.89	2.00	0.00	0.00	0.17	0.00	49.05	2.00	0.00	0.00	0.16	0.00
49.22	2.00	0.00	0.00	0.17	0.00	49.38	2.00	0.00	0.00	0.16	0.00
49.54	2.00	0.00	0.00	0.16	0.00	49.71	2.00	0.00	0.00	0.17	0.00
49.87	2.00	0.00	0.00	0.16	0.00	50.04	2.00	0.00	0.00	0.17	0.00
50.20	2.00	0.00	0.00	0.16	0.00	50.36	2.00	0.00	0.00	0.16	0.00
50.53	2.00	0.00	0.00	0.17	0.00	50.69	2.00	0.00	0.00	0.16	0.00
50.86	2.00	0.00	0.00	0.17	0.00	51.02	2.00	0.00	0.00	0.16	0.00
51.18	2.00	0.00	0.00	0.16	0.00	51.35	2.00	0.00	0.00	0.17	0.00
51.51	2.00	0.00	0.00	0.16	0.00	51.68	2.00	0.00	0.00	0.17	0.00
51.84	2.00	0.00	0.00	0.16	0.00	52.00	2.00	0.00	0.00	0.16	0.00
52.17	2.00	0.00	0.00	0.17	0.00	52.33	2.00	0.00	0.00	0.16	0.00
52.50	2.00	0.00	0.00	0.17	0.00	52.66	2.00	0.00	0.00	0.16	0.00
52.82	2.00	0.00	0.00	0.16	0.00	52.99	2.00	0.00	0.00	0.17	0.00
53.15	2.00	0.00	0.00	0.16	0.00	53.32	2.00	0.00	0.00	0.17	0.00
53.48	2.00	0.00	0.00	0.16	0.00	53.64	2.00	0.00	0.00	0.16	0.00
53.81	2.00	0.00	0.00	0.17	0.00	53.97	2.00	0.00	0.00	0.16	0.00
54.14	2.00	0.00	0.00	0.17	0.00	54.30	2.00	0.00	0.00	0.16	0.00
54.46	2.00	0.00	0.00	0.16	0.00	54.63	2.00	0.00	0.00	0.17	0.00
54.79	2.00	0.00	0.00	0.16	0.00	54.96	2.00	0.00	0.00	0.17	0.00
55.12	2.00	0.00	0.00	0.16	0.00	55.28	2.00	0.00	0.00	0.16	0.00
55.45	2.00	0.00	0.00	0.17	0.00	55.61	2.00	0.00	0.00	0.16	0.00
55.78	2.00	0.00	0.00	0.17	0.00	55.94	2.00	0.00	0.00	0.16	0.00
56.11	2.00	0.00	0.00	0.17	0.00	56.27	2.00	0.00	0.00	0.16	0.00
56.43	2.00	0.00	0.00	0.16	0.00	56.60	2.00	0.00	0.00	0.17	0.00
56.76	2.00	0.00	0.00	0.16	0.00	56.93	2.00	0.00	0.00	0.17	0.00
57.09	2.00	0.00	0.00	0.16	0.00	57.25	2.00	0.00	0.00	0.16	0.00
57.42	2.00	0.00	0.00	0.17	0.00	57.58	2.00	0.00	0.00	0.16	0.00
57.75	2.00	0.00	0.00	0.17	0.00	57.91	2.00	0.00	0.00	0.16	0.00
58.07	2.00	0.00	0.00	0.16	0.00	58.24	2.00	0.00	0.00	0.17	0.00
58.40	2.00	0.00	0.00	0.16	0.00	58.57	2.00	0.00	0.00	0.17	0.00
58.73	2.00	0.00	0.00	0.16	0.00	58.89	2.00	0.00	0.00	0.16	0.00
59.06	2.00	0.00	0.00	0.17	0.00	59.22	2.00	0.00	0.00	0.16	0.00
59.39	2.00	0.00	0.00	0.17	0.00	59.55	2.00	0.00	0.00	0.16	0.00
59.71	2.00	0.00	0.00	0.16	0.00	59.88	2.00	0.00	0.00	0.17	0.00
60.04	2.00	0.00	0.00	0.16	0.00	60.21	2.00	0.00	0.00	0.17	0.00
60.37	2.00	0.00	0.00	0.16	0.00	60.53	2.00	0.00	0.00	0.16	0.00
60.70	2.00	0.00	0.00	0.17	0.00	60.86	2.00	0.00	0.00	0.16	0.00
61.03	2.00	0.00	0.00	0.17	0.00	61.19	2.00	0.00	0.00	0.16	0.00
61.35	2.00	0.00	0.00	0.16	0.00	61.52	2.00	0.00	0.00	0.17	0.00
61.68	2.00	0.00	0.00	0.16	0.00	61.85	2.00	0.00	0.00	0.17	0.00
62.01	2.00	0.00	0.00	0.16	0.00	62.17	2.00	0.00	0.00	0.16	0.00
62.34	2.00	0.00	0.00	0.17	0.00	62.50	2.00	0.00	0.00	0.16	0.00
62.67	2.00	0.00	0.00	0.17	0.00	62.83	2.00	0.00	0.00	0.16	0.00
63.00	2.00	0.00	0.00	0.17	0.00	63.16	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
63.32	2.00	0.00	0.00	0.16	0.00	63.49	2.00	0.00	0.00	0.17	0.00
63.65	2.00	0.00	0.00	0.16	0.00	63.82	2.00	0.00	0.00	0.17	0.00
63.98	2.00	0.00	0.00	0.16	0.00	64.14	2.00	0.00	0.00	0.16	0.00
64.31	2.00	0.00	0.00	0.17	0.00	64.47	2.00	0.00	0.00	0.16	0.00
64.64	2.00	0.00	0.00	0.17	0.00	64.80	2.00	0.00	0.00	0.16	0.00
64.96	2.00	0.00	0.00	0.16	0.00	65.13	2.00	0.00	0.00	0.17	0.00
65.29	2.00	0.00	0.00	0.16	0.00	65.46	2.00	0.00	0.00	0.17	0.00
65.62	2.00	0.00	0.00	0.16	0.00	65.78	2.00	0.00	0.00	0.16	0.00
65.95	2.00	0.00	0.00	0.17	0.00	66.11	2.00	0.00	0.00	0.16	0.00
66.28	2.00	0.00	0.00	0.17	0.00	66.44	2.00	0.00	0.00	0.16	0.00
66.60	2.00	0.00	0.00	0.16	0.00	66.77	2.00	0.00	0.00	0.17	0.00
66.93	2.00	0.00	0.00	0.16	0.00	67.10	2.00	0.00	0.00	0.17	0.00
67.26	2.00	0.00	0.00	0.16	0.00	67.42	2.00	0.00	0.00	0.16	0.00
67.59	2.00	0.00	0.00	0.17	0.00	67.75	2.00	0.00	0.00	0.16	0.00
67.92	2.00	0.00	0.00	0.17	0.00	68.08	2.00	0.00	0.00	0.16	0.00
68.24	2.00	0.00	0.00	0.16	0.00	68.41	2.00	0.00	0.00	0.17	0.00
68.57	2.00	0.00	0.00	0.16	0.00	68.74	2.00	0.00	0.00	0.17	0.00
68.90	2.00	0.00	0.00	0.16	0.00	69.07	2.00	0.00	0.00	0.17	0.00
69.23	2.00	0.00	0.00	0.16	0.00	69.39	2.00	0.00	0.00	0.16	0.00
69.56	2.00	0.00	0.00	0.17	0.00	69.72	2.00	0.00	0.00	0.16	0.00
69.89	2.00	0.00	0.00	0.17	0.00	70.05	2.00	0.00	0.00	0.16	0.00
70.21	2.00	0.00	0.00	0.16	0.00	70.38	2.00	0.00	0.00	0.17	0.00
70.54	2.00	0.00	0.00	0.16	0.00	70.71	2.00	0.00	0.00	0.17	0.00
70.87	2.00	0.00	0.00	0.16	0.00	71.03	2.00	0.00	0.00	0.16	0.00
71.20	2.00	0.00	0.00	0.17	0.00	71.36	2.00	0.00	0.00	0.16	0.00
71.53	2.00	0.00	0.00	0.17	0.00	71.69	2.00	0.00	0.00	0.16	0.00
71.85	2.00	0.00	0.00	0.16	0.00	72.02	2.00	0.00	0.00	0.17	0.00
72.18	2.00	0.00	0.00	0.16	0.00	72.35	2.00	0.00	0.00	0.17	0.00
72.51	2.00	0.00	0.00	0.16	0.00	72.67	2.00	0.00	0.00	0.16	0.00
72.84	2.00	0.00	0.00	0.17	0.00	73.00	2.00	0.00	0.00	0.16	0.00
73.17	2.00	0.00	0.00	0.17	0.00	73.33	2.00	0.00	0.00	0.16	0.00
73.49	2.00	0.00	0.00	0.16	0.00	73.66	2.00	0.00	0.00	0.17	0.00
73.82	2.00	0.00	0.00	0.16	0.00	73.99	2.00	0.00	0.00	0.17	0.00
74.15	2.00	0.00	0.00	0.16	0.00	74.31	2.00	0.00	0.00	0.16	0.00
74.48	2.00	0.00	0.00	0.17	0.00	74.64	2.00	0.00	0.00	0.16	0.00
74.81	2.00	0.00	0.00	0.17	0.00	74.97	2.00	0.00	0.00	0.16	0.00
75.13	2.00	0.00	0.00	0.16	0.00	75.30	2.00	0.00	0.00	0.17	0.00
75.46	2.00	0.00	0.00	0.16	0.00	75.63	2.00	0.00	0.00	0.17	0.00
75.79	2.00	0.00	0.00	0.16	0.00	75.96	2.00	0.00	0.00	0.17	0.00
76.12	2.00	0.00	0.00	0.16	0.00	76.28	2.00	0.00	0.00	0.16	0.00
76.45	2.00	0.00	0.00	0.17	0.00	76.61	2.00	0.00	0.00	0.16	0.00
76.78	2.00	0.00	0.00	0.17	0.00	76.94	2.00	0.00	0.00	0.16	0.00
77.10	2.00	0.00	0.00	0.16	0.00	77.27	2.00	0.00	0.00	0.17	0.00
77.43	2.00	0.00	0.00	0.16	0.00						

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI

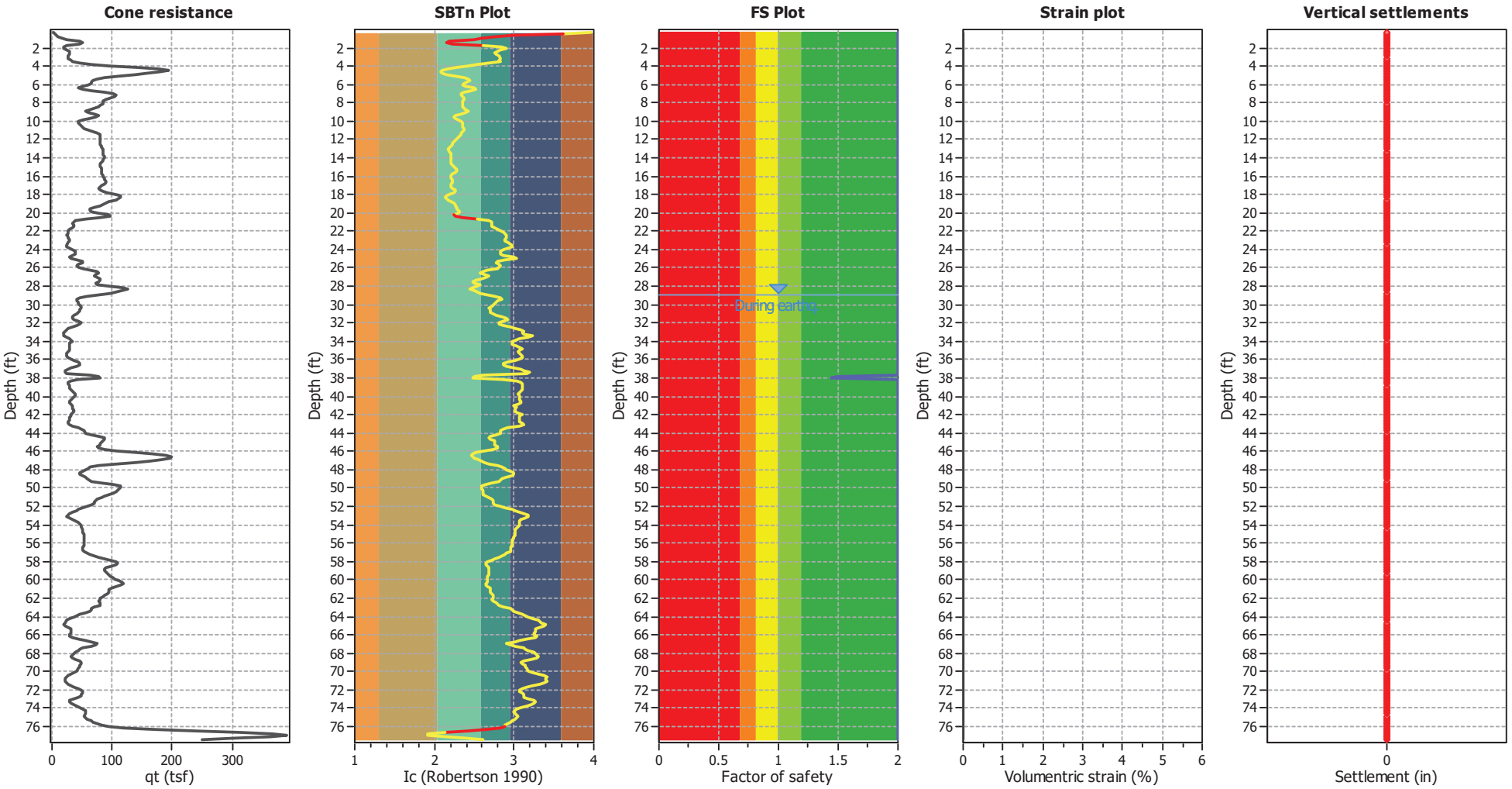
Overall liquefaction potential: 0.00

LPI = 0.00 - Liquefaction risk very low
LPI between 0.00 and 5.00 - Liquefaction risk low
LPI between 5.00 and 15.00 - Liquefaction risk high
LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
F_L: 1 - FS
w_z: Function value of the extend of soil liquefaction according to depth
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
29.04	195.14	2.00	0.00	1.00	0.00	29.20	174.66	2.00	0.00	1.00	0.00
29.36	159.24	2.00	0.00	1.00	0.00	29.53	145.91	2.00	0.00	1.00	0.00
29.69	143.47	2.00	0.00	1.00	0.00	29.86	144.66	2.00	0.00	1.00	0.00
30.02	146.96	2.00	0.00	1.00	0.00	30.19	142.85	2.00	0.00	1.00	0.00
30.35	136.26	2.00	0.00	1.00	0.00	30.51	134.25	2.00	0.00	1.00	0.00
30.68	130.97	2.00	0.00	1.00	0.00	30.84	129.18	2.00	0.00	1.00	0.00
31.01	124.08	2.00	0.00	1.00	0.00	31.17	121.00	2.00	0.00	1.00	0.00
31.33	125.65	2.00	0.00	1.00	0.00	31.50	139.52	2.00	0.00	1.00	0.00
31.66	158.89	2.00	0.00	1.00	0.00	31.83	170.35	2.00	0.00	1.00	0.00
31.99	172.87	2.00	0.00	1.00	0.00	32.15	169.23	2.00	0.00	1.00	0.00
32.32	159.71	2.00	0.00	1.00	0.00	32.48	144.69	2.00	0.00	1.00	0.00
32.65	131.41	2.00	0.00	1.00	0.00	32.81	125.55	2.00	0.00	1.00	0.00
32.97	116.30	2.00	0.00	1.00	0.00	33.14	106.65	2.00	0.00	1.00	0.00
33.30	102.91	2.00	0.00	1.00	0.00	33.47	121.59	2.00	0.00	1.00	0.00
33.63	142.71	2.00	0.00	1.00	0.00	33.79	151.95	2.00	0.00	1.00	0.00
33.96	143.89	2.00	0.00	1.00	0.00	34.12	131.31	2.00	0.00	1.00	0.00
34.29	122.33	2.00	0.00	1.00	0.00	34.45	134.20	2.00	0.00	1.00	0.00
34.61	146.60	2.00	0.00	1.00	0.00	34.78	155.58	2.00	0.00	1.00	0.00
34.94	145.14	2.00	0.00	1.00	0.00	35.11	133.37	2.00	0.00	1.00	0.00
35.27	122.78	2.00	0.00	1.00	0.00	35.43	123.52	2.00	0.00	1.00	0.00
35.60	133.04	2.00	0.00	1.00	0.00	35.76	145.46	2.00	0.00	1.00	0.00
35.93	155.73	2.00	0.00	1.00	0.00	36.09	163.54	2.00	0.00	1.00	0.00
36.26	172.55	2.00	0.00	1.00	0.00	36.42	175.39	2.00	0.00	1.00	0.00
36.58	169.22	2.00	0.00	1.00	0.00	36.75	157.55	2.00	0.00	1.00	0.00
36.91	138.71	2.00	0.00	1.00	0.00	37.08	129.51	2.00	0.00	1.00	0.00
37.24	119.66	2.00	0.00	1.00	0.00	37.40	127.21	2.00	0.00	1.00	0.00
37.57	140.75	2.00	0.00	1.00	0.00	37.73	134.29	2.00	0.00	1.00	0.00
37.90	135.19	1.49	0.00	1.00	0.00	38.06	133.38	1.44	0.00	1.00	0.00
38.22	152.80	2.00	0.00	1.00	0.00	38.39	145.33	2.00	0.00	1.00	0.00
38.55	138.06	2.00	0.00	1.00	0.00	38.72	138.17	2.00	0.00	1.00	0.00
38.88	144.90	2.00	0.00	1.00	0.00	39.04	153.51	2.00	0.00	1.00	0.00
39.21	162.49	2.00	0.00	1.00	0.00	39.37	169.51	2.00	0.00	1.00	0.00
39.54	176.17	2.00	0.00	1.00	0.00	39.70	178.52	2.00	0.00	1.00	0.00
39.86	176.69	2.00	0.00	1.00	0.00	40.03	168.02	2.00	0.00	1.00	0.00
40.19	154.43	2.00	0.00	1.00	0.00	40.36	140.67	2.00	0.00	1.00	0.00
40.52	131.75	2.00	0.00	1.00	0.00	40.68	130.19	2.00	0.00	1.00	0.00
40.85	134.29	2.00	0.00	1.00	0.00	41.01	133.52	2.00	0.00	1.00	0.00
41.18	143.37	2.00	0.00	1.00	0.00	41.34	147.65	2.00	0.00	1.00	0.00
41.50	155.15	2.00	0.00	1.00	0.00	41.67	151.64	2.00	0.00	1.00	0.00
41.83	149.49	2.00	0.00	1.00	0.00	42.00	146.29	2.00	0.00	1.00	0.00
42.16	141.58	2.00	0.00	1.00	0.00	42.32	136.44	2.00	0.00	1.00	0.00
42.49	129.59	2.00	0.00	1.00	0.00	42.65	123.65	2.00	0.00	1.00	0.00
42.82	121.14	2.00	0.00	1.00	0.00	42.98	124.76	2.00	0.00	1.00	0.00
43.15	138.15	2.00	0.00	1.00	0.00	43.31	150.68	2.00	0.00	1.00	0.00
43.47	161.70	2.00	0.00	1.00	0.00	43.64	162.71	2.00	0.00	1.00	0.00
43.80	163.30	2.00	0.00	1.00	0.00	43.97	170.73	2.00	0.00	1.00	0.00
44.13	182.73	2.00	0.00	1.00	0.00	44.29	191.93	2.00	0.00	1.00	0.00
44.46	203.55	2.00	0.00	1.00	0.00	44.62	214.87	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
44.79	226.24	2.00	0.00	1.00	0.00	44.95	225.45	2.00	0.00	1.00	0.00
45.11	217.68	2.00	0.00	1.00	0.00	45.28	211.77	2.00	0.00	1.00	0.00
45.44	215.81	2.00	0.00	1.00	0.00	45.61	222.30	2.00	0.00	1.00	0.00
45.77	224.29	2.00	0.00	1.00	0.00	45.93	223.21	2.00	0.00	1.00	0.00
46.10	229.24	2.00	0.00	1.00	0.00	46.26	252.83	2.00	0.00	1.00	0.00
46.43	280.48	2.00	0.00	1.00	0.00	46.59	304.10	2.00	0.00	1.00	0.00
46.75	318.09	2.00	0.00	1.00	0.00	46.92	321.08	2.00	0.00	1.00	0.00
47.08	309.85	2.00	0.00	1.00	0.00	47.25	281.57	2.00	0.00	1.00	0.00
47.41	246.18	2.00	0.00	1.00	0.00	47.57	214.25	2.00	0.00	1.00	0.00
47.74	197.71	2.00	0.00	1.00	0.00	47.90	191.55	2.00	0.00	1.00	0.00
48.07	188.29	2.00	0.00	1.00	0.00	48.23	172.39	2.00	0.00	1.00	0.00
48.39	167.74	2.00	0.00	1.00	0.00	48.56	168.25	2.00	0.00	1.00	0.00
48.72	170.85	2.00	0.00	1.00	0.00	48.89	177.35	2.00	0.00	1.00	0.00
49.05	177.25	2.00	0.00	1.00	0.00	49.22	186.63	2.00	0.00	1.00	0.00
49.38	196.02	2.00	0.00	1.00	0.00	49.54	206.86	2.00	0.00	1.00	0.00
49.71	206.24	2.00	0.00	1.00	0.00	49.87	207.05	2.00	0.00	1.00	0.00
50.04	204.01	2.00	0.00	1.00	0.00	50.20	205.58	2.00	0.00	1.00	0.00
50.36	200.77	2.00	0.00	1.00	0.00	50.53	190.98	2.00	0.00	1.00	0.00
50.69	179.95	2.00	0.00	1.00	0.00	50.86	174.59	2.00	0.00	1.00	0.00
51.02	175.70	2.00	0.00	1.00	0.00	51.18	175.89	2.00	0.00	1.00	0.00
51.35	173.08	2.00	0.00	1.00	0.00	51.51	167.95	2.00	0.00	1.00	0.00
51.68	163.43	2.00	0.00	1.00	0.00	51.84	159.36	2.00	0.00	1.00	0.00
52.00	156.44	2.00	0.00	1.00	0.00	52.17	153.08	2.00	0.00	1.00	0.00
52.33	145.80	2.00	0.00	1.00	0.00	52.50	139.21	2.00	0.00	1.00	0.00
52.66	131.22	2.00	0.00	1.00	0.00	52.82	119.37	2.00	0.00	1.00	0.00
52.99	112.69	2.00	0.00	1.00	0.00	53.15	109.67	2.00	0.00	1.00	0.00
53.32	115.61	2.00	0.00	1.00	0.00	53.48	126.80	2.00	0.00	1.00	0.00
53.64	143.46	2.00	0.00	1.00	0.00	53.81	162.71	2.00	0.00	1.00	0.00
53.97	175.92	2.00	0.00	1.00	0.00	54.14	179.62	2.00	0.00	1.00	0.00
54.30	176.03	2.00	0.00	1.00	0.00	54.46	172.74	2.00	0.00	1.00	0.00
54.63	173.68	2.00	0.00	1.00	0.00	54.79	176.00	2.00	0.00	1.00	0.00
54.96	178.56	2.00	0.00	1.00	0.00	55.12	179.08	2.00	0.00	1.00	0.00
55.28	176.62	2.00	0.00	1.00	0.00	55.45	172.74	2.00	0.00	1.00	0.00
55.61	170.44	2.00	0.00	1.00	0.00	55.78	169.23	2.00	0.00	1.00	0.00
55.94	168.78	2.00	0.00	1.00	0.00	56.11	164.97	2.00	0.00	1.00	0.00
56.27	162.30	2.00	0.00	1.00	0.00	56.43	156.95	2.00	0.00	1.00	0.00
56.60	153.15	2.00	0.00	1.00	0.00	56.76	151.96	2.00	0.00	1.00	0.00
56.93	157.91	2.00	0.00	1.00	0.00	57.09	173.12	2.00	0.00	1.00	0.00
57.25	182.84	2.00	0.00	1.00	0.00	57.42	191.23	2.00	0.00	1.00	0.00
57.58	199.91	2.00	0.00	1.00	0.00	57.75	203.93	2.00	0.00	1.00	0.00
57.91	206.83	2.00	0.00	1.00	0.00	58.07	207.42	2.00	0.00	1.00	0.00
58.24	206.67	2.00	0.00	1.00	0.00	58.40	198.94	2.00	0.00	1.00	0.00
58.57	187.77	2.00	0.00	1.00	0.00	58.73	176.68	2.00	0.00	1.00	0.00
58.89	170.97	2.00	0.00	1.00	0.00	59.06	171.15	2.00	0.00	1.00	0.00
59.22	177.01	2.00	0.00	1.00	0.00	59.39	185.00	2.00	0.00	1.00	0.00
59.55	188.52	2.00	0.00	1.00	0.00	59.71	193.38	2.00	0.00	1.00	0.00
59.88	200.32	2.00	0.00	1.00	0.00	60.04	212.37	2.00	0.00	1.00	0.00
60.21	217.88	2.00	0.00	1.00	0.00	60.37	217.37	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
60.53	210.17	2.00	0.00	1.00	0.00	60.70	201.81	2.00	0.00	1.00	0.00
60.86	196.09	2.00	0.00	1.00	0.00	61.03	193.19	2.00	0.00	1.00	0.00
61.19	193.84	2.00	0.00	1.00	0.00	61.35	193.57	2.00	0.00	1.00	0.00
61.52	191.22	2.00	0.00	1.00	0.00	61.68	186.63	2.00	0.00	1.00	0.00
61.85	179.94	2.00	0.00	1.00	0.00	62.01	170.51	2.00	0.00	1.00	0.00
62.17	163.07	2.00	0.00	1.00	0.00	62.34	162.18	2.00	0.00	1.00	0.00
62.50	175.09	2.00	0.00	1.00	0.00	62.67	185.66	2.00	0.00	1.00	0.00
62.83	188.97	2.00	0.00	1.00	0.00	63.00	187.49	2.00	0.00	1.00	0.00
63.16	182.24	2.00	0.00	1.00	0.00	63.32	185.55	2.00	0.00	1.00	0.00
63.49	183.26	2.00	0.00	1.00	0.00	63.65	176.18	2.00	0.00	1.00	0.00
63.82	165.43	2.00	0.00	1.00	0.00	63.98	154.10	2.00	0.00	1.00	0.00
64.14	140.39	2.00	0.00	1.00	0.00	64.31	127.49	2.00	0.00	1.00	0.00
64.47	112.25	2.00	0.00	1.00	0.00	64.64	100.82	2.00	0.00	1.00	0.00
64.80	98.20	2.00	0.00	1.00	0.00	64.96	111.45	2.00	0.00	1.00	0.00
65.13	128.21	2.00	0.00	1.00	0.00	65.29	141.64	2.00	0.00	1.00	0.00
65.46	143.33	2.00	0.00	1.00	0.00	65.62	138.25	2.00	0.00	1.00	0.00
65.78	129.88	2.00	0.00	1.00	0.00	65.95	126.79	2.00	0.00	1.00	0.00
66.11	132.23	2.00	0.00	1.00	0.00	66.28	148.10	2.00	0.00	1.00	0.00
66.44	162.47	2.00	0.00	1.00	0.00	66.60	178.37	2.00	0.00	1.00	0.00
66.77	186.63	2.00	0.00	1.00	0.00	66.93	200.38	2.00	0.00	1.00	0.00
67.10	192.47	2.00	0.00	1.00	0.00	67.26	186.91	2.00	0.00	1.00	0.00
67.42	180.27	2.00	0.00	1.00	0.00	67.59	168.42	2.00	0.00	1.00	0.00
67.75	163.01	2.00	0.00	1.00	0.00	67.92	158.54	2.00	0.00	1.00	0.00
68.08	153.01	2.00	0.00	1.00	0.00	68.24	148.92	2.00	0.00	1.00	0.00
68.41	146.25	2.00	0.00	1.00	0.00	68.57	149.50	2.00	0.00	1.00	0.00
68.74	152.04	2.00	0.00	1.00	0.00	68.90	153.94	2.00	0.00	1.00	0.00
69.07	154.21	2.00	0.00	1.00	0.00	69.23	157.82	2.00	0.00	1.00	0.00
69.39	162.60	2.00	0.00	1.00	0.00	69.56	162.70	2.00	0.00	1.00	0.00
69.72	157.21	2.00	0.00	1.00	0.00	69.89	149.48	2.00	0.00	1.00	0.00
70.05	141.85	2.00	0.00	1.00	0.00	70.21	133.69	2.00	0.00	1.00	0.00
70.38	124.31	2.00	0.00	1.00	0.00	70.54	115.71	2.00	0.00	1.00	0.00
70.71	109.73	2.00	0.00	1.00	0.00	70.87	107.28	2.00	0.00	1.00	0.00
71.03	108.45	2.00	0.00	1.00	0.00	71.20	111.78	2.00	0.00	1.00	0.00
71.36	115.65	2.00	0.00	1.00	0.00	71.53	118.65	2.00	0.00	1.00	0.00
71.69	126.49	2.00	0.00	1.00	0.00	71.85	135.83	2.00	0.00	1.00	0.00
72.02	146.56	2.00	0.00	1.00	0.00	72.18	155.01	2.00	0.00	1.00	0.00
72.35	161.70	2.00	0.00	1.00	0.00	72.51	163.43	2.00	0.00	1.00	0.00
72.67	155.39	2.00	0.00	1.00	0.00	72.84	140.92	2.00	0.00	1.00	0.00
73.00	123.99	2.00	0.00	1.00	0.00	73.17	116.06	2.00	0.00	1.00	0.00
73.33	117.24	2.00	0.00	1.00	0.00	73.49	125.12	2.00	0.00	1.00	0.00
73.66	132.05	2.00	0.00	1.00	0.00	73.82	137.71	2.00	0.00	1.00	0.00
73.99	140.03	2.00	0.00	1.00	0.00	74.15	142.18	2.00	0.00	1.00	0.00
74.31	144.61	2.00	0.00	1.00	0.00	74.48	145.70	2.00	0.00	1.00	0.00
74.64	147.54	2.00	0.00	1.00	0.00	74.81	149.93	2.00	0.00	1.00	0.00
74.97	154.50	2.00	0.00	1.00	0.00	75.13	157.88	2.00	0.00	1.00	0.00
75.30	161.57	2.00	0.00	1.00	0.00	75.46	165.54	2.00	0.00	1.00	0.00
75.63	169.95	2.00	0.00	1.00	0.00	75.79	175.21	2.00	0.00	1.00	0.00
75.96	196.83	2.00	0.00	1.00	0.00	76.12	228.91	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
76.28	224.47	2.00	0.00	1.00	0.00	76.45	183.39	2.00	0.00	1.00	0.00
76.61	141.85	2.00	0.00	1.00	0.00	76.78	142.08	2.00	0.00	1.00	0.00
76.94	151.00	2.00	0.00	1.00	0.00	77.10	167.83	2.00	0.00	1.00	0.00
77.27	222.85	2.00	0.00	1.00	0.00	77.43	288.28	2.00	0.00	1.00	0.00

Total estimated settlement: 0.00

Abbreviations

$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
FS: Factor of safety against liquefaction
e_v (%): Post-liquefaction volumentric strain
DF: e_v depth weighting factor
Settlement: Calculated settlement

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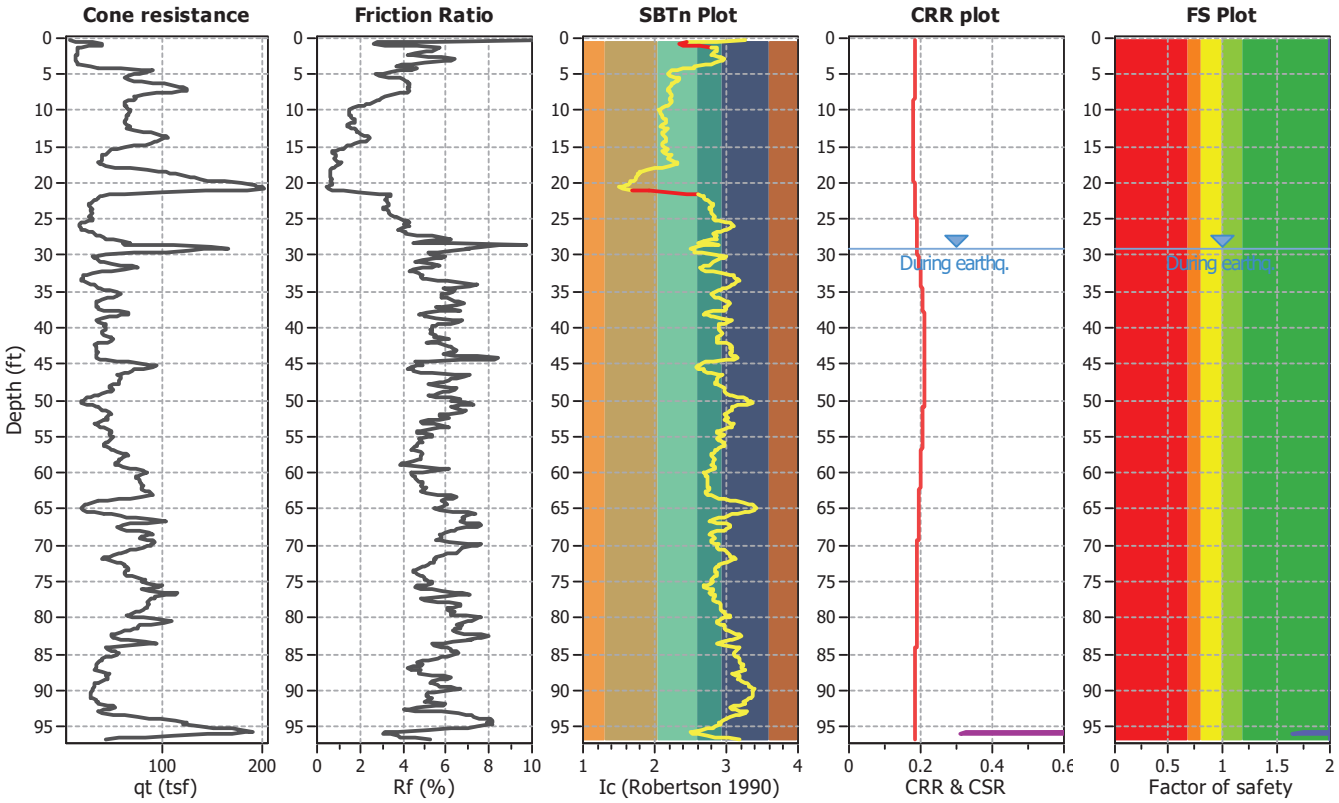
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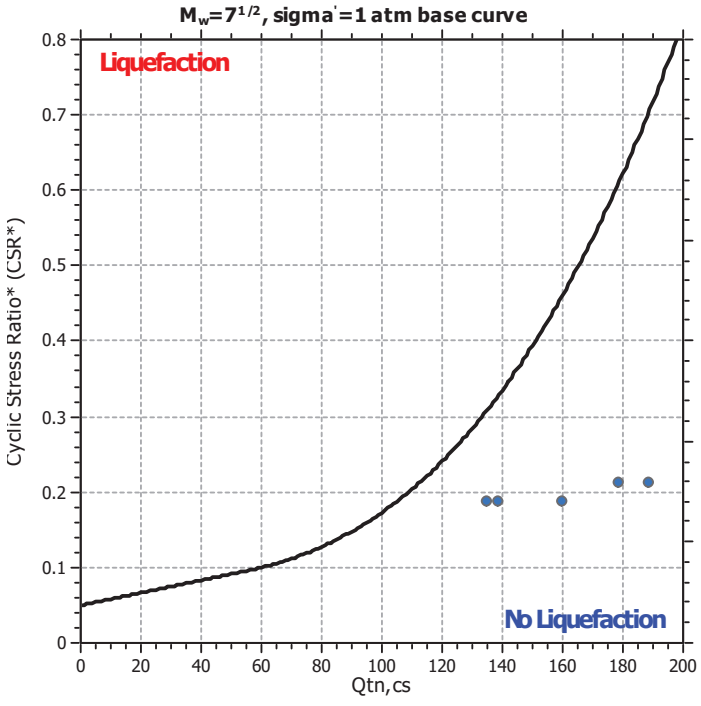
Project title : ST. JOSEPH'S MEDICAL CENTER **Location : Stockton, CA**

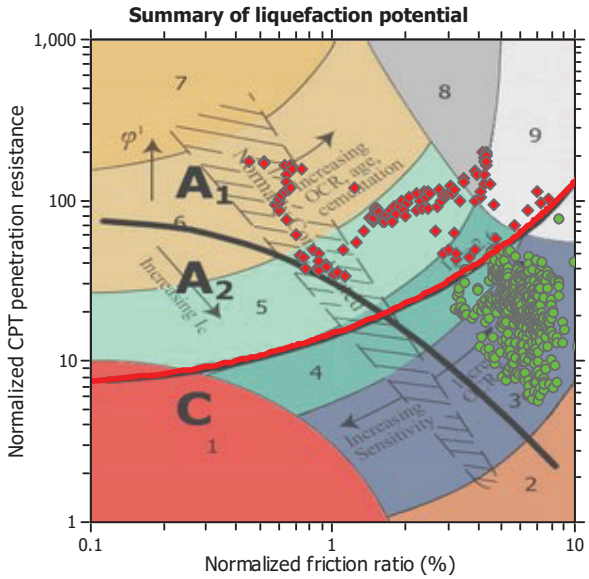
CPT file : CPT-03

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	23.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	29.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	6.50	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.41	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

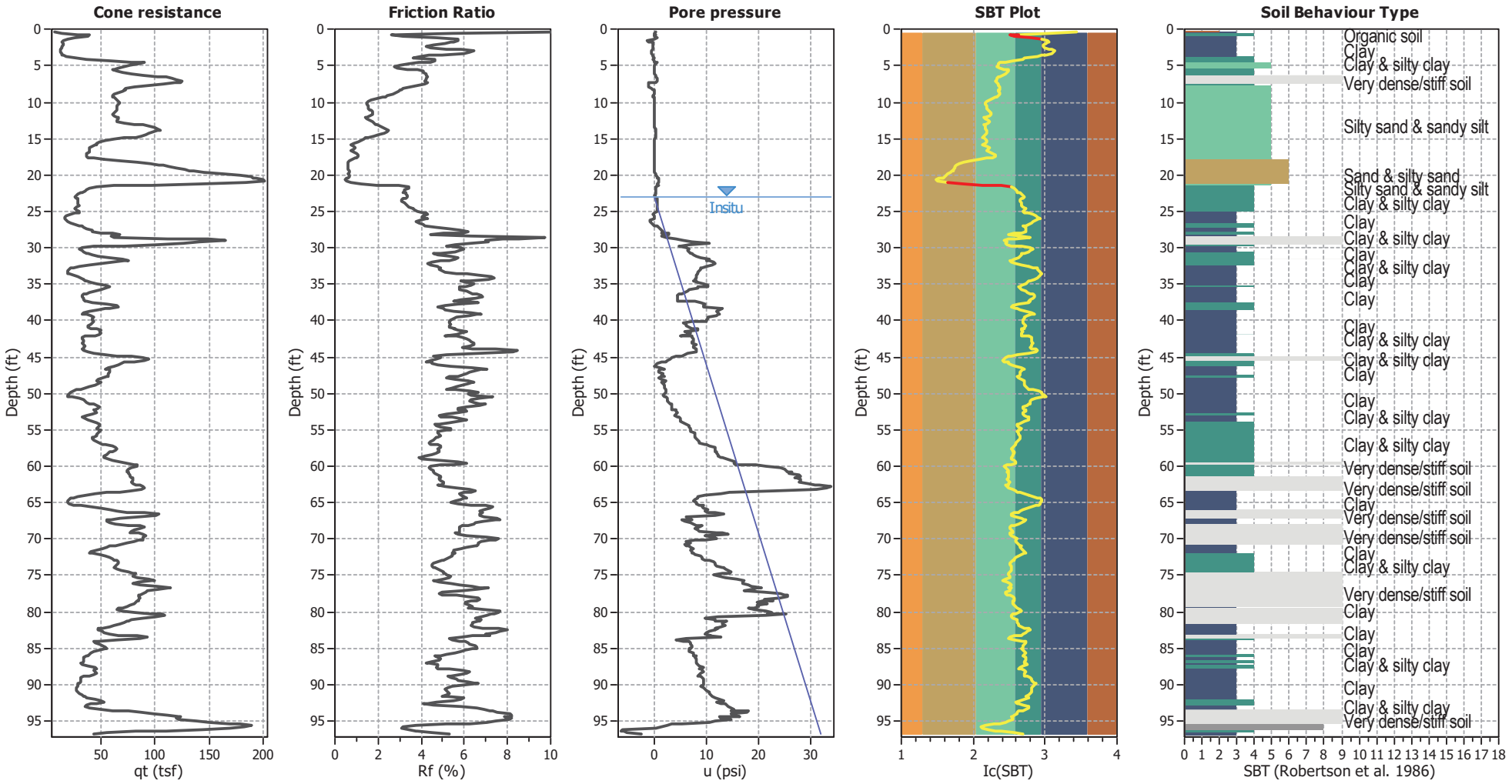






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



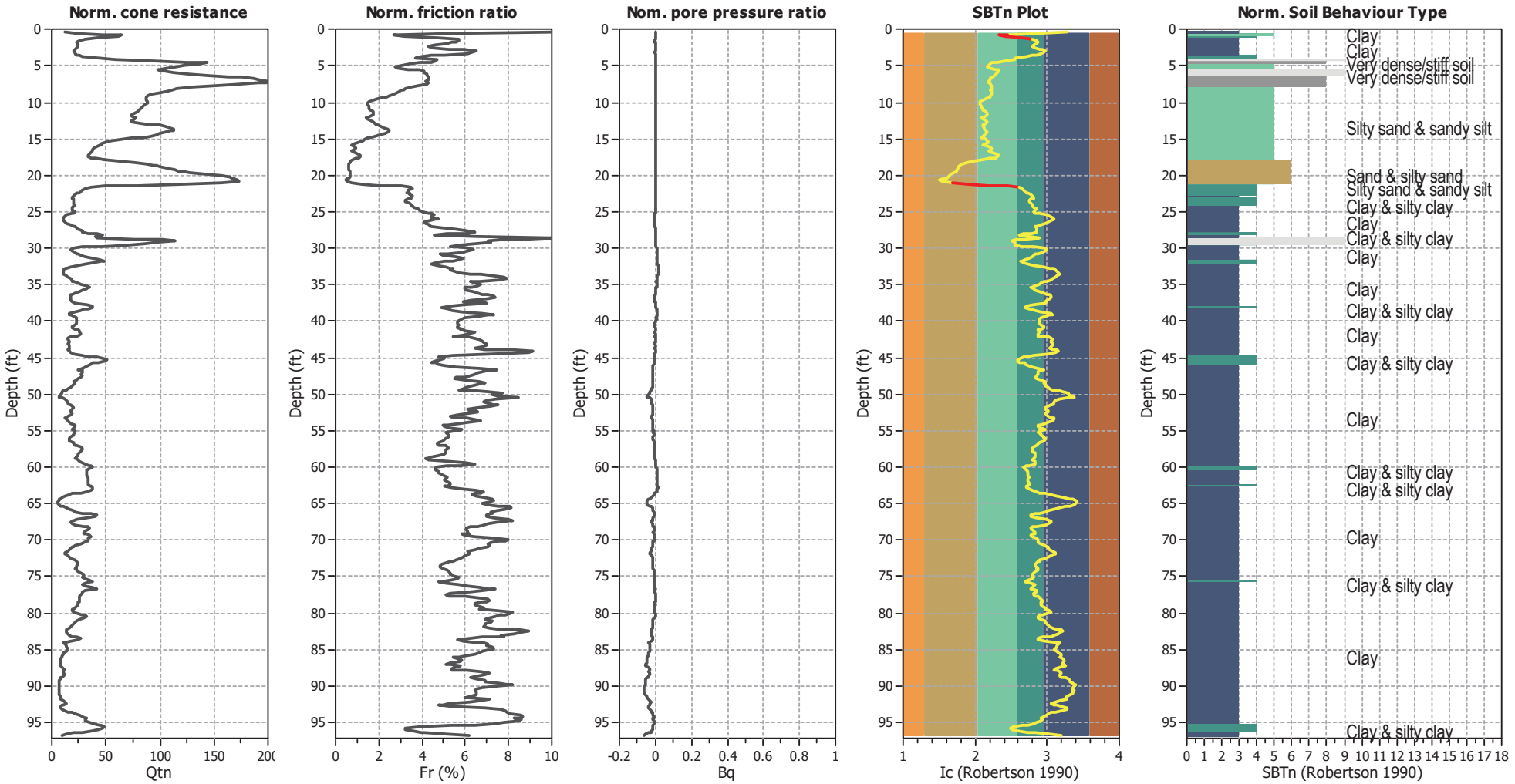
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

CPT basic interpretation plots (normalized)



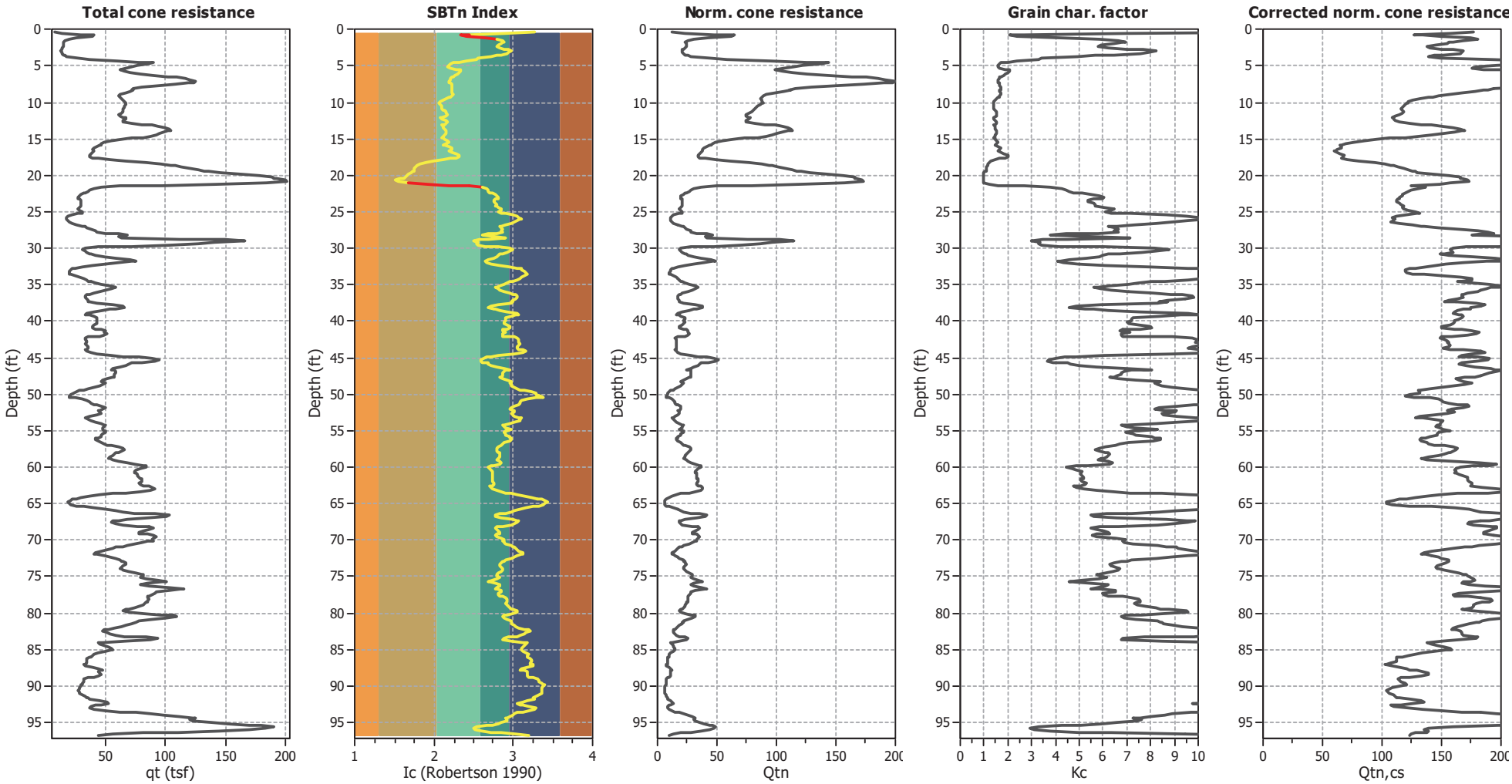
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

SBTn legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

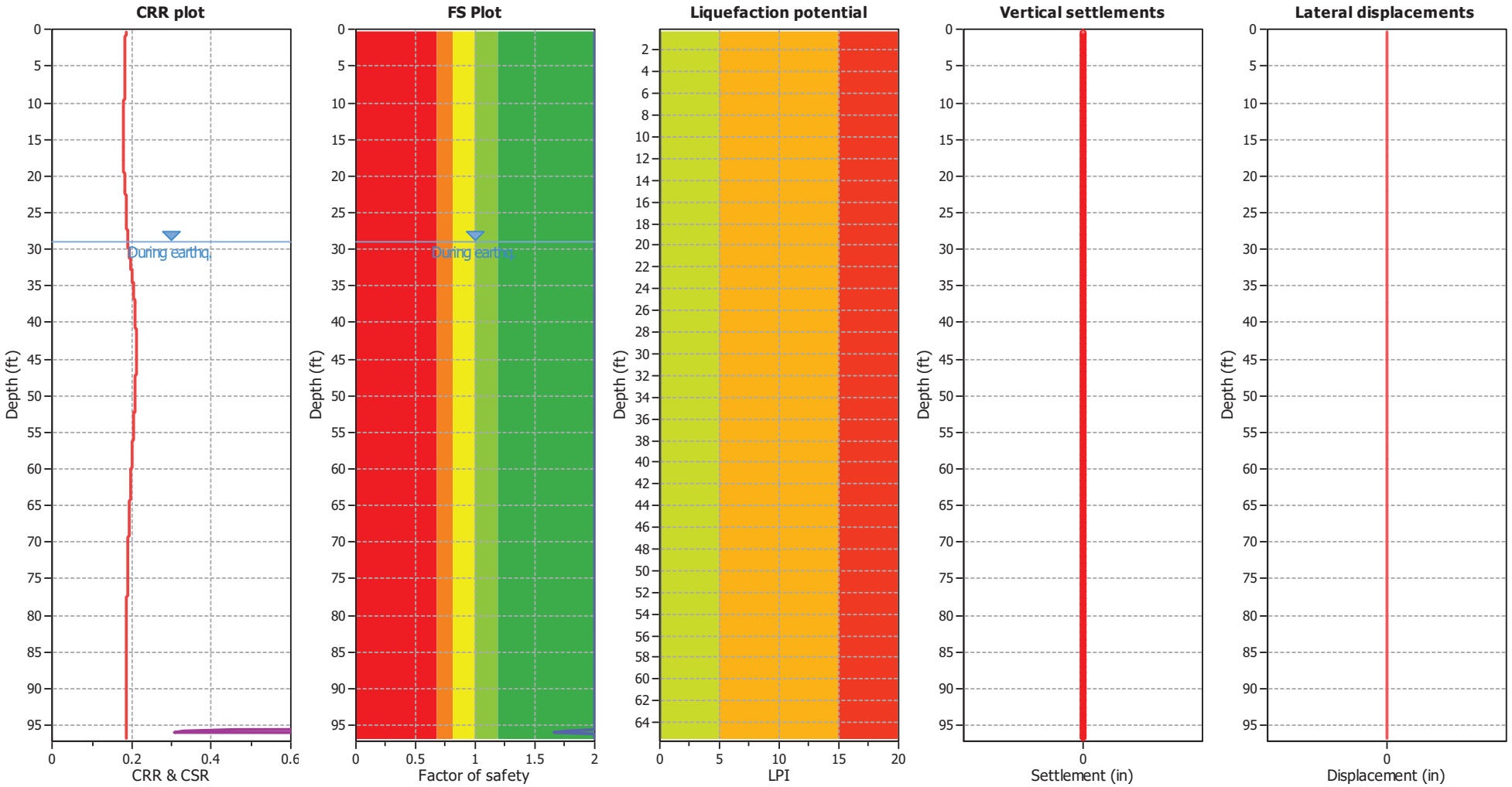
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

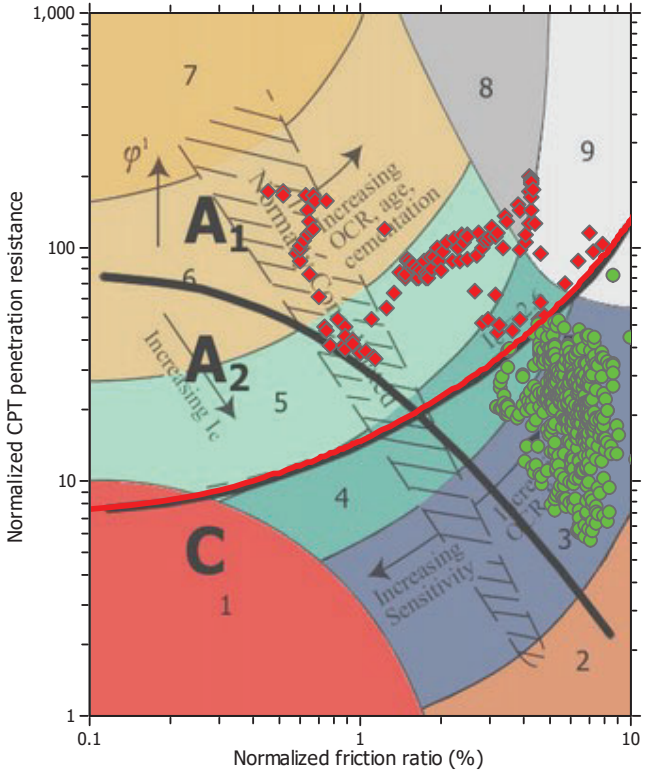
F.S. color scheme

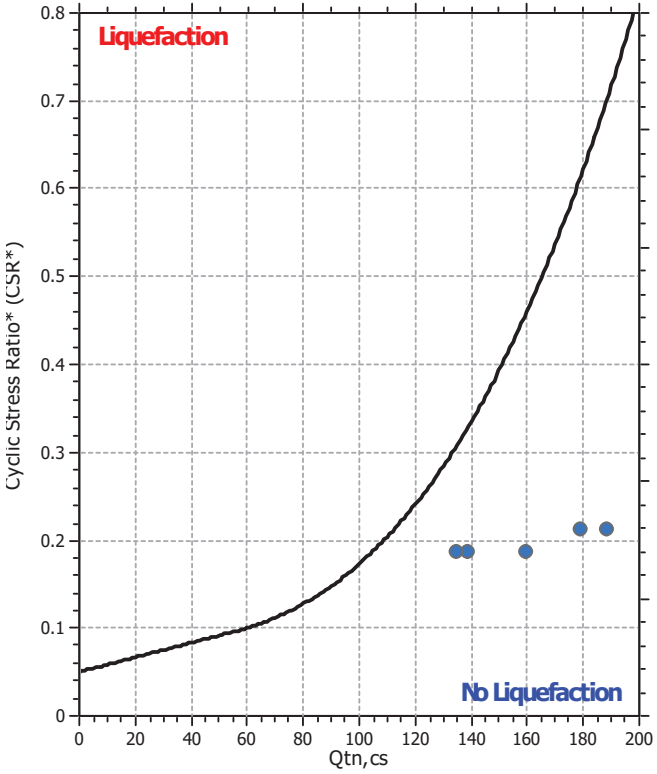
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

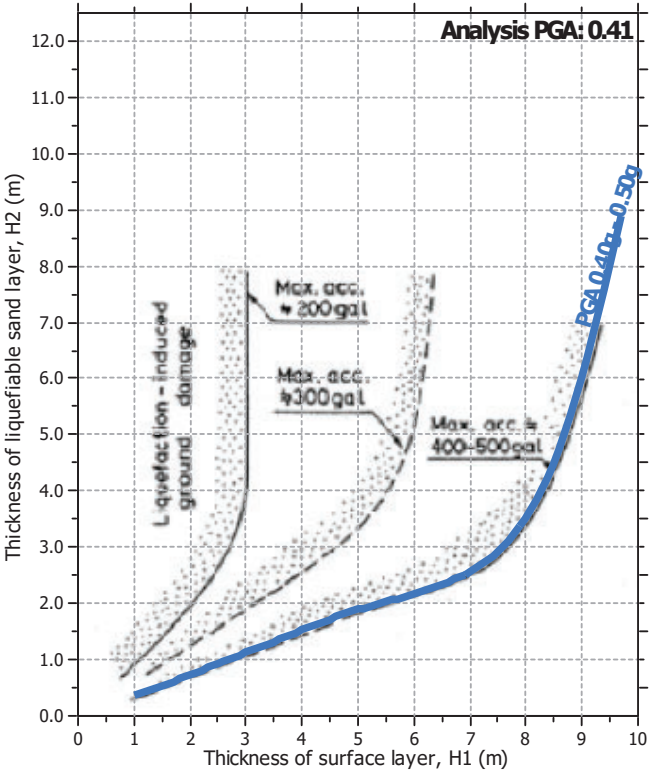
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



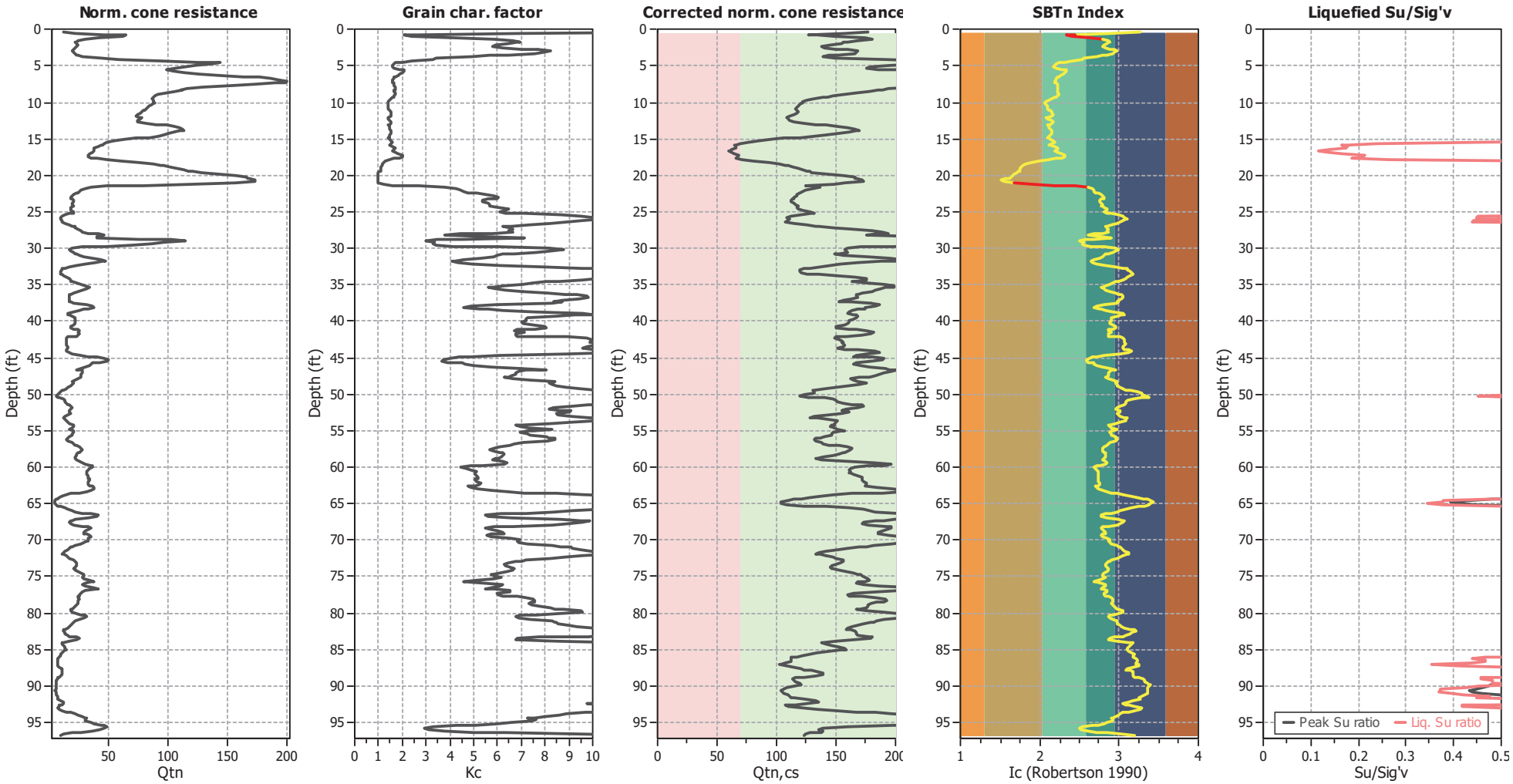




Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

Check for strength loss plots (Robertson (2010))



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	29.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_o applied:	Yes
Earthquake magnitude M_w:	6.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.41	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	23.00 ft	Fill height:	N/A	Limit depth:	N/A

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
0.33	2.00	0.00	0.00	0.16	0.00	0.49	2.00	0.00	0.00	0.16	0.00
0.66	2.00	0.00	0.00	0.17	0.00	0.82	2.00	0.00	0.00	0.16	0.00
0.98	2.00	0.00	0.00	0.16	0.00	1.15	2.00	0.00	0.00	0.17	0.00
1.31	2.00	0.00	0.00	0.16	0.00	1.48	2.00	0.00	0.00	0.17	0.00
1.64	2.00	0.00	0.00	0.16	0.00	1.80	2.00	0.00	0.00	0.16	0.00
1.97	2.00	0.00	0.00	0.17	0.00	2.13	2.00	0.00	0.00	0.16	0.00
2.30	2.00	0.00	0.00	0.17	0.00	2.46	2.00	0.00	0.00	0.16	0.00
2.62	2.00	0.00	0.00	0.16	0.00	2.79	2.00	0.00	0.00	0.17	0.00
2.95	2.00	0.00	0.00	0.16	0.00	3.12	2.00	0.00	0.00	0.17	0.00
3.28	2.00	0.00	0.00	0.16	0.00	3.45	2.00	0.00	0.00	0.17	0.00
3.61	2.00	0.00	0.00	0.16	0.00	3.77	2.00	0.00	0.00	0.16	0.00
3.94	2.00	0.00	0.00	0.17	0.00	4.10	2.00	0.00	0.00	0.16	0.00
4.27	2.00	0.00	0.00	0.17	0.00	4.43	2.00	0.00	0.00	0.16	0.00
4.59	2.00	0.00	0.00	0.16	0.00	4.76	2.00	0.00	0.00	0.17	0.00
4.92	2.00	0.00	0.00	0.16	0.00	5.09	2.00	0.00	0.00	0.17	0.00
5.25	2.00	0.00	0.00	0.16	0.00	5.41	2.00	0.00	0.00	0.16	0.00
5.58	2.00	0.00	0.00	0.17	0.00	5.74	2.00	0.00	0.00	0.16	0.00
5.91	2.00	0.00	0.00	0.17	0.00	6.07	2.00	0.00	0.00	0.16	0.00
6.23	2.00	0.00	0.00	0.16	0.00	6.40	2.00	0.00	0.00	0.17	0.00
6.56	2.00	0.00	0.00	0.16	0.00	6.73	2.00	0.00	0.00	0.17	0.00
6.89	2.00	0.00	0.00	0.16	0.00	7.05	2.00	0.00	0.00	0.16	0.00
7.22	2.00	0.00	0.00	0.17	0.00	7.38	2.00	0.00	0.00	0.16	0.00
7.55	2.00	0.00	0.00	0.17	0.00	7.71	2.00	0.00	0.00	0.16	0.00
7.87	2.00	0.00	0.00	0.16	0.00	8.04	2.00	0.00	0.00	0.17	0.00
8.20	2.00	0.00	0.00	0.16	0.00	8.37	2.00	0.00	0.00	0.17	0.00
8.53	2.00	0.00	0.00	0.16	0.00	8.69	2.00	0.00	0.00	0.16	0.00
8.86	2.00	0.00	0.00	0.17	0.00	9.02	2.00	0.00	0.00	0.16	0.00
9.19	2.00	0.00	0.00	0.17	0.00	9.35	2.00	0.00	0.00	0.16	0.00
9.51	2.00	0.00	0.00	0.16	0.00	9.68	2.00	0.00	0.00	0.17	0.00
9.84	2.00	0.00	0.00	0.16	0.00	10.01	2.00	0.00	0.00	0.17	0.00
10.17	2.00	0.00	0.00	0.16	0.00	10.34	2.00	0.00	0.00	0.17	0.00
10.50	2.00	0.00	0.00	0.16	0.00	10.66	2.00	0.00	0.00	0.16	0.00
10.83	2.00	0.00	0.00	0.17	0.00	10.99	2.00	0.00	0.00	0.16	0.00
11.16	2.00	0.00	0.00	0.17	0.00	11.32	2.00	0.00	0.00	0.16	0.00
11.48	2.00	0.00	0.00	0.16	0.00	11.65	2.00	0.00	0.00	0.17	0.00
11.81	2.00	0.00	0.00	0.16	0.00	11.98	2.00	0.00	0.00	0.17	0.00
12.14	2.00	0.00	0.00	0.16	0.00	12.30	2.00	0.00	0.00	0.16	0.00
12.47	2.00	0.00	0.00	0.17	0.00	12.63	2.00	0.00	0.00	0.16	0.00
12.80	2.00	0.00	0.00	0.17	0.00	12.96	2.00	0.00	0.00	0.16	0.00
13.12	2.00	0.00	0.00	0.16	0.00	13.29	2.00	0.00	0.00	0.17	0.00
13.45	2.00	0.00	0.00	0.16	0.00	13.62	2.00	0.00	0.00	0.17	0.00
13.78	2.00	0.00	0.00	0.16	0.00	13.94	2.00	0.00	0.00	0.16	0.00
14.11	2.00	0.00	0.00	0.17	0.00	14.27	2.00	0.00	0.00	0.16	0.00
14.44	2.00	0.00	0.00	0.17	0.00	14.60	2.00	0.00	0.00	0.16	0.00
14.76	2.00	0.00	0.00	0.16	0.00	14.93	2.00	0.00	0.00	0.17	0.00
15.09	2.00	0.00	0.00	0.16	0.00	15.26	2.00	0.00	0.00	0.17	0.00
15.42	2.00	0.00	0.00	0.16	0.00	15.58	2.00	0.00	0.00	0.16	0.00
15.75	2.00	0.00	0.00	0.17	0.00	15.91	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
16.08	2.00	0.00	0.00	0.17	0.00	16.24	2.00	0.00	0.00	0.16	0.00
16.40	2.00	0.00	0.00	0.16	0.00	16.57	2.00	0.00	0.00	0.17	0.00
16.73	2.00	0.00	0.00	0.16	0.00	16.90	2.00	0.00	0.00	0.17	0.00
17.06	2.00	0.00	0.00	0.16	0.00	17.23	2.00	0.00	0.00	0.17	0.00
17.39	2.00	0.00	0.00	0.16	0.00	17.55	2.00	0.00	0.00	0.16	0.00
17.72	2.00	0.00	0.00	0.17	0.00	17.88	2.00	0.00	0.00	0.16	0.00
18.05	2.00	0.00	0.00	0.17	0.00	18.21	2.00	0.00	0.00	0.16	0.00
18.37	2.00	0.00	0.00	0.16	0.00	18.54	2.00	0.00	0.00	0.17	0.00
18.70	2.00	0.00	0.00	0.16	0.00	18.87	2.00	0.00	0.00	0.17	0.00
19.03	2.00	0.00	0.00	0.16	0.00	19.19	2.00	0.00	0.00	0.16	0.00
19.36	2.00	0.00	0.00	0.17	0.00	19.52	2.00	0.00	0.00	0.16	0.00
19.69	2.00	0.00	0.00	0.17	0.00	19.85	2.00	0.00	0.00	0.16	0.00
20.01	2.00	0.00	0.00	0.16	0.00	20.18	2.00	0.00	0.00	0.17	0.00
20.34	2.00	0.00	0.00	0.16	0.00	20.51	2.00	0.00	0.00	0.17	0.00
20.67	2.00	0.00	0.00	0.16	0.00	20.83	2.00	0.00	0.00	0.16	0.00
21.00	2.00	0.00	0.00	0.17	0.00	21.16	2.00	0.00	0.00	0.16	0.00
21.33	2.00	0.00	0.00	0.17	0.00	21.49	2.00	0.00	0.00	0.16	0.00
21.65	2.00	0.00	0.00	0.16	0.00	21.82	2.00	0.00	0.00	0.17	0.00
21.98	2.00	0.00	0.00	0.16	0.00	22.15	2.00	0.00	0.00	0.17	0.00
22.31	2.00	0.00	0.00	0.16	0.00	22.47	2.00	0.00	0.00	0.16	0.00
22.64	2.00	0.00	0.00	0.17	0.00	22.80	2.00	0.00	0.00	0.16	0.00
22.97	2.00	0.00	0.00	0.17	0.00	23.13	2.00	0.00	0.00	0.16	0.00
23.30	2.00	0.00	0.00	0.17	0.00	23.46	2.00	0.00	0.00	0.16	0.00
23.62	2.00	0.00	0.00	0.16	0.00	23.79	2.00	0.00	0.00	0.17	0.00
23.95	2.00	0.00	0.00	0.16	0.00	24.12	2.00	0.00	0.00	0.17	0.00
24.28	2.00	0.00	0.00	0.16	0.00	24.44	2.00	0.00	0.00	0.16	0.00
24.61	2.00	0.00	0.00	0.17	0.00	24.77	2.00	0.00	0.00	0.16	0.00
24.94	2.00	0.00	0.00	0.17	0.00	25.10	2.00	0.00	0.00	0.16	0.00
25.26	2.00	0.00	0.00	0.16	0.00	25.43	2.00	0.00	0.00	0.17	0.00
25.59	2.00	0.00	0.00	0.16	0.00	25.76	2.00	0.00	0.00	0.17	0.00
25.92	2.00	0.00	0.00	0.16	0.00	26.08	2.00	0.00	0.00	0.16	0.00
26.25	2.00	0.00	0.00	0.17	0.00	26.41	2.00	0.00	0.00	0.16	0.00
26.58	2.00	0.00	0.00	0.17	0.00	26.74	2.00	0.00	0.00	0.16	0.00
26.90	2.00	0.00	0.00	0.16	0.00	27.07	2.00	0.00	0.00	0.17	0.00
27.23	2.00	0.00	0.00	0.16	0.00	27.40	2.00	0.00	0.00	0.17	0.00
27.56	2.00	0.00	0.00	0.16	0.00	27.72	2.00	0.00	0.00	0.16	0.00
27.89	2.00	0.00	0.00	0.17	0.00	28.05	2.00	0.00	0.00	0.16	0.00
28.22	2.00	0.00	0.00	0.17	0.00	28.38	2.00	0.00	0.00	0.16	0.00
28.54	2.00	0.00	0.00	0.16	0.00	28.71	2.00	0.00	0.00	0.17	0.00
28.87	2.00	0.00	0.00	0.16	0.00	29.04	2.00	0.00	0.00	0.17	0.00
29.20	2.00	0.00	0.00	0.16	0.00	29.36	2.00	0.00	0.00	0.16	0.00
29.53	2.00	0.00	0.00	0.17	0.00	29.69	2.00	0.00	0.00	0.16	0.00
29.86	2.00	0.00	0.00	0.17	0.00	30.02	2.00	0.00	0.00	0.16	0.00
30.19	2.00	0.00	0.00	0.17	0.00	30.35	2.00	0.00	0.00	0.16	0.00
30.51	2.00	0.00	0.00	0.16	0.00	30.68	2.00	0.00	0.00	0.17	0.00
30.84	2.00	0.00	0.00	0.16	0.00	31.01	2.00	0.00	0.00	0.17	0.00
31.17	2.00	0.00	0.00	0.16	0.00	31.33	2.00	0.00	0.00	0.16	0.00
31.50	2.00	0.00	0.00	0.17	0.00	31.66	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
31.83	2.00	0.00	0.00	0.17	0.00	31.99	2.00	0.00	0.00	0.16	0.00
32.15	2.00	0.00	0.00	0.16	0.00	32.32	2.00	0.00	0.00	0.17	0.00
32.48	2.00	0.00	0.00	0.16	0.00	32.65	2.00	0.00	0.00	0.17	0.00
32.81	2.00	0.00	0.00	0.16	0.00	32.97	2.00	0.00	0.00	0.16	0.00
33.14	2.00	0.00	0.00	0.17	0.00	33.30	2.00	0.00	0.00	0.16	0.00
33.47	2.00	0.00	0.00	0.17	0.00	33.63	2.00	0.00	0.00	0.16	0.00
33.79	2.00	0.00	0.00	0.16	0.00	33.96	2.00	0.00	0.00	0.17	0.00
34.12	2.00	0.00	0.00	0.16	0.00	34.29	2.00	0.00	0.00	0.17	0.00
34.45	2.00	0.00	0.00	0.16	0.00	34.61	2.00	0.00	0.00	0.16	0.00
34.78	2.00	0.00	0.00	0.17	0.00	34.94	2.00	0.00	0.00	0.16	0.00
35.11	2.00	0.00	0.00	0.17	0.00	35.27	2.00	0.00	0.00	0.16	0.00
35.43	2.00	0.00	0.00	0.16	0.00	35.60	2.00	0.00	0.00	0.17	0.00
35.76	2.00	0.00	0.00	0.16	0.00	35.93	2.00	0.00	0.00	0.17	0.00
36.09	2.00	0.00	0.00	0.16	0.00	36.26	2.00	0.00	0.00	0.17	0.00
36.42	2.00	0.00	0.00	0.16	0.00	36.58	2.00	0.00	0.00	0.16	0.00
36.75	2.00	0.00	0.00	0.17	0.00	36.91	2.00	0.00	0.00	0.16	0.00
37.08	2.00	0.00	0.00	0.17	0.00	37.24	2.00	0.00	0.00	0.16	0.00
37.40	2.00	0.00	0.00	0.16	0.00	37.57	2.00	0.00	0.00	0.17	0.00
37.73	2.00	0.00	0.00	0.16	0.00	37.90	2.00	0.00	0.00	0.17	0.00
38.06	2.00	0.00	0.00	0.16	0.00	38.22	2.00	0.00	0.00	0.16	0.00
38.39	2.00	0.00	0.00	0.17	0.00	38.55	2.00	0.00	0.00	0.16	0.00
38.72	2.00	0.00	0.00	0.17	0.00	38.88	2.00	0.00	0.00	0.16	0.00
39.04	2.00	0.00	0.00	0.16	0.00	39.21	2.00	0.00	0.00	0.17	0.00
39.37	2.00	0.00	0.00	0.16	0.00	39.54	2.00	0.00	0.00	0.17	0.00
39.70	2.00	0.00	0.00	0.16	0.00	39.86	2.00	0.00	0.00	0.16	0.00
40.03	2.00	0.00	0.00	0.17	0.00	40.19	2.00	0.00	0.00	0.16	0.00
40.36	2.00	0.00	0.00	0.17	0.00	40.52	2.00	0.00	0.00	0.16	0.00
40.68	2.00	0.00	0.00	0.16	0.00	40.85	2.00	0.00	0.00	0.17	0.00
41.01	2.00	0.00	0.00	0.16	0.00	41.18	2.00	0.00	0.00	0.17	0.00
41.34	2.00	0.00	0.00	0.16	0.00	41.50	2.00	0.00	0.00	0.16	0.00
41.67	2.00	0.00	0.00	0.17	0.00	41.83	2.00	0.00	0.00	0.16	0.00
42.00	2.00	0.00	0.00	0.17	0.00	42.16	2.00	0.00	0.00	0.16	0.00
42.32	2.00	0.00	0.00	0.16	0.00	42.49	2.00	0.00	0.00	0.17	0.00
42.65	2.00	0.00	0.00	0.16	0.00	42.82	2.00	0.00	0.00	0.17	0.00
42.98	2.00	0.00	0.00	0.16	0.00	43.15	2.00	0.00	0.00	0.17	0.00
43.31	2.00	0.00	0.00	0.16	0.00	43.47	2.00	0.00	0.00	0.16	0.00
43.64	2.00	0.00	0.00	0.17	0.00	43.80	2.00	0.00	0.00	0.16	0.00
43.97	2.00	0.00	0.00	0.17	0.00	44.13	2.00	0.00	0.00	0.16	0.00
44.29	2.00	0.00	0.00	0.16	0.00	44.46	2.00	0.00	0.00	0.17	0.00
44.62	2.00	0.00	0.00	0.16	0.00	44.79	2.00	0.00	0.00	0.17	0.00
44.95	2.00	0.00	0.00	0.16	0.00	45.11	2.00	0.00	0.00	0.16	0.00
45.28	2.00	0.00	0.00	0.17	0.00	45.44	2.00	0.00	0.00	0.16	0.00
45.61	2.00	0.00	0.00	0.17	0.00	45.77	2.00	0.00	0.00	0.16	0.00
45.93	2.00	0.00	0.00	0.16	0.00	46.10	2.00	0.00	0.00	0.17	0.00
46.26	2.00	0.00	0.00	0.16	0.00	46.43	2.00	0.00	0.00	0.17	0.00
46.59	2.00	0.00	0.00	0.16	0.00	46.75	2.00	0.00	0.00	0.16	0.00
46.92	2.00	0.00	0.00	0.17	0.00	47.08	2.00	0.00	0.00	0.16	0.00
47.25	2.00	0.00	0.00	0.17	0.00	47.41	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
47.57	2.00	0.00	0.00	0.16	0.00	47.74	2.00	0.00	0.00	0.17	0.00
47.90	2.00	0.00	0.00	0.16	0.00	48.07	2.00	0.00	0.00	0.17	0.00
48.23	2.00	0.00	0.00	0.16	0.00	48.39	2.00	0.00	0.00	0.16	0.00
48.56	2.00	0.00	0.00	0.17	0.00	48.72	2.00	0.00	0.00	0.16	0.00
48.89	2.00	0.00	0.00	0.17	0.00	49.05	2.00	0.00	0.00	0.16	0.00
49.22	2.00	0.00	0.00	0.17	0.00	49.38	2.00	0.00	0.00	0.16	0.00
49.54	2.00	0.00	0.00	0.16	0.00	49.71	2.00	0.00	0.00	0.17	0.00
49.87	2.00	0.00	0.00	0.16	0.00	50.04	2.00	0.00	0.00	0.17	0.00
50.20	2.00	0.00	0.00	0.16	0.00	50.36	2.00	0.00	0.00	0.16	0.00
50.53	2.00	0.00	0.00	0.17	0.00	50.69	2.00	0.00	0.00	0.16	0.00
50.86	2.00	0.00	0.00	0.17	0.00	51.02	2.00	0.00	0.00	0.16	0.00
51.18	2.00	0.00	0.00	0.16	0.00	51.35	2.00	0.00	0.00	0.17	0.00
51.51	2.00	0.00	0.00	0.16	0.00	51.68	2.00	0.00	0.00	0.17	0.00
51.84	2.00	0.00	0.00	0.16	0.00	52.00	2.00	0.00	0.00	0.16	0.00
52.17	2.00	0.00	0.00	0.17	0.00	52.33	2.00	0.00	0.00	0.16	0.00
52.50	2.00	0.00	0.00	0.17	0.00	52.66	2.00	0.00	0.00	0.16	0.00
52.82	2.00	0.00	0.00	0.16	0.00	52.99	2.00	0.00	0.00	0.17	0.00
53.15	2.00	0.00	0.00	0.16	0.00	53.32	2.00	0.00	0.00	0.17	0.00
53.48	2.00	0.00	0.00	0.16	0.00	53.64	2.00	0.00	0.00	0.16	0.00
53.81	2.00	0.00	0.00	0.17	0.00	53.97	2.00	0.00	0.00	0.16	0.00
54.14	2.00	0.00	0.00	0.17	0.00	54.30	2.00	0.00	0.00	0.16	0.00
54.46	2.00	0.00	0.00	0.16	0.00	54.63	2.00	0.00	0.00	0.17	0.00
54.79	2.00	0.00	0.00	0.16	0.00	54.96	2.00	0.00	0.00	0.17	0.00
55.12	2.00	0.00	0.00	0.16	0.00	55.28	2.00	0.00	0.00	0.16	0.00
55.45	2.00	0.00	0.00	0.17	0.00	55.61	2.00	0.00	0.00	0.16	0.00
55.78	2.00	0.00	0.00	0.17	0.00	55.94	2.00	0.00	0.00	0.16	0.00
56.11	2.00	0.00	0.00	0.17	0.00	56.27	2.00	0.00	0.00	0.16	0.00
56.43	2.00	0.00	0.00	0.16	0.00	56.60	2.00	0.00	0.00	0.17	0.00
56.76	2.00	0.00	0.00	0.16	0.00	56.93	2.00	0.00	0.00	0.17	0.00
57.09	2.00	0.00	0.00	0.16	0.00	57.25	2.00	0.00	0.00	0.16	0.00
57.42	2.00	0.00	0.00	0.17	0.00	57.58	2.00	0.00	0.00	0.16	0.00
57.75	2.00	0.00	0.00	0.17	0.00	57.91	2.00	0.00	0.00	0.16	0.00
58.07	2.00	0.00	0.00	0.16	0.00	58.24	2.00	0.00	0.00	0.17	0.00
58.40	2.00	0.00	0.00	0.16	0.00	58.57	2.00	0.00	0.00	0.17	0.00
58.73	2.00	0.00	0.00	0.16	0.00	58.89	2.00	0.00	0.00	0.16	0.00
59.06	2.00	0.00	0.00	0.17	0.00	59.22	2.00	0.00	0.00	0.16	0.00
59.39	2.00	0.00	0.00	0.17	0.00	59.55	2.00	0.00	0.00	0.16	0.00
59.71	2.00	0.00	0.00	0.16	0.00	59.88	2.00	0.00	0.00	0.17	0.00
60.04	2.00	0.00	0.00	0.16	0.00	60.21	2.00	0.00	0.00	0.17	0.00
60.37	2.00	0.00	0.00	0.16	0.00	60.53	2.00	0.00	0.00	0.16	0.00
60.70	2.00	0.00	0.00	0.17	0.00	60.86	2.00	0.00	0.00	0.16	0.00
61.03	2.00	0.00	0.00	0.17	0.00	61.19	2.00	0.00	0.00	0.16	0.00
61.35	2.00	0.00	0.00	0.16	0.00	61.52	2.00	0.00	0.00	0.17	0.00
61.68	2.00	0.00	0.00	0.16	0.00	61.85	2.00	0.00	0.00	0.17	0.00
62.01	2.00	0.00	0.00	0.16	0.00	62.17	2.00	0.00	0.00	0.16	0.00
62.34	2.00	0.00	0.00	0.17	0.00	62.50	2.00	0.00	0.00	0.16	0.00
62.67	2.00	0.00	0.00	0.17	0.00	62.83	2.00	0.00	0.00	0.16	0.00
63.00	2.00	0.00	0.00	0.17	0.00	63.16	2.00	0.00	0.00	0.16	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
63.32	2.00	0.00	0.00	0.16	0.00	63.49	2.00	0.00	0.00	0.17	0.00
63.65	2.00	0.00	0.00	0.16	0.00	63.82	2.00	0.00	0.00	0.17	0.00
63.98	2.00	0.00	0.00	0.16	0.00	64.14	2.00	0.00	0.00	0.16	0.00
64.31	2.00	0.00	0.00	0.17	0.00	64.47	2.00	0.00	0.00	0.16	0.00
64.64	2.00	0.00	0.00	0.17	0.00	64.80	2.00	0.00	0.00	0.16	0.00
64.96	2.00	0.00	0.00	0.16	0.00	65.13	2.00	0.00	0.00	0.17	0.00
65.29	2.00	0.00	0.00	0.16	0.00	65.46	2.00	0.00	0.00	0.17	0.00
65.62	2.00	0.00	0.00	0.16	0.00	65.78	2.00	0.00	0.00	0.16	0.00
65.95	2.00	0.00	0.00	0.17	0.00	66.11	2.00	0.00	0.00	0.16	0.00
66.28	2.00	0.00	0.00	0.17	0.00	66.44	2.00	0.00	0.00	0.16	0.00
66.60	2.00	0.00	0.00	0.16	0.00	66.77	2.00	0.00	0.00	0.17	0.00
66.93	2.00	0.00	0.00	0.16	0.00	67.10	2.00	0.00	0.00	0.17	0.00
67.26	2.00	0.00	0.00	0.16	0.00	67.42	2.00	0.00	0.00	0.16	0.00
67.59	2.00	0.00	0.00	0.17	0.00	67.75	2.00	0.00	0.00	0.16	0.00
67.92	2.00	0.00	0.00	0.17	0.00	68.08	2.00	0.00	0.00	0.16	0.00
68.24	2.00	0.00	0.00	0.16	0.00	68.41	2.00	0.00	0.00	0.17	0.00
68.57	2.00	0.00	0.00	0.16	0.00	68.74	2.00	0.00	0.00	0.17	0.00
68.90	2.00	0.00	0.00	0.16	0.00	69.07	2.00	0.00	0.00	0.17	0.00
69.23	2.00	0.00	0.00	0.16	0.00	69.39	2.00	0.00	0.00	0.16	0.00
69.56	2.00	0.00	0.00	0.17	0.00	69.72	2.00	0.00	0.00	0.16	0.00
69.89	2.00	0.00	0.00	0.17	0.00	70.05	2.00	0.00	0.00	0.16	0.00
70.21	2.00	0.00	0.00	0.16	0.00	70.38	2.00	0.00	0.00	0.17	0.00
70.54	2.00	0.00	0.00	0.16	0.00	70.71	2.00	0.00	0.00	0.17	0.00
70.87	2.00	0.00	0.00	0.16	0.00	71.03	2.00	0.00	0.00	0.16	0.00
71.20	2.00	0.00	0.00	0.17	0.00	71.36	2.00	0.00	0.00	0.16	0.00
71.53	2.00	0.00	0.00	0.17	0.00	71.69	2.00	0.00	0.00	0.16	0.00
71.85	2.00	0.00	0.00	0.16	0.00	72.02	2.00	0.00	0.00	0.17	0.00
72.18	2.00	0.00	0.00	0.16	0.00	72.35	2.00	0.00	0.00	0.17	0.00
72.51	2.00	0.00	0.00	0.16	0.00	72.67	2.00	0.00	0.00	0.16	0.00
72.84	2.00	0.00	0.00	0.17	0.00	73.00	2.00	0.00	0.00	0.16	0.00
73.17	2.00	0.00	0.00	0.17	0.00	73.33	2.00	0.00	0.00	0.16	0.00
73.49	2.00	0.00	0.00	0.16	0.00	73.66	2.00	0.00	0.00	0.17	0.00
73.82	2.00	0.00	0.00	0.16	0.00	73.99	2.00	0.00	0.00	0.17	0.00
74.15	2.00	0.00	0.00	0.16	0.00	74.31	2.00	0.00	0.00	0.16	0.00
74.48	2.00	0.00	0.00	0.17	0.00	74.64	2.00	0.00	0.00	0.16	0.00
74.81	2.00	0.00	0.00	0.17	0.00	74.97	2.00	0.00	0.00	0.16	0.00
75.13	2.00	0.00	0.00	0.16	0.00	75.30	2.00	0.00	0.00	0.17	0.00
75.46	2.00	0.00	0.00	0.16	0.00	75.63	2.00	0.00	0.00	0.17	0.00
75.79	2.00	0.00	0.00	0.16	0.00	75.96	2.00	0.00	0.00	0.17	0.00
76.12	2.00	0.00	0.00	0.16	0.00	76.28	2.00	0.00	0.00	0.16	0.00
76.45	2.00	0.00	0.00	0.17	0.00	76.61	2.00	0.00	0.00	0.16	0.00
76.78	2.00	0.00	0.00	0.17	0.00	76.94	2.00	0.00	0.00	0.16	0.00
77.10	2.00	0.00	0.00	0.16	0.00	77.27	2.00	0.00	0.00	0.17	0.00
77.43	2.00	0.00	0.00	0.16	0.00	77.60	2.00	0.00	0.00	0.17	0.00
77.76	2.00	0.00	0.00	0.16	0.00	77.92	2.00	0.00	0.00	0.16	0.00
78.09	2.00	0.00	0.00	0.17	0.00	78.25	2.00	0.00	0.00	0.16	0.00
78.42	2.00	0.00	0.00	0.17	0.00	78.58	2.00	0.00	0.00	0.16	0.00
78.74	2.00	0.00	0.00	0.16	0.00	78.91	2.00	0.00	0.00	0.17	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
79.07	2.00	0.00	0.00	0.16	0.00	79.24	2.00	0.00	0.00	0.17	0.00
79.40	2.00	0.00	0.00	0.16	0.00	79.56	2.00	0.00	0.00	0.16	0.00
79.73	2.00	0.00	0.00	0.17	0.00	79.89	2.00	0.00	0.00	0.16	0.00
80.06	2.00	0.00	0.00	0.17	0.00	80.22	2.00	0.00	0.00	0.16	0.00
80.38	2.00	0.00	0.00	0.16	0.00	80.55	2.00	0.00	0.00	0.17	0.00
80.71	2.00	0.00	0.00	0.16	0.00	80.88	2.00	0.00	0.00	0.17	0.00
81.04	2.00	0.00	0.00	0.16	0.00	81.20	2.00	0.00	0.00	0.16	0.00
81.37	2.00	0.00	0.00	0.17	0.00	81.53	2.00	0.00	0.00	0.16	0.00
81.70	2.00	0.00	0.00	0.17	0.00	81.86	2.00	0.00	0.00	0.16	0.00
82.02	2.00	0.00	0.00	0.16	0.00	82.19	2.00	0.00	0.00	0.17	0.00
82.35	2.00	0.00	0.00	0.16	0.00	82.52	2.00	0.00	0.00	0.17	0.00
82.68	2.00	0.00	0.00	0.16	0.00	82.85	2.00	0.00	0.00	0.17	0.00
83.01	2.00	0.00	0.00	0.16	0.00	83.17	2.00	0.00	0.00	0.16	0.00
83.34	2.00	0.00	0.00	0.17	0.00	83.50	2.00	0.00	0.00	0.16	0.00
83.67	2.00	0.00	0.00	0.17	0.00	83.83	2.00	0.00	0.00	0.16	0.00
83.99	2.00	0.00	0.00	0.16	0.00	84.16	2.00	0.00	0.00	0.17	0.00
84.32	2.00	0.00	0.00	0.16	0.00	84.49	2.00	0.00	0.00	0.17	0.00
84.65	2.00	0.00	0.00	0.16	0.00	84.81	2.00	0.00	0.00	0.16	0.00
84.98	2.00	0.00	0.00	0.17	0.00	85.14	2.00	0.00	0.00	0.16	0.00
85.31	2.00	0.00	0.00	0.17	0.00	85.47	2.00	0.00	0.00	0.16	0.00
85.63	2.00	0.00	0.00	0.16	0.00	85.80	2.00	0.00	0.00	0.17	0.00
85.96	2.00	0.00	0.00	0.16	0.00	86.13	2.00	0.00	0.00	0.17	0.00
86.29	2.00	0.00	0.00	0.16	0.00	86.45	2.00	0.00	0.00	0.16	0.00
86.62	2.00	0.00	0.00	0.17	0.00	86.78	2.00	0.00	0.00	0.16	0.00
86.95	2.00	0.00	0.00	0.17	0.00	87.11	2.00	0.00	0.00	0.16	0.00
87.27	2.00	0.00	0.00	0.16	0.00	87.44	2.00	0.00	0.00	0.17	0.00
87.60	2.00	0.00	0.00	0.16	0.00	87.77	2.00	0.00	0.00	0.17	0.00
87.93	2.00	0.00	0.00	0.16	0.00	88.09	2.00	0.00	0.00	0.16	0.00
88.26	2.00	0.00	0.00	0.17	0.00	88.42	2.00	0.00	0.00	0.16	0.00
88.59	2.00	0.00	0.00	0.17	0.00	88.75	2.00	0.00	0.00	0.16	0.00
88.92	2.00	0.00	0.00	0.17	0.00	89.08	2.00	0.00	0.00	0.16	0.00
89.24	2.00	0.00	0.00	0.16	0.00	89.41	2.00	0.00	0.00	0.17	0.00
89.57	2.00	0.00	0.00	0.16	0.00	89.74	2.00	0.00	0.00	0.17	0.00
89.90	2.00	0.00	0.00	0.16	0.00	90.06	2.00	0.00	0.00	0.16	0.00
90.23	2.00	0.00	0.00	0.17	0.00	90.39	2.00	0.00	0.00	0.16	0.00
90.56	2.00	0.00	0.00	0.17	0.00	90.72	2.00	0.00	0.00	0.16	0.00
90.88	2.00	0.00	0.00	0.16	0.00	91.05	2.00	0.00	0.00	0.17	0.00
91.21	2.00	0.00	0.00	0.16	0.00	91.38	2.00	0.00	0.00	0.17	0.00
91.54	2.00	0.00	0.00	0.16	0.00	91.70	2.00	0.00	0.00	0.16	0.00
91.87	2.00	0.00	0.00	0.17	0.00	92.03	2.00	0.00	0.00	0.16	0.00
92.20	2.00	0.00	0.00	0.17	0.00	92.36	2.00	0.00	0.00	0.16	0.00
92.52	2.00	0.00	0.00	0.16	0.00	92.69	2.00	0.00	0.00	0.17	0.00
92.85	2.00	0.00	0.00	0.16	0.00	93.02	2.00	0.00	0.00	0.17	0.00
93.18	2.00	0.00	0.00	0.16	0.00	93.34	2.00	0.00	0.00	0.16	0.00
93.51	2.00	0.00	0.00	0.17	0.00	93.67	2.00	0.00	0.00	0.16	0.00
93.84	2.00	0.00	0.00	0.17	0.00	94.00	2.00	0.00	0.00	0.16	0.00
94.16	2.00	0.00	0.00	0.16	0.00	94.33	2.00	0.00	0.00	0.17	0.00
94.49	2.00	0.00	0.00	0.16	0.00	94.66	2.00	0.00	0.00	0.17	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
94.82	2.00	0.00	0.00	0.16	0.00	94.98	2.00	0.00	0.00	0.16	0.00
95.15	2.00	0.00	0.00	0.17	0.00	95.31	2.00	0.00	0.00	0.16	0.00
95.48	2.00	0.00	0.00	0.17	0.00	95.64	2.00	0.00	0.00	0.16	0.00
95.81	1.76	0.00	0.00	0.17	0.00	95.97	1.66	0.00	0.00	0.16	0.00
96.13	2.00	0.00	0.00	0.16	0.00	96.30	2.00	0.00	0.00	0.17	0.00
96.46	2.00	0.00	0.00	0.16	0.00	96.63	2.00	0.00	0.00	0.17	0.00
96.79	2.00	0.00	0.00	0.16	0.00						

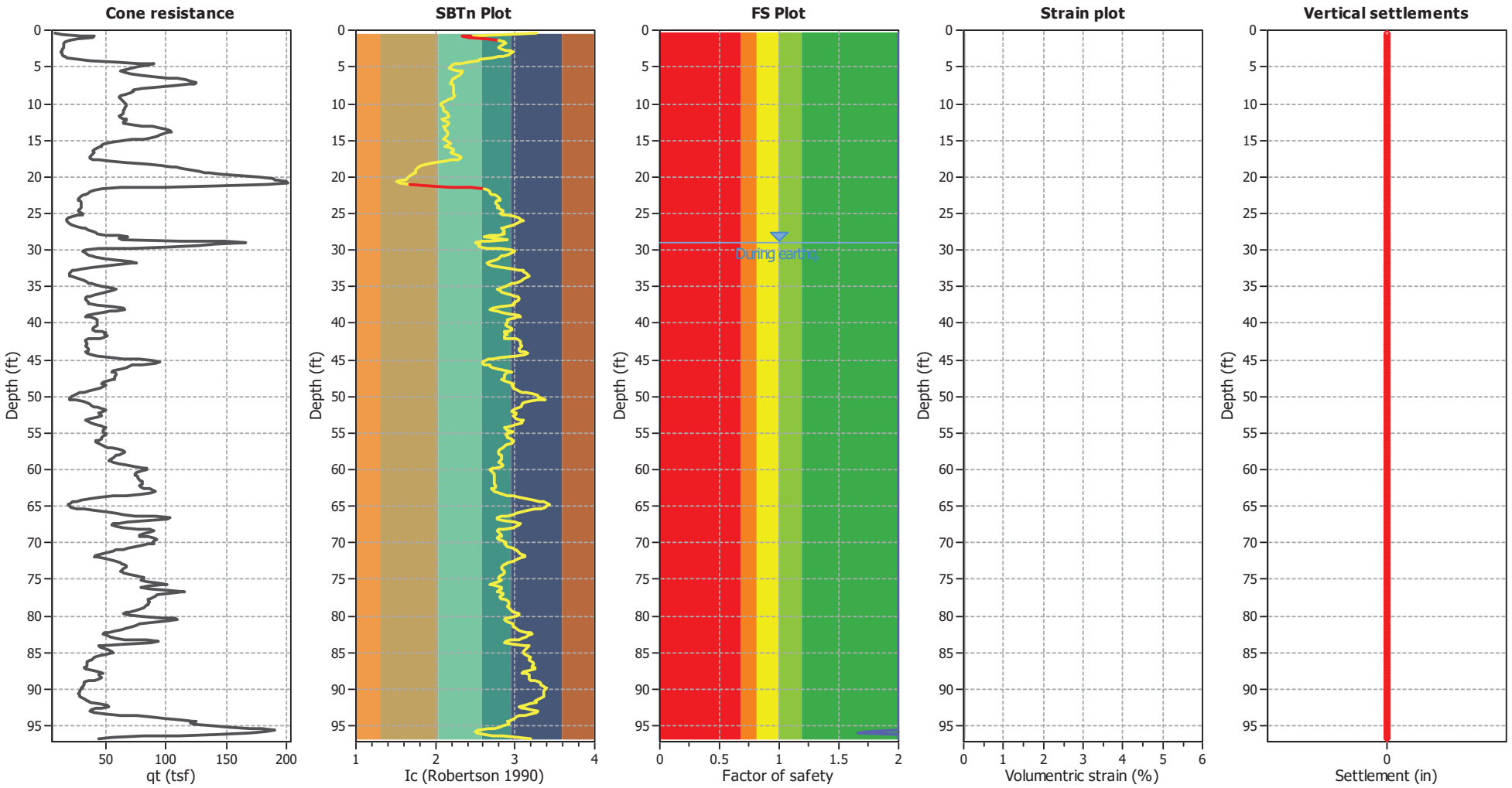
Overall liquefaction potential: 0.00

LPI = 0.00 - Liquefaction risk very low
LPI between 0.00 and 5.00 - Liquefaction risk low
LPI between 5.00 and 15.00 - Liquefaction risk high
LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
F_L: 1 - FS
w_z: Function value of the extend of soil liquefaction according to depth
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
29.04	343.74	2.00	0.00	1.00	0.00	29.20	325.87	2.00	0.00	1.00	0.00
29.36	284.01	2.00	0.00	1.00	0.00	29.53	237.28	2.00	0.00	1.00	0.00
29.69	197.51	2.00	0.00	1.00	0.00	29.86	170.13	2.00	0.00	1.00	0.00
30.02	160.01	2.00	0.00	1.00	0.00	30.19	157.65	2.00	0.00	1.00	0.00
30.35	158.30	2.00	0.00	1.00	0.00	30.51	159.61	2.00	0.00	1.00	0.00
30.68	152.15	2.00	0.00	1.00	0.00	30.84	148.41	2.00	0.00	1.00	0.00
31.01	155.93	2.00	0.00	1.00	0.00	31.17	176.36	2.00	0.00	1.00	0.00
31.33	195.41	2.00	0.00	1.00	0.00	31.50	204.67	2.00	0.00	1.00	0.00
31.66	202.96	2.00	0.00	1.00	0.00	31.83	187.73	2.00	0.00	1.00	0.00
31.99	168.89	2.00	0.00	1.00	0.00	32.15	153.12	2.00	0.00	1.00	0.00
32.32	144.92	2.00	0.00	1.00	0.00	32.48	136.86	2.00	0.00	1.00	0.00
32.65	128.16	2.00	0.00	1.00	0.00	32.81	122.99	2.00	0.00	1.00	0.00
32.97	119.66	2.00	0.00	1.00	0.00	33.14	120.03	2.00	0.00	1.00	0.00
33.30	120.43	2.00	0.00	1.00	0.00	33.47	126.06	2.00	0.00	1.00	0.00
33.63	135.57	2.00	0.00	1.00	0.00	33.79	149.70	2.00	0.00	1.00	0.00
33.96	166.20	2.00	0.00	1.00	0.00	34.12	175.92	2.00	0.00	1.00	0.00
34.29	175.35	2.00	0.00	1.00	0.00	34.45	166.36	2.00	0.00	1.00	0.00
34.61	163.11	2.00	0.00	1.00	0.00	34.78	175.94	2.00	0.00	1.00	0.00
34.94	190.57	2.00	0.00	1.00	0.00	35.11	198.70	2.00	0.00	1.00	0.00
35.27	199.08	2.00	0.00	1.00	0.00	35.43	191.91	2.00	0.00	1.00	0.00
35.60	187.61	2.00	0.00	1.00	0.00	35.76	182.70	2.00	0.00	1.00	0.00
35.93	180.62	2.00	0.00	1.00	0.00	36.09	171.37	2.00	0.00	1.00	0.00
36.26	167.86	2.00	0.00	1.00	0.00	36.42	166.70	2.00	0.00	1.00	0.00
36.58	167.61	2.00	0.00	1.00	0.00	36.75	168.62	2.00	0.00	1.00	0.00
36.91	163.99	2.00	0.00	1.00	0.00	37.08	155.81	2.00	0.00	1.00	0.00
37.24	152.17	2.00	0.00	1.00	0.00	37.40	162.46	2.00	0.00	1.00	0.00
37.57	179.62	2.00	0.00	1.00	0.00	37.73	186.50	2.00	0.00	1.00	0.00
37.90	182.84	2.00	0.00	1.00	0.00	38.06	174.40	2.00	0.00	1.00	0.00
38.22	174.58	2.00	0.00	1.00	0.00	38.39	168.75	2.00	0.00	1.00	0.00
38.55	163.50	2.00	0.00	1.00	0.00	38.72	160.63	2.00	0.00	1.00	0.00
38.88	159.24	2.00	0.00	1.00	0.00	39.04	164.87	2.00	0.00	1.00	0.00
39.21	167.31	2.00	0.00	1.00	0.00	39.37	168.88	2.00	0.00	1.00	0.00
39.54	166.77	2.00	0.00	1.00	0.00	39.70	164.04	2.00	0.00	1.00	0.00
39.86	160.48	2.00	0.00	1.00	0.00	40.03	160.78	2.00	0.00	1.00	0.00
40.19	160.75	2.00	0.00	1.00	0.00	40.36	159.54	2.00	0.00	1.00	0.00
40.52	157.27	2.00	0.00	1.00	0.00	40.68	150.38	2.00	0.00	1.00	0.00
40.85	150.24	2.00	0.00	1.00	0.00	41.01	161.48	2.00	0.00	1.00	0.00
41.18	167.57	2.00	0.00	1.00	0.00	41.34	175.15	2.00	0.00	1.00	0.00
41.50	181.80	2.00	0.00	1.00	0.00	41.67	178.92	2.00	0.00	1.00	0.00
41.83	171.83	2.00	0.00	1.00	0.00	42.00	157.99	2.00	0.00	1.00	0.00
42.16	150.20	2.00	0.00	1.00	0.00	42.32	148.46	2.00	0.00	1.00	0.00
42.49	152.23	2.00	0.00	1.00	0.00	42.65	155.43	2.00	0.00	1.00	0.00
42.82	156.32	2.00	0.00	1.00	0.00	42.98	155.29	2.00	0.00	1.00	0.00
43.15	156.68	2.00	0.00	1.00	0.00	43.31	157.31	2.00	0.00	1.00	0.00
43.47	156.49	2.00	0.00	1.00	0.00	43.64	151.24	2.00	0.00	1.00	0.00
43.80	156.77	2.00	0.00	1.00	0.00	43.97	168.48	2.00	0.00	1.00	0.00
44.13	182.76	2.00	0.00	1.00	0.00	44.29	187.17	2.00	0.00	1.00	0.00
44.46	175.01	2.00	0.00	1.00	0.00	44.62	167.40	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
44.79	164.49	2.00	0.00	1.00	0.00	44.95	180.18	2.00	0.00	1.00	0.00
45.11	190.37	2.00	0.00	1.00	0.00	45.28	188.59	2.00	0.00	1.00	0.00
45.44	178.96	2.00	0.00	1.00	0.00	45.61	167.37	2.00	0.00	1.00	0.00
45.77	166.96	2.00	0.00	1.00	0.00	45.93	165.04	2.00	0.00	1.00	0.00
46.10	170.45	2.00	0.00	1.00	0.00	46.26	177.79	2.00	0.00	1.00	0.00
46.43	191.62	2.00	0.00	1.00	0.00	46.59	195.00	2.00	0.00	1.00	0.00
46.75	200.88	2.00	0.00	1.00	0.00	46.92	196.09	2.00	0.00	1.00	0.00
47.08	189.97	2.00	0.00	1.00	0.00	47.25	186.25	2.00	0.00	1.00	0.00
47.41	182.63	2.00	0.00	1.00	0.00	47.57	178.20	2.00	0.00	1.00	0.00
47.74	169.63	2.00	0.00	1.00	0.00	47.90	162.41	2.00	0.00	1.00	0.00
48.07	164.97	2.00	0.00	1.00	0.00	48.23	168.48	2.00	0.00	1.00	0.00
48.39	176.18	2.00	0.00	1.00	0.00	48.56	175.45	2.00	0.00	1.00	0.00
48.72	169.27	2.00	0.00	1.00	0.00	48.89	160.24	2.00	0.00	1.00	0.00
49.05	150.28	2.00	0.00	1.00	0.00	49.22	140.76	2.00	0.00	1.00	0.00
49.38	131.22	2.00	0.00	1.00	0.00	49.54	130.52	2.00	0.00	1.00	0.00
49.71	132.08	2.00	0.00	1.00	0.00	49.87	131.66	2.00	0.00	1.00	0.00
50.04	123.58	2.00	0.00	1.00	0.00	50.20	119.82	2.00	0.00	1.00	0.00
50.36	126.99	2.00	0.00	1.00	0.00	50.53	140.03	2.00	0.00	1.00	0.00
50.69	147.95	2.00	0.00	1.00	0.00	50.86	150.34	2.00	0.00	1.00	0.00
51.02	151.69	2.00	0.00	1.00	0.00	51.18	156.60	2.00	0.00	1.00	0.00
51.35	163.90	2.00	0.00	1.00	0.00	51.51	171.54	2.00	0.00	1.00	0.00
51.68	173.19	2.00	0.00	1.00	0.00	51.84	167.88	2.00	0.00	1.00	0.00
52.00	158.93	2.00	0.00	1.00	0.00	52.17	155.43	2.00	0.00	1.00	0.00
52.33	158.47	2.00	0.00	1.00	0.00	52.50	160.87	2.00	0.00	1.00	0.00
52.66	155.48	2.00	0.00	1.00	0.00	52.82	143.71	2.00	0.00	1.00	0.00
52.99	132.06	2.00	0.00	1.00	0.00	53.15	127.79	2.00	0.00	1.00	0.00
53.32	134.63	2.00	0.00	1.00	0.00	53.48	142.86	2.00	0.00	1.00	0.00
53.64	150.73	2.00	0.00	1.00	0.00	53.81	150.38	2.00	0.00	1.00	0.00
53.97	148.65	2.00	0.00	1.00	0.00	54.14	149.25	2.00	0.00	1.00	0.00
54.30	146.24	2.00	0.00	1.00	0.00	54.46	145.70	2.00	0.00	1.00	0.00
54.63	148.71	2.00	0.00	1.00	0.00	54.79	150.87	2.00	0.00	1.00	0.00
54.96	157.76	2.00	0.00	1.00	0.00	55.12	154.98	2.00	0.00	1.00	0.00
55.28	148.06	2.00	0.00	1.00	0.00	55.45	145.85	2.00	0.00	1.00	0.00
55.61	146.06	2.00	0.00	1.00	0.00	55.78	140.63	2.00	0.00	1.00	0.00
55.94	136.91	2.00	0.00	1.00	0.00	56.11	133.30	2.00	0.00	1.00	0.00
56.27	132.14	2.00	0.00	1.00	0.00	56.43	133.28	2.00	0.00	1.00	0.00
56.60	138.36	2.00	0.00	1.00	0.00	56.76	139.20	2.00	0.00	1.00	0.00
56.93	143.60	2.00	0.00	1.00	0.00	57.09	152.97	2.00	0.00	1.00	0.00
57.25	160.02	2.00	0.00	1.00	0.00	57.42	163.97	2.00	0.00	1.00	0.00
57.58	162.10	2.00	0.00	1.00	0.00	57.75	160.25	2.00	0.00	1.00	0.00
57.91	157.58	2.00	0.00	1.00	0.00	58.07	156.38	2.00	0.00	1.00	0.00
58.24	152.86	2.00	0.00	1.00	0.00	58.40	146.95	2.00	0.00	1.00	0.00
58.57	138.98	2.00	0.00	1.00	0.00	58.73	133.60	2.00	0.00	1.00	0.00
58.89	132.84	2.00	0.00	1.00	0.00	59.06	138.10	2.00	0.00	1.00	0.00
59.22	159.76	2.00	0.00	1.00	0.00	59.39	181.51	2.00	0.00	1.00	0.00
59.55	195.80	2.00	0.00	1.00	0.00	59.71	189.89	2.00	0.00	1.00	0.00
59.88	177.41	2.00	0.00	1.00	0.00	60.04	165.37	2.00	0.00	1.00	0.00
60.21	161.72	2.00	0.00	1.00	0.00	60.37	160.58	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
60.53	161.85	2.00	0.00	1.00	0.00	60.70	161.55	2.00	0.00	1.00	0.00
60.86	162.66	2.00	0.00	1.00	0.00	61.03	165.00	2.00	0.00	1.00	0.00
61.19	168.40	2.00	0.00	1.00	0.00	61.35	171.71	2.00	0.00	1.00	0.00
61.52	171.97	2.00	0.00	1.00	0.00	61.68	171.91	2.00	0.00	1.00	0.00
61.85	171.61	2.00	0.00	1.00	0.00	62.01	173.64	2.00	0.00	1.00	0.00
62.17	175.45	2.00	0.00	1.00	0.00	62.34	175.65	2.00	0.00	1.00	0.00
62.50	174.80	2.00	0.00	1.00	0.00	62.67	174.72	2.00	0.00	1.00	0.00
62.83	183.55	2.00	0.00	1.00	0.00	63.00	197.20	2.00	0.00	1.00	0.00
63.16	208.20	2.00	0.00	1.00	0.00	63.32	205.02	2.00	0.00	1.00	0.00
63.49	189.20	2.00	0.00	1.00	0.00	63.65	163.39	2.00	0.00	1.00	0.00
63.82	148.78	2.00	0.00	1.00	0.00	63.98	137.52	2.00	0.00	1.00	0.00
64.14	128.08	2.00	0.00	1.00	0.00	64.31	121.15	2.00	0.00	1.00	0.00
64.47	114.29	2.00	0.00	1.00	0.00	64.64	109.32	2.00	0.00	1.00	0.00
64.80	103.94	2.00	0.00	1.00	0.00	64.96	103.71	2.00	0.00	1.00	0.00
65.13	108.96	2.00	0.00	1.00	0.00	65.29	123.06	2.00	0.00	1.00	0.00
65.46	142.05	2.00	0.00	1.00	0.00	65.62	160.91	2.00	0.00	1.00	0.00
65.78	172.62	2.00	0.00	1.00	0.00	65.95	178.37	2.00	0.00	1.00	0.00
66.11	183.37	2.00	0.00	1.00	0.00	66.28	203.60	2.00	0.00	1.00	0.00
66.44	221.63	2.00	0.00	1.00	0.00	66.60	229.17	2.00	0.00	1.00	0.00
66.77	227.29	2.00	0.00	1.00	0.00	66.93	216.21	2.00	0.00	1.00	0.00
67.10	198.77	2.00	0.00	1.00	0.00	67.26	190.70	2.00	0.00	1.00	0.00
67.42	182.40	2.00	0.00	1.00	0.00	67.59	173.45	2.00	0.00	1.00	0.00
67.75	171.54	2.00	0.00	1.00	0.00	67.92	176.31	2.00	0.00	1.00	0.00
68.08	192.79	2.00	0.00	1.00	0.00	68.24	196.81	2.00	0.00	1.00	0.00
68.41	195.99	2.00	0.00	1.00	0.00	68.57	192.53	2.00	0.00	1.00	0.00
68.74	188.73	2.00	0.00	1.00	0.00	68.90	185.32	2.00	0.00	1.00	0.00
69.07	185.59	2.00	0.00	1.00	0.00	69.23	186.52	2.00	0.00	1.00	0.00
69.39	193.40	2.00	0.00	1.00	0.00	69.56	205.00	2.00	0.00	1.00	0.00
69.72	220.65	2.00	0.00	1.00	0.00	69.89	230.66	2.00	0.00	1.00	0.00
70.05	228.16	2.00	0.00	1.00	0.00	70.21	218.45	2.00	0.00	1.00	0.00
70.38	205.88	2.00	0.00	1.00	0.00	70.54	196.52	2.00	0.00	1.00	0.00
70.71	182.18	2.00	0.00	1.00	0.00	70.87	175.84	2.00	0.00	1.00	0.00
71.03	169.41	2.00	0.00	1.00	0.00	71.20	159.89	2.00	0.00	1.00	0.00
71.36	151.41	2.00	0.00	1.00	0.00	71.53	141.44	2.00	0.00	1.00	0.00
71.69	134.97	2.00	0.00	1.00	0.00	71.85	132.34	2.00	0.00	1.00	0.00
72.02	137.08	2.00	0.00	1.00	0.00	72.18	142.00	2.00	0.00	1.00	0.00
72.35	147.49	2.00	0.00	1.00	0.00	72.51	149.49	2.00	0.00	1.00	0.00
72.67	156.33	2.00	0.00	1.00	0.00	72.84	155.57	2.00	0.00	1.00	0.00
73.00	155.50	2.00	0.00	1.00	0.00	73.17	153.70	2.00	0.00	1.00	0.00
73.33	150.59	2.00	0.00	1.00	0.00	73.49	146.70	2.00	0.00	1.00	0.00
73.66	145.58	2.00	0.00	1.00	0.00	73.82	146.05	2.00	0.00	1.00	0.00
73.99	147.44	2.00	0.00	1.00	0.00	74.15	152.15	2.00	0.00	1.00	0.00
74.31	157.98	2.00	0.00	1.00	0.00	74.48	164.63	2.00	0.00	1.00	0.00
74.64	168.76	2.00	0.00	1.00	0.00	74.81	171.22	2.00	0.00	1.00	0.00
74.97	171.61	2.00	0.00	1.00	0.00	75.13	174.73	2.00	0.00	1.00	0.00
75.30	177.32	2.00	0.00	1.00	0.00	75.46	178.37	2.00	0.00	1.00	0.00
75.63	173.83	2.00	0.00	1.00	0.00	75.79	168.46	2.00	0.00	1.00	0.00
75.96	167.33	2.00	0.00	1.00	0.00	76.12	173.49	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
76.28	186.77	2.00	0.00	1.00	0.00	76.45	213.43	2.00	0.00	1.00	0.00
76.61	231.08	2.00	0.00	1.00	0.00	76.78	237.22	2.00	0.00	1.00	0.00
76.94	204.41	2.00	0.00	1.00	0.00	77.10	183.61	2.00	0.00	1.00	0.00
77.27	164.40	2.00	0.00	1.00	0.00	77.43	159.75	2.00	0.00	1.00	0.00
77.60	160.77	2.00	0.00	1.00	0.00	77.76	172.38	2.00	0.00	1.00	0.00
77.92	182.36	2.00	0.00	1.00	0.00	78.09	191.67	2.00	0.00	1.00	0.00
78.25	192.46	2.00	0.00	1.00	0.00	78.42	189.88	2.00	0.00	1.00	0.00
78.58	184.04	2.00	0.00	1.00	0.00	78.74	178.74	2.00	0.00	1.00	0.00
78.91	176.81	2.00	0.00	1.00	0.00	79.07	177.05	2.00	0.00	1.00	0.00
79.24	175.98	2.00	0.00	1.00	0.00	79.40	169.72	2.00	0.00	1.00	0.00
79.56	167.46	2.00	0.00	1.00	0.00	79.73	175.78	2.00	0.00	1.00	0.00
79.89	190.05	2.00	0.00	1.00	0.00	80.06	201.84	2.00	0.00	1.00	0.00
80.22	211.75	2.00	0.00	1.00	0.00	80.38	217.69	2.00	0.00	1.00	0.00
80.55	215.32	2.00	0.00	1.00	0.00	80.71	203.70	2.00	0.00	1.00	0.00
80.88	189.89	2.00	0.00	1.00	0.00	81.04	184.67	2.00	0.00	1.00	0.00
81.20	181.45	2.00	0.00	1.00	0.00	81.37	179.73	2.00	0.00	1.00	0.00
81.53	173.69	2.00	0.00	1.00	0.00	81.70	168.65	2.00	0.00	1.00	0.00
81.86	163.20	2.00	0.00	1.00	0.00	82.02	160.00	2.00	0.00	1.00	0.00
82.19	158.56	2.00	0.00	1.00	0.00	82.35	162.28	2.00	0.00	1.00	0.00
82.52	165.99	2.00	0.00	1.00	0.00	82.68	167.51	2.00	0.00	1.00	0.00
82.85	167.47	2.00	0.00	1.00	0.00	83.01	168.01	2.00	0.00	1.00	0.00
83.17	177.77	2.00	0.00	1.00	0.00	83.34	180.91	2.00	0.00	1.00	0.00
83.50	179.72	2.00	0.00	1.00	0.00	83.67	164.70	2.00	0.00	1.00	0.00
83.83	150.59	2.00	0.00	1.00	0.00	83.99	138.68	2.00	0.00	1.00	0.00
84.16	137.37	2.00	0.00	1.00	0.00	84.32	141.71	2.00	0.00	1.00	0.00
84.49	146.17	2.00	0.00	1.00	0.00	84.65	152.28	2.00	0.00	1.00	0.00
84.81	157.22	2.00	0.00	1.00	0.00	84.98	158.11	2.00	0.00	1.00	0.00
85.14	153.30	2.00	0.00	1.00	0.00	85.31	143.91	2.00	0.00	1.00	0.00
85.47	134.73	2.00	0.00	1.00	0.00	85.63	127.81	2.00	0.00	1.00	0.00
85.80	121.53	2.00	0.00	1.00	0.00	85.96	116.80	2.00	0.00	1.00	0.00
86.13	112.10	2.00	0.00	1.00	0.00	86.29	111.62	2.00	0.00	1.00	0.00
86.45	111.79	2.00	0.00	1.00	0.00	86.62	111.64	2.00	0.00	1.00	0.00
86.78	107.30	2.00	0.00	1.00	0.00	86.95	103.19	2.00	0.00	1.00	0.00
87.11	102.49	2.00	0.00	1.00	0.00	87.27	108.74	2.00	0.00	1.00	0.00
87.44	115.10	2.00	0.00	1.00	0.00	87.60	120.81	2.00	0.00	1.00	0.00
87.77	123.52	2.00	0.00	1.00	0.00	87.93	128.83	2.00	0.00	1.00	0.00
88.09	134.41	2.00	0.00	1.00	0.00	88.26	139.16	2.00	0.00	1.00	0.00
88.42	138.73	2.00	0.00	1.00	0.00	88.59	132.46	2.00	0.00	1.00	0.00
88.75	122.98	2.00	0.00	1.00	0.00	88.92	115.73	2.00	0.00	1.00	0.00
89.08	113.40	2.00	0.00	1.00	0.00	89.24	114.58	2.00	0.00	1.00	0.00
89.41	115.44	2.00	0.00	1.00	0.00	89.57	119.38	2.00	0.00	1.00	0.00
89.74	121.32	2.00	0.00	1.00	0.00	89.90	120.54	2.00	0.00	1.00	0.00
90.06	114.70	2.00	0.00	1.00	0.00	90.23	108.63	2.00	0.00	1.00	0.00
90.39	105.50	2.00	0.00	1.00	0.00	90.56	103.38	2.00	0.00	1.00	0.00
90.72	103.34	2.00	0.00	1.00	0.00	90.88	104.31	2.00	0.00	1.00	0.00
91.05	106.21	2.00	0.00	1.00	0.00	91.21	109.91	2.00	0.00	1.00	0.00
91.38	111.33	2.00	0.00	1.00	0.00	91.54	111.79	2.00	0.00	1.00	0.00
91.70	114.52	2.00	0.00	1.00	0.00	91.87	124.50	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
92.03	133.22	2.00	0.00	1.00	0.00	92.20	135.22	2.00	0.00	1.00	0.00
92.36	125.80	2.00	0.00	1.00	0.00	92.52	115.44	2.00	0.00	1.00	0.00
92.69	107.39	2.00	0.00	1.00	0.00	92.85	109.54	2.00	0.00	1.00	0.00
93.02	121.46	2.00	0.00	1.00	0.00	93.18	134.26	2.00	0.00	1.00	0.00
93.34	151.36	2.00	0.00	1.00	0.00	93.51	167.12	2.00	0.00	1.00	0.00
93.67	182.46	2.00	0.00	1.00	0.00	93.84	196.59	2.00	0.00	1.00	0.00
94.00	215.80	2.00	0.00	1.00	0.00	94.16	228.70	2.00	0.00	1.00	0.00
94.33	236.23	2.00	0.00	1.00	0.00	94.49	231.91	2.00	0.00	1.00	0.00
94.66	234.69	2.00	0.00	1.00	0.00	94.82	232.69	2.00	0.00	1.00	0.00
94.98	232.97	2.00	0.00	1.00	0.00	95.15	231.61	2.00	0.00	1.00	0.00
95.31	221.09	2.00	0.00	1.00	0.00	95.48	197.16	2.00	0.00	1.00	0.00
95.64	159.72	2.00	0.00	1.00	0.00	95.81	138.60	1.76	0.00	1.00	0.00
95.97	134.94	1.66	0.00	1.00	0.00	96.13	139.15	2.00	0.00	1.00	0.00
96.30	137.77	2.00	0.00	1.00	0.00	96.46	127.85	2.00	0.00	1.00	0.00
96.63	124.51	2.00	0.00	1.00	0.00	96.79	122.98	2.00	0.00	1.00	0.00

Total estimated settlement: 0.00

Abbreviations

$Q_{tn,cs}$: Equivalent dean sand normalized cone resistance
FS: Factor of safety against liquefaction
e_v (%): Post-liquefaction volumentric strain
DF: e_v depth weighting factor
Settlement: Calculated settlement

Appendix G

Phase 1 and Phase 2 Environmental Site Assessments

PCA

Property Condition Assessments, LLC

presents its
Phase I Environmental Assessment Report
to

DUDEK

FOR

ST. JOSEPH'S MEDICAL CENTER
STOCKTON, CALIFORNIA

Project No. 01-21-0178 August 31, 2021

Property Condition Assessments, LLC
P.O. Box 681110 Park City, Utah 84068
(626)685-9560 (626)685-9570 fax
www.pcallc.com

Property Condition Assessments, LLC

August 31, 2021

File No.: 01-21-0178

Ms. Christine Kronenberg
DUDEK
605 Third Street
Encinitas, California 92024

REFERENCE: ST. JOSEPH'S MEDICAL CENTER - STOCKTON
1800 NORTH CALIFORNIA STREET – STOCKTON, CALIFORNIA 95204

SUBJECT: PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

Dear Ms. Kronenberg:

Property Condition Assessments, LLC is pleased to submit the accompanying Phase I Environmental Site Assessment report for the above-referenced Subject Property.

Please do not hesitate to contact us should you have questions concerning this report.

Sincerely,
PROPERTY CONDITION ASSESSMENTS, LLC

John Luna
President

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Section 1.0
Introduction

1.0 Purpose

Property Condition Assessments, LLC ("PCA") was retained to prepare a Phase I Environmental Site Assessment ("Phase I") for the property located at 1800 North California Street in the City of Stockton, California ("Subject Property").

The sole purpose of this environmental assessment is to identify Recognized Environmental Conditions ("REC") for the Subject Property. This assessment was conducted utilizing generally accepted Phase I industry standards in accordance with the American Society of Testing and Materials (ASTM) Standard E1527-13 – *Phase I Environmental Site Assessment Process and All Appropriate Inquiry* (AAI).

For the purpose of this report, and as defined by the ASTM a:

- REC – Recognized Environmental Condition – is "the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substance or petroleum products into the structure, on the property, or into the ground, groundwater, or surface water of the property."

- HREC – Historical Recognized Environmental Condition – is "a past release of any hazardous substance or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the property to an required controls (e.g., property use restrictions, activity and use limitations, institutional controls, or engineering controls)."

- De Minimis Condition is "a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."

- CREC – Controlled Recognized Environmental Condition – is "a recognized environmental condition that involves a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority and that is subject to activity and use limitations."

- BER – Business Environmental Risk – is "a risk that can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of the property, not necessarily limited to those environmental issues required to be assessed in the standard ASTM scope. BERs may affect the liabilities and financial obligations of the client, the health and safety of site occupants, and the value and marketability of the property."

Work was conducted pursuant to authorization to proceed with the project received Christine Kronenberg, Senior Project Manager, *Dudek*.

1.1 Scope of Work

The following scope of work was performed to accomplish the Phase I objectives:

- **Visual Assessment –** A visual evaluation of the Subject Property was conducted in readily accessible areas to identify RECs. Additionally, visual observations of adjoining properties were made from the vantage point of the Subject Property as well as from public rights-of-way to determine the potential impact of these sites on the Subject Property.
- **Site Interview –** An interview was conducted with individuals knowledgeable and familiar with the Subject Property.
- **Records Review –** Available environmental reports, agency records, appropriate permits, Sanborn Maps and historical aerial photographs of the Subject Property and surrounding areas were reviewed.
- **Agency Document Review –** Appropriate regulatory agencies were contacted for information regarding hazardous materials use, storage, and/or releases at the Subject Property.
- **Published Database Review –** Published governmental agency databases were reviewed to identify properties within ASTM-specified radii of the Subject Property with a reported environmental concern or incident. PCA subcontracts the government agency database search to Environmental Data Resources, Inc. ("EDR").
- **"Significant" Data Gaps –** Significant data gaps include missing or unattainable information that affects the ability of the environmental professional to identify conditions indicative of releases or threatened releases of hazardous substances, and as applicable, pollutants and contaminants, petroleum or petroleum products, or controlled substances, on, at, in, or to the Subject Property. During the course of its review of documentation for this assessment, PCA has attempted to identify "significant" data gaps, if any, in the information collected for the inquiry and have included information regarding the significance of these data gaps.
- **Additional Regulatory Review –** If warranted, appropriate regulatory agencies were contacted and available records for properties that may negatively impact the Subject Property were reviewed.
- **Report Preparation –** A summary report of the environmental assessment was prepared identifying findings and conclusions of the environmental assessment.
- **Environmental Professional –** All Subject Property inquiries were conducted by an environmental professional or under the supervision of an environmental professional.
- **Required Purchaser Activities –** It is the responsibility of the purchaser to assess the purchase price to fair market value, conduct a search for environmental cleanup liens, inquire about commonly known or ascertainable information that may affect the

environmental conditions of the Subject Property, and provide any specialized knowledge or experience as the landowner or grantee.

- **Environmental Professional Statement** – PCA declares that, to the best of its professional knowledge and belief, PCA meets the definition of Environmental Professional as defined in § 312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. PCA has developed and performed all appropriate inquiry in conformance with the standards and practices set forth in 40 CFR Part 312.

1.2 Limitations and Exceptions

Topics not explicitly discussed within this document should not be assumed to have been investigated, such as physical testing, other than that specifically detailed in this document. The work performed in conjunction with this assessment and data developed are intended as a description of available information on the dates and at the locations described. This report does not warrant against future operations or conditions, nor does it warrant against:

- Operations that are not in evidence from visual observations or search of published agency records, or facts that were concealed, withheld, or not fully disclosed at the time the assessment was conducted;
- Conditions that could only be determined by physical sampling or intrusive testing; and,
- Conditions on locations other than the Client-provided Subject Property address and/or legal parcel description.

This report is not intended to address, assess, or otherwise determine whether soil or groundwater contamination, waste emplacement, existing or threatened mold/fungus growth, asbestos-containing building materials, and/or lead-based paint actually exists at the Subject Property. Such determination would require comprehensive subsurface exploration and/or other sampling activities, which were beyond the "Scope of Service" for this assessment. Additionally, this report does not serve as a comprehensive wetland, mining, oil, pipeline, and/or gas-well survey.

This report summarizes an environmental assessment conducted for the Subject Property. Although conditions at neighboring properties may impact the Subject Property and, to the extent they were identified, were included in the Subject Property evaluation, this report does not serve as an assessment of sites other than the Subject Property.

1.3 Reliance

This Phase I Environmental Assessment was prepared in accordance with Proposal and Contract No. 01-21-0178, dated June 8, 2021, between *Dudek* ("Client") and Property Condition Assessments, LLC ("PCA") for the exclusive use of Client and its investors, assignees, designees, and successors ("Authorized Parties"). These Authorized Parties intend to rely upon this report as an assessment of the existing environmental condition of the Subject Property for the purpose of deciding whether, and under what conditions, to proceed with a potential redevelopment of the Subject Property. The aforementioned Authorized Parties may use and rely on this report provided

that they agree to be bound by the same contractual terms and conditions imposed by aforementioned contract of engagement. PCA recommends that any Authorized Party intending to rely upon this report independently determine whether the "Scope of Services" meets their expectations for their intended transaction.

PCA's professional services were performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable due-diligence professionals practicing in the environmental due-diligence consulting field in this or similar localities at this time. No other warranty, expressed or implied, is made as to the professional opinions described in this report. PCA is not responsible or liable for any claims that are associated with the interpretation of the available information. Additionally, PCA is not responsible for any claims from third parties not associated with the Authorized Parties, unless this report is assigned in its entirety to a party acceptable to PCA and who agrees to be bound by the same contractual terms and conditions.

Note: PCA exercises usual and customary professional care in its efforts to assess environmental law/code/regulation compliance for the Subject Property. However, due to the existence of literally thousands of environmental laws, codes, and regulations, PCA cannot provide a definitive opinion concerning compliance with *all* environmental laws/codes/regulations.

PCA based this assessment on available historical documentation and published government agency records for the Subject Property, interviews of knowledgeable persons, responses to the All-Appropriate Inquiry (AAI) Questionnaire, and observations made during the physical reconnaissance of the Subject Property and surrounding properties. Some or all of this information has been reported to PCA from the owner and several commercial and governmental sources including, but not limited to, Environmental Data Resources (EDR). PCA has relied on this reported information and data without further verification or validation of its accuracy.

1.4 Proprietary Notice

This document and its contents are privileged and confidential information and should not be duplicated or copied under any circumstances without the expressed permission of PCA. Any unauthorized reuse of PCA reports or data will be at the unauthorized user's sole risk and liability.

Section 2.0
User-Provided Information

2.0 Reason for Performing the Phase I ESA

PCA has performed this Phase I ESA for *Dudek* ("Client"). As such, Client is considered the "User" of the report, as defined under ASTM Standard Practice E1527-13. In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2002 (the "Brownfields Amendments"), the User must provide certain information based on its relationship to the purpose of the due diligence.

As part of this Phase I ESA, PCA requested certain information from the User's representative (Christine Kronenberg, Senior Project Manager, *Dudek*). The information requested and associated responses are outlined in Section 2.1 through Section 2.6 below.

2.1 Purpose

PCA understands that this assessment was performed for Client as a prospective buyer of the Subject Property. As such, this Phase I ESA was conducted in an effort to qualify for the innocent landowner, contiguous property owner, and bona fide prospective purchaser defense to CERCLA liability and performed as an appropriate risk-management and due-diligence standard for real estate transactions in accordance with general industry standards, which include ASTM Standard E1527-13.

2.2 Title Records, Liens, and Property Use Limitations

PCA was not provided with any title records.

With reference to Environmental cleanup liens that are filed or recorded against the Subject Property (40 CFR 312.25), the User was not aware of environmental cleanup liens against the Subject Property that are filed or recorded under federal, tribal, state or local law. According to the regulatory agency files, no environmental liens have been placed on the Subject Property.

With reference to Activity and Land-Use Limitations (AULs) that are in place on the Subject Property or that have been filed or recorded in a registry (40 CFR 312.26), the User was not aware of any Activity and Land-Use Limitations (AULs), such as engineering controls, land-use restrictions or institutional controls that are in place at the Subject Property and/or have been filed or recorded in a registry under federal, tribal, state or local law. According to the regulatory agency files, no AULs have been placed on the Subject Property.

2.3 Specialized Knowledge, Commonly Known and Degree of Obviousness

PCA was provided contact information for the Subject Property owner, manager, and/or occupants. With reference to specialized knowledge or experience of the person seeking to qualify for the

LLP (40 CFR 312.28), the User does not have specialized knowledge or experience related to the Subject Property or nearby properties.

With reference to commonly known or reasonably ascertainable information about the Subject Property (40 CFR 312.30), the User was not aware of commonly known or reasonably ascertainable information about the Subject Property that would help the environmental professional to identify conditions indicative of releases or threatened releases, such as:

Past uses of the site:

1. Specific chemicals that are present or once were present at the Subject Property;
2. Spills or other chemical releases that have taken place at the Subject Property; and,
3. Environmental cleanups that have taken place at the Subject Property.

With reference to the degree of obviousness of the presence or likely presence of contamination at the Subject Property, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31), the User, based on knowledge and experience related to the Subject Property, was not aware of any obvious indicators that point to the presence or likely presence of contamination at the Subject Property.

PCA requested from the User any other specialized knowledge regarding the environmental conditions associated with the Subject Property. The User did not have any specialized knowledge of RECs or other conditions of environmental concern at the Subject Property.

2.4 Value Reduction for Environmental Issues

With reference to relationship of the purchase price to the fair-market value of the Subject Property if it were not contaminated (40 CFR 312.29), the User indicated that, to its knowledge, the current valuation of the Subject Property reasonably reflects its fair-market value, and the value has not been reduced due to contamination known or believed to be present at the Subject Property.

Section 3.0
General Site Characteristics

3.0 Subject Property General Description

The Subject Property is located at 1800 North California Street in the City of Stockton, California. Only the northern portion of the St. Joseph's Medical Center is addressed in this Phase I environmental assessment (see Figure 2 and figures depicting the demolition areas). Major Subject Property characteristics are summarized as follows.

Site Characteristics Summary Table	
Property Characteristics	**Observations**
Subject Property Size	Approximately 84,530 square feet.
Total Number of Buildings/Units and Description	Six buildings: Old Main Building, McCloud Building, hazardous-waste-storage building, landscaping shed, Engineering shop, and Classroom building.
County	San Joaquin County
Assessor's Parcel Numbers	12718044
Distance to Major Landmark	Approximately 1.2 miles north of Highway 4 and 1.5 miles west of Interstate 99.
Current Owner	Port City Operating Company, LLC
Current Occupant	St. Joseph Medical Center
Current Use	Hospital, offices, classroom, and engineering

The history and site reconnaissance observations of the Subject Property are further discussed in Sections 5.0 and 6.0, respectively.

3.1 Adjacent Properties

The Subject Property is located within a mixed residential and commercial area of the City of Stockton, California. At the time of the site reconnaissance, the properties adjacent to the Subject Property were characterized as follows.

North: Cleveland Street is located immediately north of the Subject Property, with offices and a property being developed beyond.

East: Cemetery Road is located immediately east of the Subject Property, with the San Joaquin Cemetery beyond.

South: The remainder of the St. Joseph's Medical Center is immediately south of the Subject Property.

West: North California Street is immediately west of the Subject Property, with residential and office buildings beyond.

Section 4.0
Environmental Setting

The following summarizes the general environmental setting of the Subject Property.

4.0 Regional Setting

The Subject Property is situated near latitude 37.973596 (north) and longitude 121.289036 (west) at an approximate elevation of 18' above mean sea level. The topography of the Subject Property and vicinity is generally flat, but slopes gently to the west, as shown in the USGS Topographic Map for the Stockton West Quadrangle**.** A topographic map is provided in the Physical Source Settings Summary section of the EDR Radius Map report in the "References" section of this report.

The Subject Property does not reside within a flood zone, according to information provided in the EDR report.

4.1 General Geologic Conditions

The Subject Property is located in the City of Stockton, San Joaquin County, California. This area is part of the Great Valley physiographic province of the western United States. The Great Valley physiographic province, which consists of a low-lying valley about 400 miles long and from 20 to 70 miles wide and extends over more than 20,000 square miles. The trough is filled to great depths by marine and continental sediments, which are the result of millions of years of inundation by the ocean and erosion of the rocks that form the surrounding mountains.

According to the Geologic Map of the Stockton Quadrangle published by the California Division of Mines and Geology in 1981, the Subject Property is mapped as the Modesto Formation of Pleistocene age, which consists of gravel, sand, silt, and clay.

There are no known active fault zones in the vicinity of the Subject Property.

4.2 Groundwater Conditions

No information concerning specific depth to groundwater or groundwater-flow direction was provided for the Subject Property. According to the report titled *Groundwater Monitoring Report – Third Quarter 2010, Shell-Branded Service Station, 2330 North El Dorado Street, Stockton, California,* prepared by Conestoga-Rovers & Associates and dated September 15, 2010, the depth to groundwater beneath this site ranged from approximately 32'-35' below ground surface (bgs). The groundwater gradient at this site was determined to predominantly flow to the west. This site is located approximately 0.4 mile west-northwest of the Subject Property, and the report obtained from the California Regional Water Quality Control Board's Geotracker website. The depth to groundwater and groundwater-flow direction is anticipated to be similar at this site.

Section 5.0
Government Database Review

5.0 Government Databases Searched

Review of the government environmental databases related to the Subject Property and the nearby area was conducted to identify potential RECs that may be recorded in government database systems or files. Properties that have or may have the potential for existing or future site contamination, environmental liabilities, or the potential for contamination migration to surrounding areas are listed in this report. The information pertaining to the sites on the regulatory databases was obtained from the *EDR Radius Map with GeoCheck* provided by EDR. Databases searched are detailed below. The results of the Subject Property and Surrounding Property listings are summarized in Sections 5.1 and 5.2, respectively.

Federal Database Review

National Priorities List

The National Priorities List (NPL) is the Environmental Protection Agency's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund program. A site, to be included on the NPL, must either meet or surpass a predetermined hazard ranking system score, or be chosen as a state's top-priority site, or meet all three of the following criteria: 1) the US Department of Health and Human Services issues a health advisory recommending that people be removed from the site to avoid exposure; 2) EPA determines that the site represents a significant threat, and 3) EPA determines that the remedial action is more cost-effective than removal action. The ASTM-defined search radius for NPL sites is one mile from the Subject Property.

Comprehensive Environmental Response Compensation Liability Information System

The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) list includes a list of properties/facilities, which are suspected or confirmed to have adversely impacted the environment. The list is comprehensive in that it includes all properties for which an allegation has been made regarding environmental contamination. The ASTM radius for CERCLIS is one-mile from the Subject Property.

Resource Conservation and Recovery Act

The EPA's Resource Conservation and Recovery Act (RCRA) program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is an EPA compilation of reporting facilities that generate, store, transport, treat, or dispose of hazardous waste. However, the listing of a site as a hazardous-waste generator does not necessarily indicate that a hazardous waste release has occurred or that contamination exists at that address.

CORRACTS

The EPA maintains a database of RCRA facilities, which are undergoing corrective action. A corrective action order is issued pursuant to RCRA Section (h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. The ASTM-defined radius for CORRACTS is one mile from the Subject Property.

RCRA- Permitted Treatment, Storage, and Disposal (TSD)

RCRA-TSD facilities are those that treat, store, and/or dispose of hazardous waste. The ASTM-defined search radius for this database is one-half mile from the Subject Property.

RCRA- Large- and Small-Quantity Generators

A RCRA small-quantity generator (SQG) site generates at least 100 kilograms per month, but less than 1,000 kilograms per month of non-acutely hazardous waste. A RCRA large-quantity generator (LQG) generates at least 1,000 kilograms per month of non-acutely hazardous waste or one kilogram per month of acutely hazardous waste. The ASTM-defined search radius for this database is the Subject Property and adjacent properties.

Emergency Response Notification System

The Emergency Response Notification System (ERNS) is a national database of information or report releases of oil or hazardous substances. The database contains information from spill reports made to the federal authorities including the U.S. EPA, U.S. Coast Guard, and the U.S. Department of Transportation. The ASTM-defined search radius for this database is limited to the Subject Property.

CONSENT

Addresses listed in major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites are released periodically by United States District Courts after settlement by the parties to the litigation matters. The ASTM-defined search radius for this database is one mile from the Subject Property.

RODs

Records of Decision (RODs) documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup. The ASTM-defined search radius for this database is one mile from the Subject Property.

MINES

The MINES database is a record of mine locations maintained by the United States Department of Labor, Mine Safety and Health Administration. The ASTM-defined search radius for this database is one-half mile from the Subject Property.

Toxic Substances Control Act (TSCA)

The TSCA database identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list maintained by the Environmental Protection Agency. The ASTM-defined search radius for this database is limited to the Subject Property.

State Database Review

State Landfill (SWF/LF)

Solid Waste Information System (SWF/LF) records typically contain an inventory of solid-waste disposal facilities or landfills that may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid-waste landfills or disposal sites. The ASTM-defined search radius for this database is one-half mile from the Subject Property.

Registered Underground Storage Tanks

Underground storage tanks are regulated under Subtitle 1 of the Resource Conservation and Recovery Act (RCRA). The risk commonly associated with UST sites is based on a possible release of a hazardous substance/waste from underground storage tanks or containers. The primary concerns related to USTs are the potential migration of contamination impacting the Subject Property soil, groundwater, and/or potable water supply. The ASTM-defined search radius for this database is one-quarter mile from the Subject Property.

Leaking Underground Storage Tank Incident Report

Leaking underground storage tank records contain an inventory of reported leaking underground storage tank incidents. The ASTM-defined search radius for this database is one-half mile from the Subject Property.

Voluntary Cleanup Program (VCP)

The Voluntary Cleanup Program (VCP) database includes low threat level properties with either confirmed or unconfirmed releases where the project proponents have requested that the DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC activities. The ASTM-defined search radius for this database is one-half mile from the Subject Property.

CO TRUST

The leaking underground storage tank trust sites listing tracks the reimbursement of costs approved to paid eligible applicants. The ASTM-defined search radius for this database is one-half mile from the Subject Property.

Surrounding Property Unique Local, Supplemental, and/or Proprietary Databases

DRYCLEANERS

The Drycleaners database contains a listing of dry-cleaning related facilities with EPA identification numbers and includes power laundries, garment pressing, dry cleaning plants, upholstery cleaning, and similar service locations. The ASTM-defined search radius for this database is one-quarter mile from the Subject Property.

Historical Databases

The Historical Gas Station and Dry Cleaners database, compiled by EDR from national collections of business directories, includes, but is not limited to, historical gas stations, filling stations, auto service stations, dry cleaners, and laundry facilities that were available to the EDR researchers.

The findings of these databases are provided in the following sections.

5.1 Subject Property Summary

The Subject Property address was listed on the CER HAZ WASTE, CERS TANKS, UST, RCRA-SQG, SWEEPS UST, HIST UST, CA FID UST, EMI, LUST, Cortese, HIST CORTESE, AST, HAZNET, and HWTS databases searched in the EDR Report.

- The RCRA-SQG, HWTS, HAZNET, and CERS HAZ WASTE listings indicates that the facility generates between 100 kilograms to 1,000 kilograms of hazardous waste per month. The listed wastes include ignitable waste, corrosive waste, spent halogenated solvents, and other wastes.
- The LUST, Cortese, HIST CORTESE, SWEEPS UST, HIST UST, CA FID UST, and CERS TANKS listings indicates that a leaking underground storage tank containing diesel and impacted soils were excavated and removed from the site and granted case closure from the RWQCB in 1996.
- The UST listing is for the 20,000-gallon diesel UST located in the Utility Plant area of the Subject Property.
- The AST listing is for the 9,950-gallon diesel tank located in the Utility Plant area of the Subject Property.

Additional information regarding the Subject Property was requested from local agencies. The results of file reviews are summarized in Section 6.1 of this report.

5.2 Surrounding Properties Summary

Sixteen (16) federal, fifty-nine (59) state, and one (1) orphan listings are provided in the EDR Report summary of government databases. These listings are summarized as the following:

- One (1) site is listed in the CORRACTS database:

- **Kearney-DPF**, at 1624 East Alpine Avenue, is located approximately 0.9 miles north-northeast and potentially up-gradient of the Subject Property. This site is also listed on the Toxic Pits database. The USEPA performed a preliminary assessment of the property in 1988 and the California Department of Toxic Substances Control (DTSC) has provided oversight of groundwater treatment and remedial activities. Based on the distance and remedial activities being taken, there is a low likelihood that the listed site has negatively affected the Subject Property.

- Two (2) sites are listed in the RCRIS-SQG database:
  - None of the listed sites are immediately adjacent to the Subject Property.
  - Sites with a reported release of material are listed and discussed in the appropriate sections of this report.
- Five (5) sites are listed in the ENVIROSTOR database:
  - **SJRRC Maintenance Facility**, at West Lane and Alpine Avenue, is located approximately 0.55 miles north-northeast and potentially up-gradient of the Subject Property. The site was operated for the manufacturing of wood products from 1921 to 1987. Activities at the site contributed to releases of hazardous substances to the soil and groundwater. Remedial activities were conducted at the site and a human health-risk assessment determined that the property could not be utilized for residential use and the DTSC placed a land use restriction covenant on the property in 2010. Based on distance and remedial activities taken, there is a low likelihood that the listed site has negatively affected the Subject Property.
  - **Richard Pittman Elementary**, at 510 East Magnolia Street, is located approximately 0.641 miles south-southeast and potentially up-gradient of the Subject Property. The DTSC conducted a preliminary endangerment assessment and oversaw excavation to remove impacted soils. In 2005, DTSC certified the site as being acceptable for the development of an elementary school. Based on distance, remedial actions taken, and agency determination, there is a low likelihood that the listed site has negatively affected the Subject Property.
  - Based on distance, there is a low likelihood that the remaining listed sites have negatively affected the Subject Property.
- Eleven (11) sites are listed in the LUST and Cortese databases:
  - **San Joaquin Catholic Cemetery**, at Cemetery Lane and Harding Way, is located approximately 0.196 miles to the east and potentially up-gradient of the Subject Property. The site is listed twice in the LUST database. The underground storage tank (UST) containing gasoline and some impacted soils were excavated and removed from the site. A soil-vapor-extraction system was installed and operated to remove additional contamination in the subsurface soils. The RWQCB granted case closure in 2007. Based on remedial actions taken and agency determination, there is a low likelihood that the listed site has negatively affected the Subject Property.
  - **Fire Engine Company #9**, at 550 Harding Way, is located approximately 0.356 miles south-southeast and potentially up-gradient of the Subject Property. The UST

and impacted soils were excavated and removed from the site. The RWQCB granted case closure in 1998. Based on distance, remedial actions taken, and agency determination, there is a low likelihood that the listed site has negatively affected the Subject Property.

- **Mina Tree Signs**, at 1233 East Ronald Street, is located approximately 0.412 miles east-northeast and potentially up-gradient of the Subject Property. The UST and impacted soils were excavated and removed from the site. The RWQCB granted case closure in 1996. Based on distance, remedial actions taken, and agency determination, there is a low likelihood that the listed site has negatively affected the Subject Property.
- The remaining sites are down-gradient and/or received case closure. Based on status, distance, and groundwater-flow direction, these sites are not likely to negatively affect the Subject Property.

- Five (5) UST, four (4) CA FID UST, two (2) HIST UST, and four (4) SWEEPS sites are listed in the EDR Report:
  - Sites with a spill or release are discussed in the appropriate databases.
- Unmapped Sites (Orphan Properties)
  - Due to poor or inadequate address information, one (1) site was not detailed in the EDR Radius Map. Based on the address information provided and additional information determined by online sources, none of the spill, leak, or cleanup orphan sites appear to be near the Subject Property.

Section 6.0
Historical Document Review

To assess whether RECs exist for the site based on historical activities and/or operations at the Subject Property and/or a neighboring property, PCA conducted a review of historical documents, available local agency or departmental records, and available previous investigation reports. The following sections summarize the findings of these document reviews.

6.0 Proprietary Document Review

PCA subcontracted the historical document search to Environmental Date Resources (EDR). Databases searched and documents available are summarized as the following:

- A search of the EDR Historic Map Collection was conducted for the Subject Property. The EDR Historic Map Collection is the largest and most extensive private collection of prior-use maps in the United States, with coverage ranging from 1867 through 1994. Sanborn Fire Insurance Maps were provided and reviewed by PCA**.**
- City Directories have been published for many cities and towns across the United States since the 18th century. For each address within an area, City Directories list the name of each resident or, if a business operates from that address, the name and type of business. While the geographic coverage of City Directories is comprehensive for most major cities, many rural areas and small towns may not be included and many towns and cities have discontinued the practice of issuing City Directories. City Directory coverage was available for the area and is reviewed in the table below**.**
- Historical aerial photographs of the Subject Property and surrounding area were obtained from EDR. Photographs were provided to and reviewed by PCA**.** A review of the aerial photographs is provided in the table below.
- Historical topographic maps of the Subject Property and surrounding area were obtained from EDR. A review of the historical topographic maps is provided in the table below.

These documents are summarized as follows.

Historical Sources Summary Table		
Date	**Observations**	**Source**
1900 – 1920	**Subject Property:** The Subject Property is not listed in the city directories searched. **Surrounding Properties:** The surrounding properties are not listed in the city directories searched.	City Directories
1913	**Subject Property:** The Subject Property appears to have residential structures on the site. **Surrounding Properties**: The surrounding properties to the north, west, and south appear developed with residential structures. The Sam Joaquin Cemetery is located to the east of the Subject Property.	Historical Topographic Map

Historical Sources Summary Table		
Date	**Observations**	**Source**
1917	**Subject Property:** The Subject Property is depicted with residential structures in the Sanborn Map. **Surrounding Properties:** The surrounding properties to the north and west are depicted with residential structures. The properties to the east and south are not shown on the Sanborn Map.	Sanborn Map
1937	**Subject Property:** The northern portion of the Subject Property has been developed with residential structures. The southern portion is developed with two large buildings in the locations of the present-day McCloud and Old Main Buildings. **Surrounding Properties:** Several of the buildings of the present-day St. Josephs hospital have been developed immediately to the south of the Subject Property. Residential structures are depicted to the west and north of the Subject Property, with a cemetery located immediately to the east.	Aerial Photograph
1940	**Subject Property:** The Subject Property appears similar to the previous aerial photograph. **Surrounding Properties:** The surrounding properties appear similar to the previous aerial photograph.	Aerial Photograph
1952	**Subject Property:** The Subject Property has been developed with the St. Joseph's Hospital. **Surrounding Properties:** The properties to the north, west, and south are depicted as "Urban Developed." The San Joaquin Cemetery is shown to the east of the Subject Property.	Historical Topographic Map
1957	**Subject Property:** The Subject Property appears similar to the previous aerial photograph. **Surrounding Properties:** The surrounding properties appear similar to the previous aerial photograph.	Aerial Photograph
1963	**Subject Property:** The Subject Property appears similar to the previous aerial photograph. **Surrounding Properties:** The surrounding properties appear similar to the previous aerial photograph.	Aerial Photograph
1968	**Subject Property:** The Subject Property has been developed with the St. Joseph's Hospital. **Surrounding Properties:** The properties to the north, west, and south are depicted as "Urban Developed." The San Joaquin Cemetery is shown to the east of the Subject Property.	Historical Topographic Map
1975	**Subject Property:** The Subject Property appears similar to the previous aerial photograph. **Surrounding Properties:** The surrounding properties appear similar to the previous aerial photograph.	Aerial Photograph
1976	**Subject Property:** The Subject Property has been developed with the St. Joseph's Hospital. **Surrounding Properties:** The properties to the north, west, and south are depicted as "Urban Developed." The San Joaquin Cemetery is shown to the east of the Subject Property.	Historical Topographic Map
1982	**Subject Property:** The Subject Property northern portion is depicted as a parking lot, with the two large buildings on the southern portion. **Surrounding Properties:** The surrounding properties appear similar to the previous aerial photograph with the addition of commercial buildings to the west.	Aerial Photograph
1984	**Subject Property:** The Subject Property is similar to the previous aerial photograph, with the addition of the present-day Engineering Building. **Surrounding Properties:** The surrounding properties are similar to the previous aerial photograph.	Aerial Photograph
1987	**Subject Property:** The Subject Property has been developed with the St. Joseph's Hospital. **Surrounding Properties:** The properties to the north, west, and south are depicted as "Urban Developed." The San Joaquin Cemetery is shown to the east of the Subject Property.	Historical Topographic Map
1993 and 1998	**Subject Property:** The Subject Property appears similar to the previous aerial photograph, with the addition of the utility plant, large aboveground storage tank located immediately north of the present-day Engineering Office. The present-day classroom building is depicted in the northeast corner of the Subject Property. **Surrounding Properties:** The surrounding properties appear similar to the previous aerial photograph with the addition of a commercial building located on the northwest corner of the Subject Property area.	Aerial Photographs

Historical Sources Summary Table		
Date	**Observations**	**Source**
2006, 2009, 2012, and 2016	**Subject Property:** The Subject Property appears similar to the present-day development. **Surrounding Properties:** The surrounding properties appear similar to the present-day developments.	Aerial Photographs
2012	**Subject Property:** The Subject Property has been developed with the St. Joseph's Hospital. **Surrounding Properties:** The properties to the north, west, and south are depicted as "Urban Developed." The San Joaquin Cemetery is shown to the east of the Subject Property.	Historical Topographic Map

6.1 Local Agency Records Review

Based on a review of listings provided in the EDR government database report, PCA submitted requests for file review at local agencies. The agencies contacted and the results of file reviews are discussed in the following sections.

6.1.1 Local Agencies

Based on a review of listings provided in the EDR government database report, PCA submitted requests for information for the Subject Property and selected surrounding properties at local agencies.

According to agency representatives, available records are summarized as follows.

Local Agency Records Review		
Agency	**Subject Property Records**	**Surrounding Property Records**
US Environmental Protection Agency, Region IX, San Francisco, California	No records for the Subject Property.	Reviewed and discussed in Section 5.2 above.
Central Valley Regional Water Quality Control Board, Sacramento, California	Reviewed and discussed in Section 5.1 above.	Reviewed and discussed in Section 5.2 above.
California Department of Toxic Substances Control, Sacramento, California	Reviewed and discussed in Section 5.1 above.	Reviewed and discussed in Section 5.2 above.
San Joaquin County Environmental Health Department, Stockton, California	Reviewed and discussed in Section 5.1 above.	Not reviewed.
City of Stockton Fire Department, Stockton, California	No environmental records for the Subject Property.	Not reviewed.

6.2 Previous Investigation Document Review

PCA was not provided with previous environmental assessment documents to review.

6.3 Summary of Site and Vicinity History/Land Use

Based on available historical documents, and local agency records, the history of the Subject Property is summarized as follows.

- The current building improvements on the Subject Property comprise of two large hospital buildings constructed in 1916, 1917, and 1928, along with support buildings housing the Engineering Department, a classroom, a hazardous-waste storage area, and a landscaping shed that were developed in later years.

Historical sources for nearby properties were also reviewed and are summarized as follows.

- The Subject Property is located within a residential and commercial area of the City of Stockton that began development in the early 1900s.

PCA has not identified a data gap in the information for the inquiry that requires further assessment to determine impact on the conclusions in this report.

Section 7.0
Site Reconnaissance Observations

7.0 Personnel Interviews

At the time of the site visit, PCA spoke with Mr. Joe Vierra, Engineer, regarding his understanding of the history or and use of the Subject Property. Mr. Vierra was not aware of any restrictions on activity or use limitations (AULs) identified for the Subject Property, and there are no reported environmental liens for the Subject Property. The EDR Report and agency file reviews did not indicate any AULs or environmental liens. Comments of Mr. Vierra have been incorporated into the appropriate areas of this report.

7.1 Subject Property Reconnaissance Observations

On August 17, 2021, PCA performed a visual reconnaissance of the Subject Property and surrounding vicinity. At the time of the site reconnaissance, the following observations were noted at the Subject Property.

Site Feature Summary Table		
Feature / Characteristic	**Y/N**	**Comments**
Underground Storage Tanks (USTs)	Y	A 20,000-gallon diesel UST resides in the utility plant area. The UST is registered with the county and San Joaquin Air Pollution Control District. The UST has a Veeder-Root System for interstitial monitoring to detect any releases from the UST and is tested on an annual basis. According to Mr. Vierra there have been no violations of regulatory requirements and nor and reported releases.
Aboveground Storage Tanks (ASTs)	Y	An 8,000-gallon AST containing diesel fuel resides in the utility plant area. A 59-gallon nurse tank resides below an emergency generator located on the west side of the generator building. Another 284-gallon nurse tank resides below an emergency generator located on the east side of the HDDL building. There were no stains or other indications of releases from the ASTs. According to Mr. Vierra, there have been no violations of regulatory requirements nor any reported releases.
Hazardous Chemicals (including petroleum and pesticides)	Y	A hazardous waste storage building is located along the eastern side of the complex. The building houses two 55-gallon containers of waste oil, three flammable cabinets containing waste acid and alcohol/methyl blue containers, and universal wastes including waste batteries. All materials were stored properly and there was no evidence of stains or releases. The landscaping building has a flammable cabinet containing lubricating aerosol containers and two 2-gallon containers of gasoline. A biohazard storage area is located outside the south side of the McCloud Building. Chemicals appear properly stored and no leaks or staining were observed.
Other or Unidentified Drums and Containers	N	
Septic Tanks	N	

Site Feature Summary Table		
Feature / Characteristic	**Y/N**	**Comments**
Drainage Systems	N	
Sumps	N	
Clarifiers	N	
Hoists or Lifts	Y	The McCloud and Old Main buildings have cable-operated elevators.
Dumping or Filling Activities	N	
Vapor Intrusion	N	
Floor Drains	N	
Materials Spills	N	
Monitor/Supply/ Disposal Wells	N	
Odors	N	
Air Emissions	Y	Various pieces of equipment emit air emissions. These include emergency generators (one located outside the Dignity Lab building and one located near the generator building) and the boilers at the Utility Plant. All equipment is properly permitted and no issues of environmental concern were identified.
Unusually Stained Pavement or Flooring	N	
Pits, Ponds, and/or Lagoons	N	
Pools Of Liquid	N	
Roads And Trails with No Apparent Purpose	N	
Stained Or Disturbed Soil	N	
Stressed Vegetation	N	
High-Voltage Power Lines/ Magnetic Fields	N	
Waste-Water Generation	Y	The Utility Plant includes chillers, which generate wastewater that is discharged to the sewer system. No issues of environmental concern were identified associated with wastewater discharge.
Solid-Waste Storage	Y	Solid-waste dumpsters are located throughout the site outside the buildings. No issues of environmental concern were identified associated with solid-waste disposal.
Electrical Transformers	Y	Electrical transformers are located in the basement of the McCloud and Old Main buildings and in the utility plant. The transformers have labels indicating that the fluid within the transformers have been tested and have less than 50 parts per million of PCBs. The transformers are owned and operated by PG&E. No leaking or staining was observed and cleanup of any release would be the responsibility of PG&E.
Evidence of Historical Features	N	

Site Feature Summary Table		
Feature / Characteristic	**Y/N**	**Comments**
Evidence of Historical Processes or Material Usage/Storage	N	

7.1.1 Historical Materials of Concern

Polychlorinated Biphenyls (PCBs)

Polychlorinated Biphenyls (PCBs) were used as coolants and insulators in electrical transformers beginning in 1929. Exposure to PCBs has since been found to cause liver ailments, skin lesions, tumors, and growth and reproductive problems. Use of PCBs was regulated in 1977.

Electrical transformers were observed in the basement of the McCloud and Old Main buildings and in the utility plant. The transformers are maintained by PG&E and appeared to be in good condition. No staining or leaking was observed on the transformer housing or ground, any release would be the responsibility of PG&E. Accordingly, PCBs are not an environmental issue of concern for the Subject Property.

Suspect Asbestos-Containing Materials

While the use of asbestos in the manufacture of most building materials has not been fully prohibited by federal law, the use of asbestos, for the most part, has voluntarily been discontinued since the late 1970s. Some non-friable materials, such as roofing material and floor coverings (floor tile and mastic) may have been manufactured with asbestos materials and may have been used into the early 1980s.

Based on the date of construction of the building improvements at the Subject Property (1916, 1917, 1928, and 1980s), it is possible that asbestos-containing building materials (ACM) were used during the construction and/or maintenance of the building improvements at the Subject Property.

In federal regulations established by the U.S. EPA, a list of building materials which are "suspect" for the presence of asbestos has been established. This document serves as the guideline for accredited building inspectors to determine which building materials throughout a site are suspect and require sampling.

As a result of the site investigation, the following building materials were found to be suspect for asbestos content:

- Ceiling
- Flooring tile and mastic
- Joint compound, wall mud, and gypsum wallboard
- Exterior stucco
- Roofing materials
- Window caulking

Since these materials were homogeneous throughout the buildings, a baseline sampling was performed. For the purpose of this limited survey, samples were collected in a random manner from areas throughout the Subject Property. A total of 21 samples were obtained from 17 locations.

Suspect bulk samples were collected and immediately placed in plastic zip-lock bags, sealed, and labeled. Instruments that were used to collect the samples were wiped clean with a wet, lint-free cloth after the collection of each sample to prevent the possibility of cross contamination. The inspector noted the type of material sampled and the location of each sample. During this process, a unique number was assigned to each sample.

All of the suspect ACM bulk samples collected at the site were transported under chain-of-custody to LA Testing, Inc., located at 5431 Industrial Drive in the City of Huntington Beach, California and submitted for analyses within a 3-day turn-around.

LA Testing is an accredited NVLAP Laboratory by the National Institute of Standards and Technology (NIST) for bulk asbestos analyses. It is accredited by the American Industrial Hygiene Association and participates in the National Voluntary Laboratory Accreditation Program (NVLAP).

All potential asbestos bulk samples were analyzed for asbestos in accordance with EPA 600/R-93/116, the U.S. EPA recommended test method described in 40 CFR 763, Subpart F, Appendix A, using polarized light microscopy (PLM) with dispersion staining.

Materials containing detectable quantities of asbestos are legally defined in California as materials containing percentages of asbestos greater than one-tenth or one percent (>0.1%) by area. Materials with these concentrations of asbestos are regulated by various government agencies. The federal regulation known as the National Emissions Standards for Air Pollutants (NESHAP – 40 CFR 61, Subpart M) establishes the standards pertaining to asbestos containing materials.

The following table presents the results of the potential asbestos bulk samples submitted for analyses.

Sample	Location	Appearance	Condition	Asbestos %
A1	Old Main Building- 3rd floor - custodial closet	Wallboard	Good	None detected
A2	Old Main Building – 3rd floor – sleep room	Ceiling tile	Good	None detected
A3	Old Main Building – roof	Roof felt	Good	None detected
A4	Old Main Building – 2nd floor – RT Equipment Supply room	Floor tile	Fair	None detected
A5	Old Main Building – 2nd floor	Ceiling tile	Good	None detected
A6	Old Main Building – 2nd floor	Floor tile	Fair	None detected

Sample	Location	Appearance	Condition	Asbestos %
A6	Old Main Building – 2nd floor	Glue	Fair	None detected
A6	Old Main Building – 2nd floor	Leveler	Fair	None detected
A7	Old Main Building – 1st floor	Floor tile	Fair	None detected
A7	Old Main Building – 1st floor	Glue	Fair	None detected
A7	Old Main Building – 1st floor	Leveler	Fair	None detected
A8	Old Main Building – 4th Floor – elevator	Floor tile	Fair	None detected
A9	McCloud Building – 2nd floor – CPR Training	Ceiling tile	Good	None detected
A10	McCloud Building 1st floor – Education CME	Ceiling tile	Good	None detected
A11	McCloud Building – 1st floor – Education CME	Ceiling tile	Good	None detected
A12	McCloud Building – Education CME Coordinator office	Wallboard	Good	None detected
A13	Cleveland Classroom	Acoustic ceiling	Good	None detected
A14	Cleveland Classroom	Acoustic ceiling	Good	None detected
A15	Cleveland Classroom	Wallboard	Good	None detected
A16	Cleveland Classroom	Roof felt	Good	None detected
A17	Cleveland Classroom	Window caulking	Good	None detected

The results of the laboratory analyses did not detect any asbestos in the samples collected.

Lead-based Paint

Lead was a major ingredient in paint pigment prior to and through the 1940s. While other pigments were used in the 1950s, the use of lead in paint continued until the mid-1970s. In 1978, the Consumer Products Safety Commission banned paint and other surface-coating materials, which are lead-containing paint.

Based on the date of construction of the building improvements at the Subject Property (1916, 1917, 1928, and 1980s), it is possible that lead-based paints were used during the construction and/or maintenance of the building improvements at the Subject Property.

The building units had a very homogenous color schemes so it is expected that similar results will occur for each painted surface. As a result of the site reconnaissance it was determined that sampling for lead-based paint could be performed by utilizing the 3M Lead Check Swabs with the collection of a limited number of bulk samples for confirmation analyses. A total of 32 painted surfaces at the site were tested with the swabs and 10 bulk samples were collected.

Suspect paint bulk samples were collected and immediately placed in plastic zip-lock bags, sealed, and labeled. Instruments that were used to collect bulk samples were wiped clean with a wet, lint-free cloth after the collection of each sample to prevent the possibility of cross contamination. The inspector noted the type of material sampled and location of each sample. During this process, a unique number was assigned to each sample.

All of the suspect lead-based paint samples that were collected at the site were transported under chain-of-custody to LA Testing and submitted for analyses with a 3-day turnaround. The lead-based paint chip samples were analyzed for lead in accordance with SW-846-7000B using atomic absorption spectrophotometry.

The U.S. Department of Housing and Urban Development (HUD) and U.S. EPA consider the standard for lead-based paint as 1.0 milligrams per square meter or 0.5% by weight.

Sample	Location	Appearance	Condition	Lead Concentrations % weight
1	Old Main Building – 3rd Floor – wallboard	Beige	Good	0.063 % wt
2	Old Main Building - Roof	Off white	Good	<0.0008 % wt
3	Old Main Building – 1st Floor – wallboard	Beige	Good	<0.019 % wt
4	McCloud Building – 1st floor – Wallboard	Beige	Good	<0.008 % wt
5	Cleveland Classroom – Outside wall	Off white	Good	<0.058 % wt
6	Cleveland Classroom – Window trim	Black	Good	<0.008 % wt
7	Cleveland Classroom – Window trim	Black	Good	<0.020 % wt
8	Cleveland Classroom – Outside wall	Tan	Good	<.049 % wt
9	Old Main Building – outside stucco	Off white	Good	0.033 % wt
10	McCloud Building – Outside Wall	Beige	Poor - peeling	4.2 % wt

All of the suspect painted surfaces were below the regulatory standard for lead, except for the outside entrance doors for the McCloud Building and Old Main Building.

Lead in Drinking Water

The USEPA sets drinking-water standards and has determined that lead is a health concern at certain exposure levels. Materials that contain lead have frequently been used in the construction of water supply distribution systems, and plumbing systems in private home and other buildings. The most commonly found materials include service lines, pipes, brass and bronze fixtures, and solders and fluxes. Lead in these materials can contaminate drinking water as a result of the

corrosion that takes place when water comes into contact with those materials.

EPA's national primary drinking water regulations requires all public water systems to optimize corrosion control to minimize lead contamination results from the corrosion of plumbing materials. EPA has established an action level of 15 parts per billion (ppb) for lead in drinking water. Any water system that continues to exceed the action level after installation of corrosion control and/or source water treatment must eventually replace all lead service lines contributing in excess of 15 ppb of lead to drinking water. Any water system that exceeds the action level must also undertake a public education program to inform users of ways they can reduce their exposure to potentially high levels of lead in drinking water.

According to the Cal Water Service, the water provided to their customers meets the federal and state primary and secondary drinking water standards.

PCA did not perform sampling of domestic water for lead-in-water analysis.

7.1.2 Utilities

According to Mr. Vierra, the following utilities service the area:

- Water – Cal Water Service
- Sewer – City of Stockton
- Gas – PG&E
- Power – PG&E

7.1.3 Oil and Gas Wells and Pipeline

Wells can act as potential conduits for the migration of contamination, unless they have been properly abandoned (e.g., filled and plugged) in such a manner as to prevent the conducting of hazardous material into the groundwater aquifers. Oil or gas wells or pipelines were not identified on the Subject Property during the site reconnaissance, and were not depicted on the Munger Maps published by the California Department of Oil, Gas, and Geothermal Resources and EDR Physical Setting Source Map for this area of the City of Stockton.

7.1.4 Public Water Wells

Public water wells were not observed on the Subject Property during the site reconnaissance, nor were they listed in the EDR Radius Map Report.

7.1.5 Sensitive Environmental Receptors

Primary concerns associated with sensitive receptors and wetlands are:

- Federal and state environmental regulations often limit an owner's ability to modify the property when sensitive receptors or wetlands are potentially impacted; and,

- The potential of a release or discharge from a facility impacting a sensitive receptor or wetland.

Sensitive environmental receptors, such as wetlands, historical landmarks, or endangered species were not identified at or within the Subject Property or in the EDR Report.

7.1.6 Radon

Radon is a gas that can seep into structures constructed in areas with soils containing uranium. Radon travels through soil and enters the structure through cracks and holes in basement walls or floor drains, or other openings. Based on the location of the Subject Property, according to information provided by the USEPA, radon levels in the City of Stockton are considered as Zone 3 which is below the USEPA action level of 4.0 picocuries per liter (pC/L). Zone 3 indicates that the radon levels are less than 2 pC/L.

PCA did not perform screening for radon analysis.

7.1.7 Mold

Mold and/or fungi growth generally occurs on cellulose-based material, such as wood or drywall paper, that has been inundated with excess moisture. The presence of mold and/or fungi growth is normally an indication of a plumbing, roofing, other leak, and/or water source that results in the abnormal presence of moisture. It is possible that significant fungal spore growth inside walls, insulation, attic spaces, or other areas can exist and not be visible on the finished surfaces of interior building spaces. PCA did not: (i) perform a mold/fungi inspection, (ii) perform any building material surface mold sampling, or (iii) perform air sampling for mold spores at the Subject Property as part of this Phase I. However, PCA did not observe any obvious signs of mold growth at the Subject Property during the site reconnaissance.

7.1.8 Engineering Controls

At the time of the site reconnaissance, no environmental engineering controls were observed at the Subject Property.

7.2 Vapor-Encroachment Screening

ASTM Standard E 2600-10 "Standard Guide for Vapor Encroachment Screening (VES) on Property Involved in Real Estate Transactions" was used for conducting a VES for the Subject Property. The purpose of the screening is to determine whether a Vapor-Encroachment Condition (VEC) exists from chemicals of concern (COC) that may migrate as vapors onto a property as a result of contaminated soil and groundwater on or near the Subject Property. The screening involves a two-tiered approach to assess VEC risk as described below.

7.2.1 VES Tier 1 – Search Distance Test/Chemicals of Concern Test

The search-distance test involves a review of the regulatory database report and available historical records to make a determination if any *known or suspect potentially contaminated* properties exist within the Area of Concern (AOC). High-risk sites are typically current and former gas stations, former and current dry cleaners, manufactured gas plants, and industrial sites (Brownfields). The AOC is defined as any up-gradient sites within the ASTM 1527 Standard search distance and any cross- or down-gradient sites within 1/3 mile for solvents and petroleum products.

If the contamination at the known or potentially contaminated site within the AOC consist of COCs, then a potential Vapor-Encroachment Condition (pVEC) exists and Tier II is recommended. If no known or potentially contaminated sites with COCs exist within the AOC, no further inquiry is necessary.

No sites were identified in the EDR Radius Map Report and historical research within the AOC that were considered to pose a pVEC at the Subject Property based on the Tier 1 evaluation. Thus, it was not necessary to perform a Tier II assessment.

7.3 Neighboring Property Reconnaissance Observations

Visual observations of adjoining properties were made from the vantage point of the Subject Property, as well as from public rights-of-way to assess the potential impact of these sites on the Subject Property. The following table summarizes neighboring property observations.

Neighboring Property Summary Table	
Property Characteristics	**Observations**
Surrounding Property General Description	The Subject Property is located in a predominantly commercial and residential area of the City of Stockton.
Neighboring Properties Listed in EDR Radius Report	The neighboring properties listed in the EDR Radius Map Report are discussed in greater detail in Section 5.2 above.
Groundwater-Monitoring Wells	None observed
Underground Features	None observed
Evidence of Subsurface Investigation	None observed

Section 8.0
Conclusions

8.0 Summary

The Subject Property, also known as St. Joseph's Medical Center, is located at 1800 North California Street in the City of Stockton, California. Only the northern portion of the St. Joseph's Medical Center is addressed in this Phase I environmental assessment.

The site is occupied by six buildings – two large hospital buildings, a hazardous-waste-storage building, a landscaping shed, an engineering building, and a classroom building. The structures were developed between 1916 and 1984.

Additional Subject Property characteristics are summarized as follows.

- Based on historical sources:
  - The current building improvements at the Subject Property were constructed between 1916 and 1984 on a site that previously contained residential dwelling structures.

- The Subject Property address was listed on the CER HAZ WASTE, CERS TANKS, UST, RCRA-SQG, SWEEPS UST, HIST UST, CA FID UST, EMI, LUST, Cortese, HIST CORTESE, AST, HAZNET, and HWTS databases searched in the EDR Report.

  The RCRA-SQG and CERS HAZ WASTE listings indicates that the facility generates between 100 kilograms to 1,000 kilograms of hazardous waste per month. The listed wastes include ignitable waste, corrosive waste, spent halogenated solvents, and other wastes.

  The LUST, Cortese, HIST CORTESE, SWEEPS UST, HIST UST, CA FID UST, and CERS TANKS listings indicates that a leaking underground storage tank containing diesel and impacted soils were excavated and removed from the site and granted case closure from the RWQCB in 1996.

  The UST listing is for the 20,000-gallon diesel UST located in the Utility Plant area of the Subject Property.

  The AST listing is for the 9,950-gallon diesel tank located in the Utility Plant area of the Subject Property.

- No environmental liens or AUL are listed for the Subject Property.

Surrounding-property characteristics are summarized as follows.

- The Subject Property is located within a residential and commercial area of the City of Stockton that began development in the early 1900s.

- Sixteen (16) federal, fifty-nine (59) state, and one (1) orphan listings are provided in the EDR Report summary of government databases. Based on information provided in the EDR Report, the listed properties are not likely to negatively affect the Subject Property based on listing type, distance, groundwater-flow direction, and depth to groundwater.

- No information concerning specific depth to groundwater or groundwater-flow direction was provided for the Subject Property. According to the report titled *Groundwater Monitoring Report – Third Quarter 2010, Shell-Branded Service Station, 2330 North El Dorado Street, Stockton, California,* prepared by Conestoga-Rovers & Associates and dated September 15, 2010, the depth to groundwater beneath this site ranged from approximately 32'-35' below ground surface (bgs). The groundwater gradient at this site was determined to predominantly flow to the west. This site is located approximately 0.4 mile west-northwest of the Subject Property, and the report obtained from the California Regional Water Quality Control Board's Geotracker website. The depth to groundwater and groundwater-flow direction is anticipated to be similar at this site.

PCA has not identified a data gap in the information for the inquiry that will require further assessment to determine impact on the conclusions in this report.

8.1 Findings and Conclusions

PCA has performed a Phase I Environmental Site Assessment for the Subject Property in general conformance with the scope and limitations of ASTM Practice E 1527-13. Potential on- and off-site issues identified during this assessment are summarized as follows.

8.1.1 Potential On-Site Issues

Recognized Environmental Conditions (RECs), De Minimis Conditions, Controlled Recognized Environmental Conditions (CRECs), and Business Environmental Risks (BERs) were not identified for the Subject Property.

- An Historical Recognized Environmental Condition (HREC) concerning a former leaking underground storage tank (UST) was identified for the Subject Property. The leaking UST containing diesel and impacted soils were excavated and removed from the site and the site was granted case closure from the RWQCB in 1996. Therefore, no ongoing environmental impact is likely; however, this issue remains an HREC.

8.1.2 Potential Off-Site Issues

Recognized Environmental Conditions (RECs), Historical Recognized Environmental Conditions (HREC), De Minimis Conditions, Controlled Recognized Environmental Conditions (CRECs), and Business Environmental Risks (BERs) that would impact the Subject Property were not identified in connection with off-site properties.

8.2 Opinions and Recommendations

Based on the foregoing, as well as representations made by individuals interviewed for this report, no further assessment is recommended.

However, lead based paint exceeding the regulatory action levels was discovered on the outside doors in the McCloud and Old Main Buildings. These should be abated by a certified abatement firm prior to demolition of the buildings.

Section 9.0
References

Published References

Environmental Data Resources, Inc. May 7, 2021. Radius Map with GeoCheck.

Environmental Data Resources, Inc. May 7, 2021. Historical Map Report.

Environmental Data Resources, Inc. May 7, 2021. City Directory Report.

Environmental Data Resources, Inc. May 7, 2021. Aerial Photographs.

Environmental Data Resources, Inc. May 7, 2021. Historical Topographic Maps.

Other Resources

Regional Water Quality Control Board, *Central Valley*, Sacramento, California

California Department of Toxic Substances Control (DTSC), Sacramento Office

City of Stockton Building Department, Stockton, California

City of Stockton Fire Department, Stockton, California.

San Joaquin County Environmental Health Department, Stockton, California.

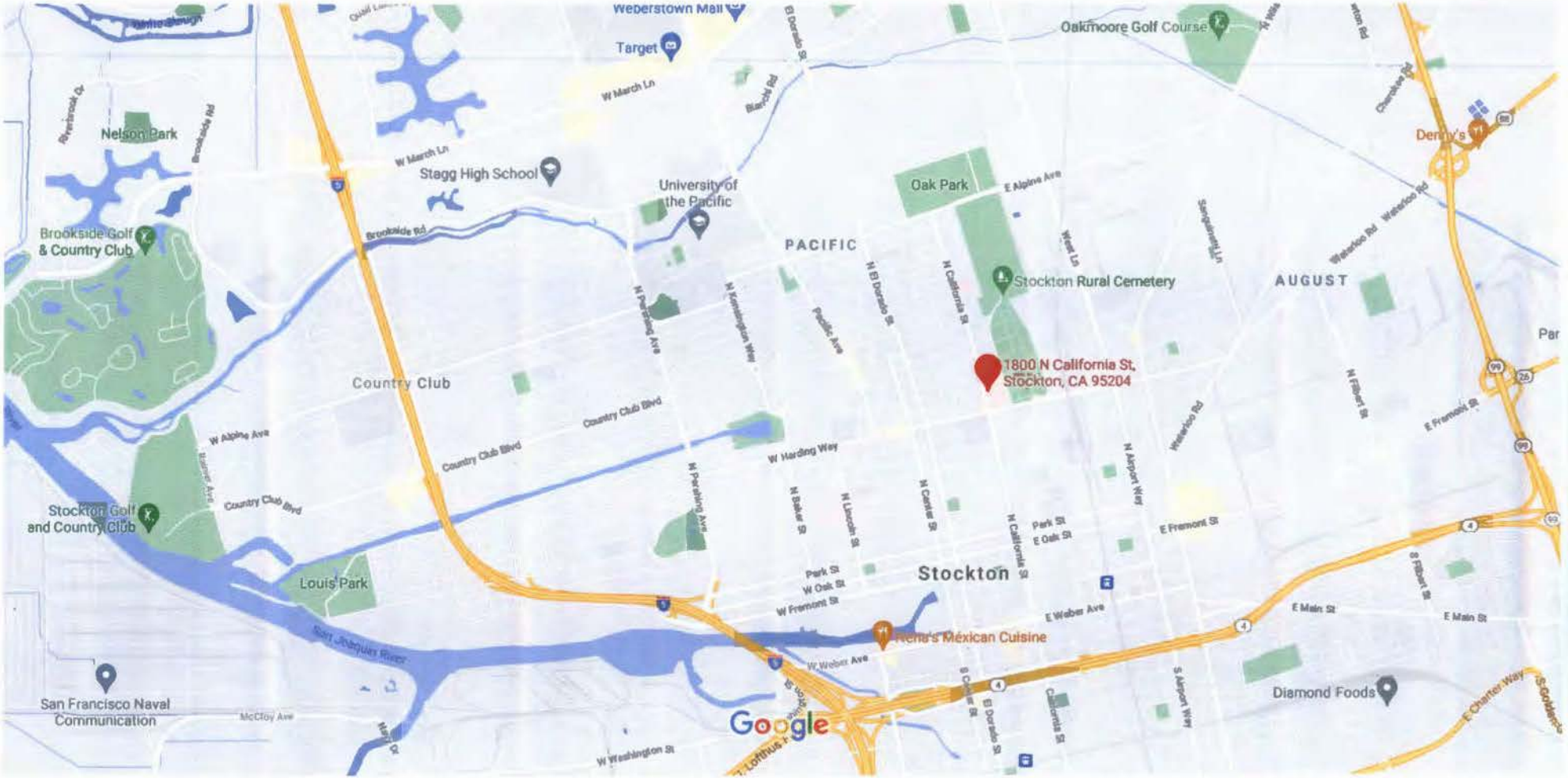
California Department of Conservation, Department of Oil, Gas, and Geothermal Resources

United Stated Environmental Protection Agency – Radon Research Program

California Geological Survey

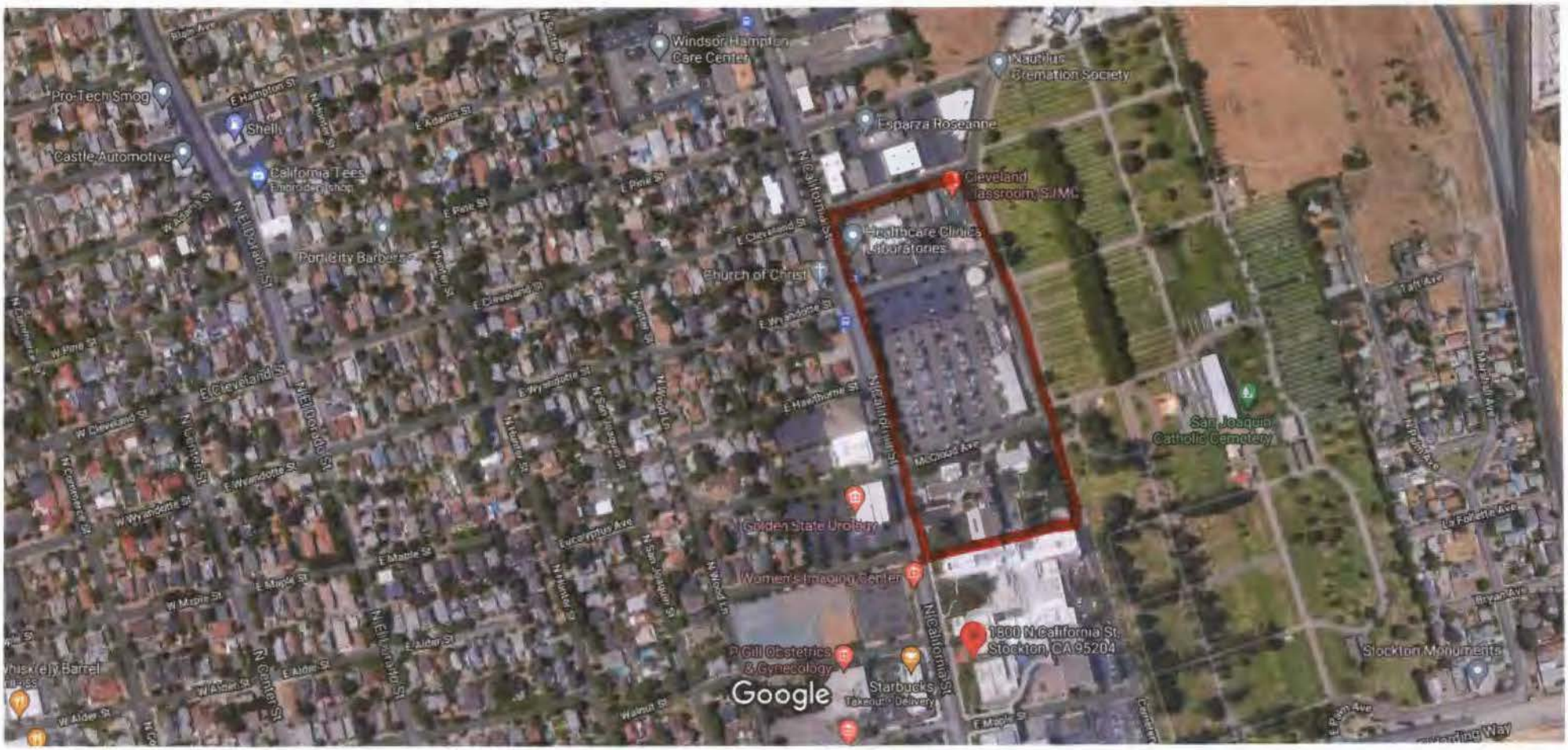
FIGURES

Google Maps 1800 N California St



Map data ©2021 2000 ft

Google Maps 1800 N California St



Imagery ©2021 Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2021 200 ft



DEMOLITION SITE PLAN

6/17/2021

St. Joseph's Medical Center of Stockton

ERC Pre-Application #1

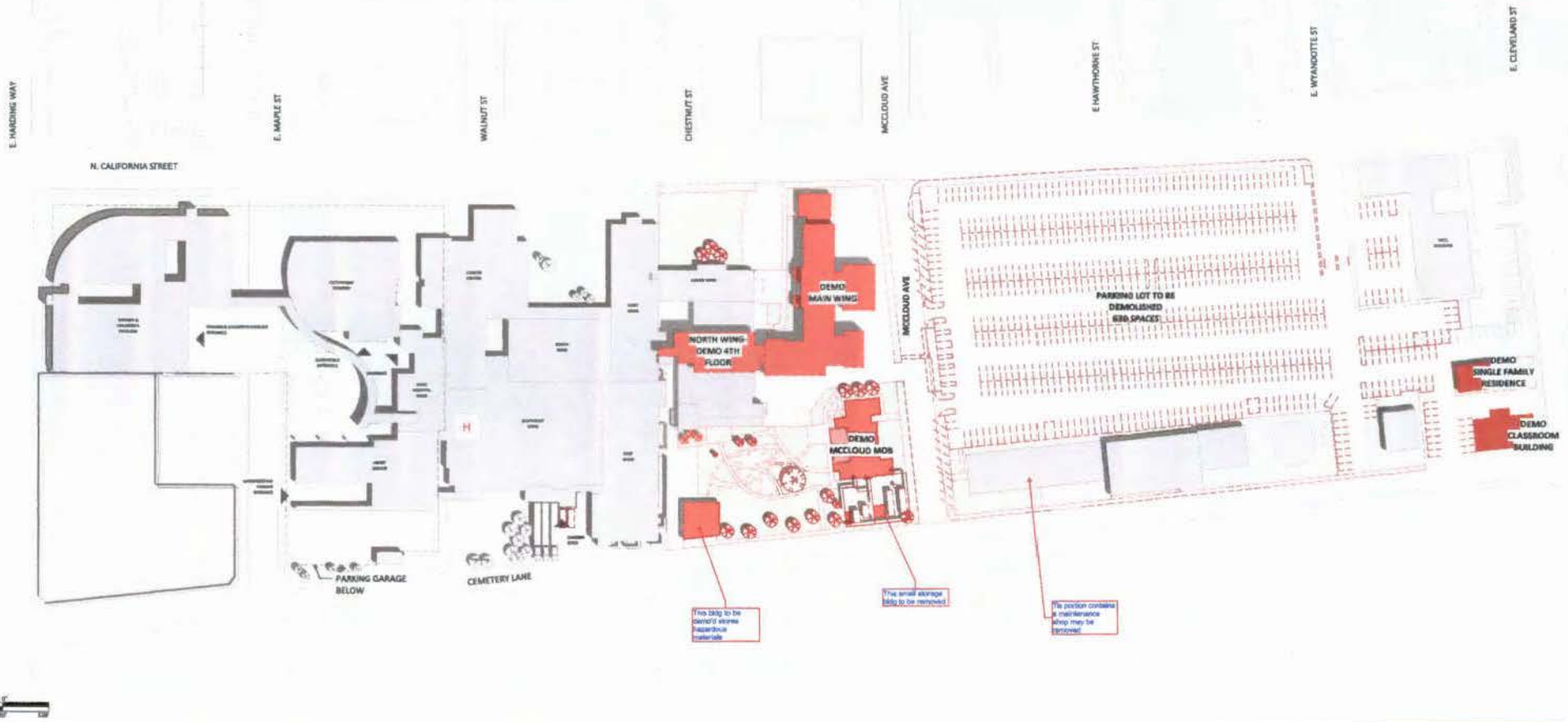
DIGNITY HEALTH

DRAFT

CONFIDENTIAL

P1.02

LDA Partners
DESIGNERS & ARCHITECTS


E. HARDING WAY
E. MAPLE ST
WALNUT ST
CHESTNUT ST
MCCLOUD AVE
E HAWTHORNE ST
E. WYANDOTTE ST
E. CLEVELAND ST
N. CALIFORNIA STREET
DEMO MAIN WING
NORTH WING DEMO 4TH FLOOR
DEMO MCCLOUD MOB
MCCLOUD AVE
PARKING LOT TO BE DEMOLISHED 630 SPACES
DEMO SINGLE FAMILY RESIDENCE
DEMO CLASSROOM BUILDING
PARKING GARAGE BELOW
CEMETERY LANE
This bldg to be demo'd stores hazardous materials
This small storage bldg to be removed
This portion contains a maintenance shop may be removed

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Phase II Environmental Site Assessment Report

ST. JOSEPH'S MEDICAL CENTER
NORTH TOWER ADDITION AND
SUPPORTIVE BUILDINGS

1800 North California Street
Stockton, California
WKA No. 13340.02
January 11, 2022

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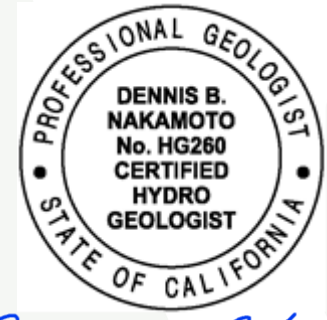
Phase II Environmental Site Assessment Report

ST. JOSEPH'S MEDICAL CENTER
NORTH TOWER ADDITION AND
SUPPORTIVE BUILDINGS

1800 North California Street
Stockton, California
WKA No. 13340.02
January 11, 2022

Wallace-Kuhl & Associates, on behalf of Port City Operating Company LLC dba St. Joseph's Medical Center Stockton and Common Spirit Health, National Real Estate Services, has prepared this *Phase II* Environmental Site Assessment Report for activities at the St. Joseph's Medical Center North Tower Addition and Supportive Buildings Property located in Stockton, San Joaquin County, California. This report was prepared in a manner consistent with the level of care and skill ordinarily exercised by professional geologists and environmental scientists. This report was prepared under the supervision of a California Professional Geologist.

WALLACE▪KUHL & ASSOCIATES



Jack Christy
Staff Geologist

Dennis B. Nakamoto, PG, CEG, CHG
Senior Hydrogeologist

Phase II Environmental Site Assessment Report

ST. JOSEPH'S MEDICAL CENTER
NORTH TOWER ADDITION AND
SUPPORTIVE BUILDINGS

1800 North California Street
Stockton, California
WKA No. 13340.02
January 11, 2022

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2 Summary of Soil Analytical Results – Lead
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APPENDIX

A Laboratory Analytical Reports and Chain-of-Custody Documentation

Phase II Environmental Site Assessment Report
ST. JOSEPH'S MEDICAL CENTER
NORTH TOWER ADDITION AND
SUPPORTIVE BUILDINGS
1800 North California Street
Stockton, California
WKA No. 13340.02
January 11, 2022

1.0 INTRODUCTION

Wallace-Kuhl and Associates (WKA) prepared this report to describe activities, summarize laboratory analytical results, and present conclusions for the Phase II Environmental Site Assessment completed at the St. Joseph's Medical Center, North Tower Addition and Supportive Buildings property (Site) located in Stockton, San Joaquin County, California. The Site includes approximately 8.3 acres that are actively being used as a medical facility. The Site is identified by San Joaquin County Assessor's Parcel Number 127-180-440.

WKA identified recommended sampling procedures for soil adjacent to structures historically present using the Department of Toxic Substances Control (DTSC) *Interim Guidance Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers,* Revised June 9, 2006[1] (Structures Guidance).

2.0 SCOPE OF SERVICES

The purpose of the activities comprising this Scope of Services was to evaluate shallow soil at the perimeter of three structures for the presence of lead from weathering of lead-containing paints, organochlorine pesticides (OCPs) applied as termiticides, and polychlorinated biphenyls (PCBs) from dielectric oils. The following sections describe activities to collect soil samples from locations over the Site.

2.1 Soil Sample Locations

Figure 1 illustrates the locations for soil samples S1 through S16. WKA employed geographic information system (GIS) techniques to identify sample location coordinates and a high-

[1] Interim Guidance: Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers (DTSC, June 9, 2006).

accuracy global positioning system receiver (GPSr) to locate sample coordinates in the field. Figure 1 shows that each sample location resides within irrigated landscaped areas, which are covered by either lawns or shrubbery and mulch.

2.2 Soil Sample Collection

WKA used manually operated soil sampling tools to collect soil within the interval between 1½ and 2 feet below ground surface (bgs). Dense accumulations of root material were excluded from the sampled interval, and the upper interval of disturbed soil was not included in the sampled interval. WKA evaluated each soil sample for the presence of non-soil materials and described soil according to the Unified Soil Classification System (USCS). Each soil sample was identified as a brown, silty clay that was moist and exhibited moderate plasticity. WKA cleaned the soil sampling tools before each use by washing them in a solution of clean water and a surfactant, then rinsing the tools in three baths of clean water.

WKA placed each of the sixteen soil samples into a laboratory-provided container that was sealed using a Teflon™-lined lid. WKA labeled each sample container to indicate a unique sample number, sample location, time and date collected, and the sampler's identification. Each container was preserved in a chilled cooler during transportation, with completed chain-of-custody forms, to California Laboratory Services (CLS), a California State Water Resources Control Board Environmental Laboratory Accreditation Program (ELAP) accredited laboratory.

3.0 LABORATORY ANALYSIS

WKA requested CLS to analyze each of the samples by the following methods.

- Total Lead by EPA Method 6010B
- Organochlorine pesticides by EPA Method 8081; and,
- Polychlorinated Biphenyls by EPA Method 8082.

Laboratory datasheets and chain of custody documents are provided as Appendix A.

4.0 FINDINGS

Tables 1, 2, and 3 summarize laboratory results for OCPs, total lead, and PCBs, respectively. Table 1 shows that 4,4 dichlorodiphenyldichloroethane (DDD), 4,4 dichlorodiphenyldichloro-

ethylene (DDE), 4,4 dichlorodiphenytrichoroethane (DDT), and dieldrin were present in one or more of the sixteen samples at concentrations exceeding their respective laboratory reporting limit. The Table also shows that technical chlordane was present in 11 of the 16 samples. Table 2 shows that total lead concentrations were less than 29 milligrams per kilogram, except in samples S13, S14, S15, and S16. The four samples contained total lead concentrations of 260, 75, 600, and 460 mg/kg, respectively.

5.0 CONCLUSIONS

Table 4 lists the maximum concentration of each chemical detected in soil with their respective human health protection threshold for a hospital, sensitive use exposure scenario.

Table 4
Comparison to Sensitive Land Use Exposure Thresholds

Constituent of Potential Concern	Maximum Detection (Concentration)	Residential Soil Threshold (Concentration)
4,4 DDD	35 µg/kg	1,900[a] µg/kg
4,4 DDE	130 µg/kg	2,000[a] µg/kg
4,4 DDT	150 µg/kg	1,900[a] µg/kg
Dieldrin	11 µg/kg	34[a] µg/kg
Technical Chlordane	480 µg/kg	1,700 [a] µg/kg
Total Lead	600 mg/kg	80[a] mg/kg
Aroclor 1260 (PCB)	73 µg/kg	230[b] µg/kg

Notes: OCP Organochlorine pesticide
PCB Polychlorinated biphenyl
µg/kg micrograms per kilogram
mg/kg milligrams per kilogram
[a] HERO Note 3 residential threshold
[b] San Francisco Bay Regional Water Quality Control Board Environmental Tier 1 Screening Level for PCBs

Table 4 shows that only total lead is present in samples submitted for analysis in concentrations exceeding its residential threshold for the protection of human health. The remaining chemicals listed in Table 4 have characteristics of a low solubility to water and slow downward mobility in

soil. Therefore, the presence of each chemical in soil collected between 1½ and 2 feet bgs raises a concern that soil above the sampled interval may contain significantly greater concentrations of the detected chemical.

Additionally, the total lead concentrations exceeding 50 mg/kg raise concerns that the soluble lead concentration determined by either the California Waste Extraction Test (WET) or the Federal Toxicity Characteristic Leaching Procedures (TCLP) may result in classifying soil as a hazardous waste for the purpose of off-site disposal.

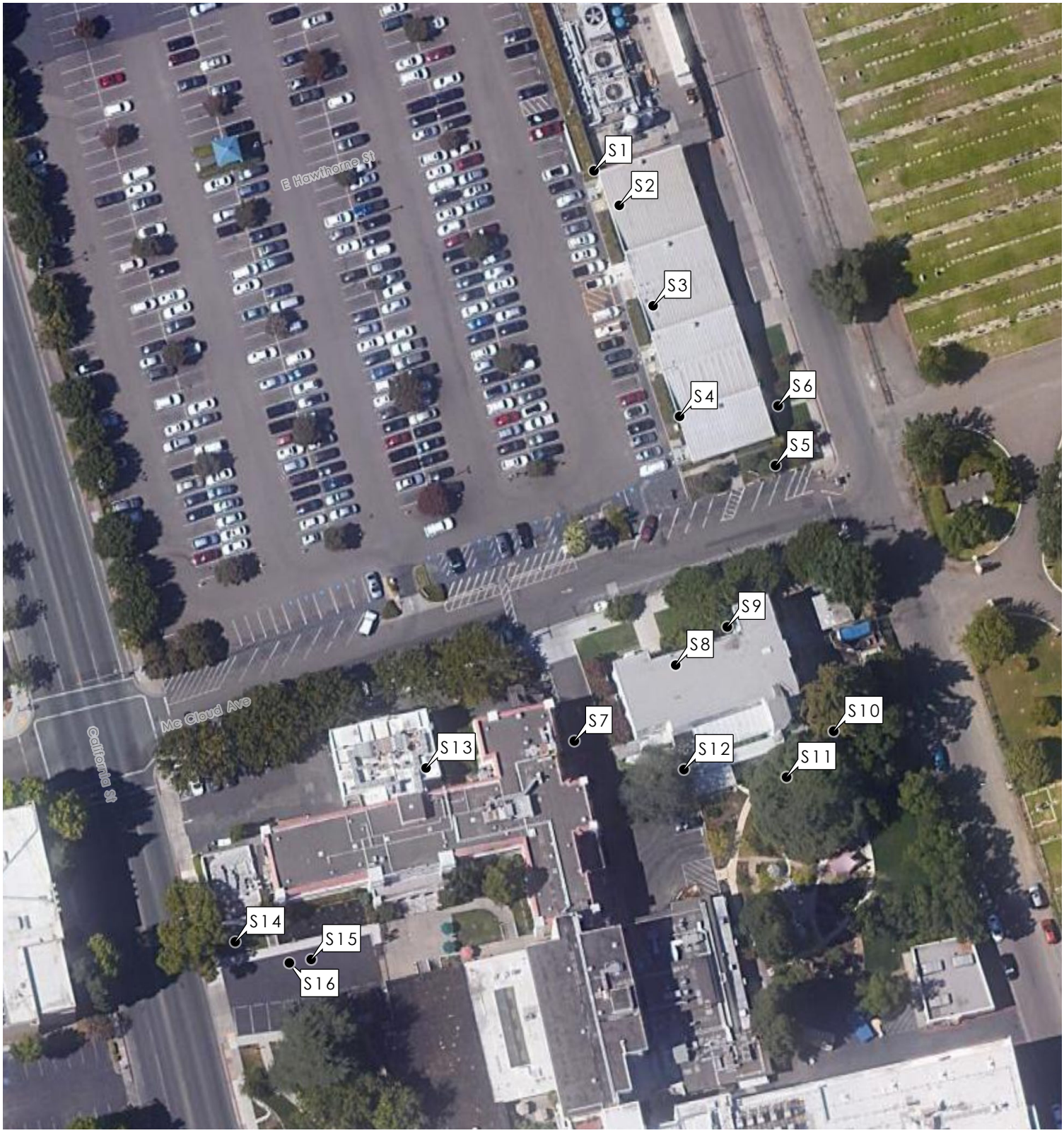
6.0 RECOMMENDATIONS

WKA recommends that additional soil samples be collected between zero and 0.5 feet bgs at each of the 16 locations described in this report. Each of the 16 soil samples should be submitted for laboratory analysis of OCPs, total lead, and PCBs. The WET and/or the TCLP testing should be conducted only on the soil after being stockpiled in preparation for off-site disposal and if the total lead concentration in stockpiled soil exceeds 50 mg/kg.

7.0 LIMITATIONS

The statements and results presented in this report are based upon the scope of work described above and on observations made on the dates of WKA's applicable fieldwork. The summary report was prepared in a manner consistent with the level of care and skill ordinarily exercised by Professional Geologists. Work was performed using a degree of skill consistent with that of competent environmental consulting firms performing similar work in the area. No recommendation is made as to the suitability of the property for any purpose. The result of the investigation does not preclude the possibility that materials currently, or in the future, defined as hazardous are present on the site. This report is applicable only to the investigated site and should not be used for any other site. No warranty either expressed or implied, is provided.

FIGURES



N

0 40 80

Feet

Aerial imagery provided by Esri.
Projection: NAD 1983 2011 StatePlane California II FIPS 0402 Ft US

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SAMPLE LOCATION MAP

ST JOSEPH'S MEDICAL CENTER

Stockton, California

FIGURE	1
DRAWN BY	JWR
CHECKED BY	DBN
PROJECT MGR	DBN
DATE	12/2021
4640.2100069.0000	

TABLES

Table 1
Summary of Soil Analytical Results for Organochlorine Pesticides
ST. JOSEPH'S MEDICAL CENTER
Project No. 4640.2100069.0000

Sample ID	Sample Date	Sample Depth (feet bgs)	EPA Method 8081A																			
			4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	beta-BHC	Chlordane-technical	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	gamma-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Mirex	Toxaphene
Concentrations reported in micrograms per kilogram (µg/kg)																						
S1	12/14/2021	1.5 - 2.0	<17	<17	<17	<5.0	<8.5	<8.5	54	<8.5	<5.0	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S2	12/14/2021	1.5 - 2.0	<17	<17	<17	<5.0	<8.5	<8.5	63	<8.5	<5.0	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S3	12/14/2021	1.5 - 2.0	<17	<17	<17	<5.0	<8.5	<8.5	61	<8.5	<5.0	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S4	12/14/2021	1.5 - 2.0	<17	<17	<17	<5.0	<8.5	<8.5	74	<8.5	<5.0	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S5	12/14/2021	1.5 - 2.0	<17	<17	<17	<5.0	<8.5	<8.5	<17	<8.5	<5.0	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S6	12/14/2021	1.5 - 2.0	<17	<17	<17	<5.0	<8.5	<8.5	46	<8.5	<5.0	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S7	12/14/2021	1.5 - 2.0	<17	<17	<17	<5.0	<8.5	<8.5	32	<8.5	<5.0	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S8	12/14/2021	1.5 - 2.0	<17	96	34	<5.0	<8.5	<8.5	260	<8.5	11	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S9	12/14/2021	1.5 - 2.0	<17	<17	<17	<5.0	<8.5	<8.5	29	<8.5	<5.0	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S10	12/14/2021	1.5 - 2.0	<17	<17	<17	<5.0	<8.5	<8.5	<17	<8.5	<5.0	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S11	12/14/2021	1.5 - 2.0	<17	<17	<17	<5.0	<8.5	<8.5	<17	<8.5	<5.0	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S12	12/14/2021	1.5 - 2.0	<17	<17	<17	<5.0	<8.5	<8.5	<17	<8.5	<5.0	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S13	12/14/2021	1.5 - 2.0	<17	130	150	<5.0	<8.5	<8.5	480	<8.5	5.7	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S14	12/14/2021	1.5 - 2.0	<17	<17	<17	<5.0	<8.5	<8.5	<17	<8.5	<5.0	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S15	12/14/2021	1.5 - 2.0	<17	<17	28	<5.0	<8.5	<8.5	240	<8.5	<5.0	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100
S16	12/14/2021	1.5 - 2.0	35	56	33	<5.0	<8.5	<8.5	410	<8.5	10	<8.5	<17	<17	<17	<17	<8.5	<8.5	<8.5	<85	<17	<100

Notes:
(<) - Less than laboratory reporting limit
(bgs) - Below ground surface
Refer to Figure 3 for sample locations

Table 2
Summary of Soil Analytical Results for Lead
ST. JOSEPH'S MEDICAL CENTER
Project No. 4640.2100069.0000

Sample ID	Sample Date	Sample Depth (feet bgs)	EPA Method 6010B
			Lead
Concentrations reported in miligrams per kilogram (mg/kg)			
S1	12/14/2021	1.5 - 2.0	9.4
S2	12/14/2021	1.5 - 2.0	19
S3	12/14/2021	1.5 - 2.0	30
S4	12/14/2021	1.5 - 2.0	23
S5	12/14/2021	1.5 - 2.0	12
S6	12/14/2021	1.5 - 2.0	16
S7	12/14/2021	1.5 - 2.0	16
S8	12/14/2021	1.5 - 2.0	26
S9	12/14/2021	1.5 - 2.0	29
S10	12/14/2021	1.5 - 2.0	11
S11	12/14/2021	1.5 - 2.0	17
S12	12/14/2021	1.5 - 2.0	14
S13	12/14/2021	1.5 - 2.0	260
S14	12/14/2021	1.5 - 2.0	75
S15	12/14/2021	1.5 - 2.0	600
S16	12/14/2021	1.5 - 2.0	460

Notes:
(<) - Less than laboratory reporting limit
(bgs) - Below ground surface
Refer to Figure 3 for sample locations

Table 3
Summary of Soil Analytical Results for Polychlorinated Biphenyls
ST. JOSEPH'S MEDICAL CENTER
Project No. 4640.2100069.0000

Sample ID	Sample Date	Sample Depth (feet bgs)	EPA Method 8082							
			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1268
Concentrations reported in micrograms per kilogram (µg/kg)										
S1	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	<20	<20
S2	12/14/2021	1.5 - 2.0	<100	<100	<100	<100	<100	<100	<100	<100
S3	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	<20	<20
S4	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	<20	<20
S5	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	<20	<20
S6	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	<20	<20
S7	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	<20	<20
S8	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	<20	<20
S9	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	<20	<20
S10	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	<20	<20
S11	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	<20	<20
S12	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	73	<20
S13	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	<20	<20
S14	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	<20	<20
S15	12/14/2021	1.5 - 2.0	<100	<100	<100	<100	<100	<100	<100	<100
S16	12/14/2021	1.5 - 2.0	<20	<20	<20	<20	<20	<20	<20	<20

Notes:
(<) - Less than laboratory reporting limit
(bgs) - Below ground surface
Refer to Figure 3 for sample locations

APPENDIX A

Laboratory Analytical Reports
and
Chain-of-Custody Documentation

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

December 22, 2021

CLS Work Order #: 21L0913
COC #:

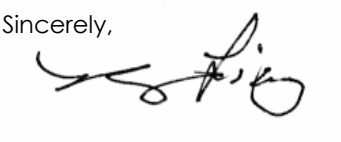
Joe Rosenbery
Wallace Kuhl & Associates- West Sacramento
3050 Industrial Boulevard
West Sacramento, CA 95691

Project Name: St. Joseph's Med Center

Enclosed are the results of analyses for samples received by the laboratory on 12/14/21 15:34. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

21L0913

A Universal Engineering Sciences Company
3050 Industrial Blvd.
West Sacramento, CA 95691
Tel: 916.372.1434
Fax: 916.372.2565

Lab No. _____ Page 1 of 2

WKA Carbon Copy addresses
jrosenbery@wallace-kuhl.com
labresults@wallace-kuhl.com

California EDF Report? ☐Yes ☐No

Chain-of-Custody Record and Analysis Request

Project Manager (Hardcopy or PDF To): Joe Rosenbery

WKA Email Address: jrosenbery@wallace-kuhl.com

Company / Address: see above	Recommended but not mandatory to complete this section: **Sampling Company Log Code:**
Phone No.: see above **Fax No.:** see above	**Global ID:**
Project Number: 13340.02 **P.O. No.:**	**EDF Deliverable To (Email Address):**
Project Name: St. Joseph's Med Center	**Sampler Signature:**
Project Address:	

Analysis of Request

TAT: 12Hr ○ 24 Hr ○ 48Hr ○ 72 Hr ○ 1 WK ● 2WK ○

For Lab Use Only

Sample Designation	Sampling: Date	Sampling: Time	Container: 4 oz Jar	Container: 8 oz. Jar	Container: SS Tube	Container: 250 mL poly	Container: 1000 mL poly	Preservative: HNO3	Preservative: NaOH	Preservative: H2SO4	Preservative: HCl	Preservative: Ice	Matrix: WATER	Matrix: SOIL	OCPs EPA 8081A	Total Lead EPA 6010/6020	PCBs EPA 8082
S1	12/14/21	1031	X									X		X	X	X	X
S2	↓	1035	↓									↓		↓	X	X	X
S3		1040													X	X	X
S4		1044													X	X	X
S5		1047													X	X	X
S6		1050													X	X	X
S7		1105													X	X	X
S8		1107													X	X	X
S9		1110													X	X	X
S10		1113													X	X	X
S11		1117													X	X	X
S12	↓	1120	↓									↓		↓	X	X	X

	Date	Time	Received by:	Date	Time
Relinquished by:	12/14/21	1530			
Relinquished by:			Received by:	12/14/21	1534
Relinquished by:			Received by Laboratory:		

Remarks:
please send copy of report to jcoburn@wallace-kuhl.com

Bill to: Wallace-Kuhl & Associates c/o
WKA Contact and swilliams@wallace-kuhl.com

7.5/8.2

210913

Wallace Kuhl — A Universal Engineering Sciences Company

3050 Industrial Blvd.
West Sacramento, CA 95691
Tel: 916.372.1434
Fax: 916.372.2565

Lab No. _____ Page 2 of 2

WKA Carbon Copy addresses
jrosenbery@wallace-kuhl.com
labresults@wallace-kuhl.com

California EDF Report? ☐Yes ☐No

Chain-of-Custody Record and Analysis Request

Project Manager (Hardcopy or PDF To): Joe Rosenbery
WKA Email Address: jrosenbery@wallace-kuhl.com

Company / Address: see above

Recommended but not mandatory to complete this section:
Sampling Company Log Code:
Global ID:
EDF Deliverable To (Email Address):

Phone No.: see above **Fax No.:** see above
Project Number: 13340.02 **P.O. No.:**
Project Name: St. Joseph's Med Center
Sampler Signature:
Project Address:

Analysis of Request

TAT: 12Hr ○ 24 Hr ○ 48Hr ○ 72 Hr ○ 1 WK ● 2WK ○

For Lab Use Only

Sample Designation	Date	Time	Sampling: 4 oz Jar	8 oz. Jar	SS Tube	250 mL poly	1000 mL poly	Preservative: HNO3	NaOH	H2SO4	HCl	Ice	Matrix: WATER	SOIL	OCPs EPA 8081A	Total Lead EPA 6010/6020	PCBs EPA 8082
S13	12/14/21	1150	X									X	X		X	X	X
S14	↓	1154	↓									↓	↓		X	X	X
S15		1157													X	X	X
S16		1200													X	X	X

Relinquished by:	Date	Time	Received by:	Remarks:
	12/14/21	1530	12/14/21 1534	please send copy of report to jcoburn@wallace-kuhl.com
Relinquished by:	Date	Time	Received by:	
Relinquished by:	Date	Time	Received by Laboratory:	Bill to: Wallace-Kuhl & Associates c/o WKA Contact and swilliams@wallace-kuhl.com

7.5 / 8.2

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S1 (21L0913-01) Soil Sampled: 12/14/21 10:31 Received: 12/14/21 15:34									
Lead	**9.4**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S2 (21L0913-02) Soil Sampled: 12/14/21 10:35 Received: 12/14/21 15:34									
Lead	**19**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S3 (21L0913-03) Soil Sampled: 12/14/21 10:40 Received: 12/14/21 15:34									
Lead	**30**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S4 (21L0913-04) Soil Sampled: 12/14/21 10:44 Received: 12/14/21 15:34									
Lead	**23**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S5 (21L0913-05) Soil Sampled: 12/14/21 10:47 Received: 12/14/21 15:34									
Lead	**12**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S6 (21L0913-06) Soil Sampled: 12/14/21 10:50 Received: 12/14/21 15:34									
Lead	**16**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S7 (21L0913-07) Soil Sampled: 12/14/21 11:05 Received: 12/14/21 15:34									
Lead	**16**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S8 (21L0913-08) Soil Sampled: 12/14/21 11:07 Received: 12/14/21 15:34									
Lead	**26**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S9 (21L0913-09) Soil Sampled: 12/14/21 11:10 Received: 12/14/21 15:34									
Lead	**29**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S10 (21L0913-10) Soil Sampled: 12/14/21 11:13 Received: 12/14/21 15:34									
Lead	**11**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S11 (21L0913-11) Soil Sampled: 12/14/21 11:17 Received: 12/14/21 15:34									
Lead	**17**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S12 (21L0913-12) Soil Sampled: 12/14/21 11:20 Received: 12/14/21 15:34									
Lead	**14**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S13 (21L0913-13) Soil Sampled: 12/14/21 11:50 Received: 12/14/21 15:34									
Lead	**260**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S14 (21L0913-14) Soil Sampled: 12/14/21 11:54 Received: 12/14/21 15:34									
Lead	**75**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S15 (21L0913-15) Soil Sampled: 12/14/21 11:57 Received: 12/14/21 15:34									
Lead	**600**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	
S16 (21L0913-16) Soil Sampled: 12/14/21 12:00 Received: 12/14/21 15:34									
Lead	**460**	2.5	mg/kg	1	2110440	12/16/21	12/16/21	EPA 6010B	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S1 (21L0913-01) Soil Sampled: 12/14/21 10:31 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**54**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*54 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*78 %*	*46-139*		"	"	"	"	
S2 (21L0913-02) Soil Sampled: 12/14/21 10:35 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S2 (21L0913-02) Soil Sampled: 12/14/21 10:35 Received: 12/14/21 15:34									**QRL-8**
Chlordane-technical	**63**	17	µg/kg	5	2110478	"	12/17/21	EPA 8081A	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*72 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*92 %*	*46-139*		"	"	"	"	
S3 (21L0913-03) Soil Sampled: 12/14/21 10:40 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**61**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
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West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S3 (21L0913-03) Soil Sampled: 12/14/21 10:40 Received: 12/14/21 15:34									**QRL-8**
Endrin	ND	17	µg/kg	5	2110478	"	12/17/21	EPA 8081A	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*39 %*	*52-141*		"	"	"	"	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*83 %*	*46-139*		"	"	"	"	
S4 (21L0913-04) Soil Sampled: 12/14/21 10:44 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**74**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	

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West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S4 (21L0913-04) Soil Sampled: 12/14/21 10:44 Received: 12/14/21 15:34									**QRL-8**
Mirex	ND	17	µg/kg	5	2110478	"	12/17/21	EPA 8081A	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*62 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*91 %*	*46-139*		"	"	"	"	
S5 (21L0913-05) Soil Sampled: 12/14/21 10:47 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	ND	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*27 %*	*52-141*		"	"	"	"	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*43 %*	*46-139*		"	"	"	"	*QS-4*

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Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S6 (21L0913-06) Soil Sampled: 12/14/21 10:50 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**46**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*63 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*68 %*	*46-139*		"	"	"	"	
S7 (21L0913-07) Soil Sampled: 12/14/21 11:05 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S7 (21L0913-07) Soil Sampled: 12/14/21 11:05 Received: 12/14/21 15:34									**QRL-8**
Chlordane-technical	**32**	17	µg/kg	5	2110478	"	12/17/21	EPA 8081A	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*40 %*	*52-141*		*"*	*"*	*"*	*"*	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*69 %*	*46-139*		*"*	*"*	*"*	*"*	
S8 (21L0913-08) Soil Sampled: 12/14/21 11:07 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	**96**	17	"	"	"	"	"	"	
4,4´-DDT	**34**	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**260**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	**11**	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S8 (21L0913-08) Soil Sampled: 12/14/21 11:07 Received: 12/14/21 15:34									**QRL-8**
Endrin	ND	17	µg/kg	5	2110478	"	12/17/21	EPA 8081A	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*88 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*97 %*	*46-139*		"	"	"	"	
S9 (21L0913-09) Soil Sampled: 12/14/21 11:10 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**29**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S9 (21L0913-09) Soil Sampled: 12/14/21 11:10 Received: 12/14/21 15:34									**QRL-8**
Mirex	ND	17	µg/kg	5	2110478	"	12/17/21	EPA 8081A	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*69 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*77 %*	*46-139*		"	"	"	"	
S10 (21L0913-10) Soil Sampled: 12/14/21 11:13 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	ND	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*53 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*64 %*	*46-139*		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S11 (21L0913-11) Soil Sampled: 12/14/21 11:17 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	ND	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*67 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*93 %*	*46-139*		"	"	"	"	
S12 (21L0913-12) Soil Sampled: 12/14/21 11:20 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S12 (21L0913-12) Soil Sampled: 12/14/21 11:20 Received: 12/14/21 15:34									**QRL-8**
Chlordane-technical	ND	17	µg/kg	5	2110478	"	12/17/21	EPA 8081A	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*104 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*86 %*	*46-139*		"	"	"	"	
S13 (21L0913-13) Soil Sampled: 12/14/21 11:50 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	**130**	83	"	25	"	"	"	"	
4,4´-DDT	**150**	83	"	"	"	"	"	"	
Aldrin	ND	5.0	"	5	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**480**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	**5.7**	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S13 (21L0913-13) Soil Sampled: 12/14/21 11:50 Received: 12/14/21 15:34									**QRL-8**
Endrin	ND	17	µg/kg	5	2110478	"	12/17/21	EPA 8081A	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*64 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*95 %*	*46-139*		"	"	"	"	
S14 (21L0913-14) Soil Sampled: 12/14/21 11:54 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	ND	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S14 (21L0913-14) Soil Sampled: 12/14/21 11:54 Received: 12/14/21 15:34									**QRL-8**
Mirex	ND	17	µg/kg	5	2110478	"	12/17/21	EPA 8081A	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*67 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*76 %*		*46-139*	"	"	"	"	
S15 (21L0913-15) Soil Sampled: 12/14/21 11:57 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	**28**	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**240**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*77 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*91 %*		*46-139*	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S16 (21L0913-16) Soil Sampled: 12/14/21 12:00 Received: 12/14/21 15:34									**QRL-8**
4,4´-DDD	**35**	17	µg/kg	5	2110478	12/16/21	12/17/21	EPA 8081A	
4,4´-DDE	**56**	17	"	"	"	"	"	"	
4,4´-DDT	**33**	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**410**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	**10**	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*50 %*	*52-141*		"	"	"	"	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*78 %*	*46-139*		"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S1 (21L0913-01) Soil Sampled: 12/14/21 10:31 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	
Aroclor 1268	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*54 %*	*50-150*		"	"	"	"	
S2 (21L0913-02) Soil Sampled: 12/14/21 10:35 Received: 12/14/21 15:34									**QRL-8**
Aroclor 1016	ND	100	µg/kg	5	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	100	"	"	"	"	"	"	
Aroclor 1232	ND	100	"	"	"	"	"	"	
Aroclor 1242	ND	100	"	"	"	"	"	"	
Aroclor 1248	ND	100	"	"	"	"	"	"	
Aroclor 1254	ND	100	"	"	"	"	"	"	
Aroclor 1260	ND	100	"	"	"	"	"	"	
Aroclor 1268	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*73 %*	*50-150*		"	"	"	"	
S3 (21L0913-03) Soil Sampled: 12/14/21 10:40 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S3 (21L0913-03) Soil Sampled: 12/14/21 10:40 Received: 12/14/21 15:34									
Aroclor 1268	ND	20	µg/kg	1	2110479	"	12/18/21	EPA 8082	
Surrogate: Decachlorobiphenyl		*49 %*	*50-150*		"	"	"	"	*QS-4*
S4 (21L0913-04) Soil Sampled: 12/14/21 10:44 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	
Aroclor 1268	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*59 %*	*50-150*		"	"	"	"	
S5 (21L0913-05) Soil Sampled: 12/14/21 10:47 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	
Aroclor 1268	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*34 %*	*50-150*		"	"	"	"	*QS-4*

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S6 (21L0913-06) Soil Sampled: 12/14/21 10:50 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	
Aroclor 1268	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*48 %*	*50-150*		"	"	"	"	*QS-4*
S7 (21L0913-07) Soil Sampled: 12/14/21 11:05 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	
Aroclor 1268	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*40 %*	*50-150*		"	"	"	"	*QS-4*
S8 (21L0913-08) Soil Sampled: 12/14/21 11:07 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
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West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S8 (21L0913-08) Soil Sampled: 12/14/21 11:07 Received: 12/14/21 15:34									
Aroclor 1268	ND	20	µg/kg	1	2110479	"	12/18/21	EPA 8082	
Surrogate: Decachlorobiphenyl		*64 %*	*50-150*		*"*	*"*	*"*	*"*	
S9 (21L0913-09) Soil Sampled: 12/14/21 11:10 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	
Aroclor 1268	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*63 %*	*50-150*		*"*	*"*	*"*	*"*	
S10 (21L0913-10) Soil Sampled: 12/14/21 11:13 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	
Aroclor 1268	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*50 %*	*50-150*		*"*	*"*	*"*	*"*	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
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West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S11 (21L0913-11) Soil Sampled: 12/14/21 11:17 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	
Aroclor 1268	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*59 %*	*50-150*		"	"	"	"	
S12 (21L0913-12) Soil Sampled: 12/14/21 11:20 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	**73**	20	"	"	"	"	"	"	
Aroclor 1268	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*62 %*	*50-150*		"	"	"	"	
S13 (21L0913-13) Soil Sampled: 12/14/21 11:50 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S13 (21L0913-13) Soil Sampled: 12/14/21 11:50 Received: 12/14/21 15:34									
Aroclor 1268	ND	20	µg/kg	1	2110479	"	12/18/21	EPA 8082	
Surrogate: Decachlorobiphenyl		*62 %*	*50-150*		"	"	"	"	
S14 (21L0913-14) Soil Sampled: 12/14/21 11:54 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	
Aroclor 1268	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*55 %*	*50-150*		"	"	"	"	
S15 (21L0913-15) Soil Sampled: 12/14/21 11:57 Received: 12/14/21 15:34									**QRL-8**
Aroclor 1016	ND	100	µg/kg	5	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	100	"	"	"	"	"	"	
Aroclor 1232	ND	100	"	"	"	"	"	"	
Aroclor 1242	ND	100	"	"	"	"	"	"	
Aroclor 1248	ND	100	"	"	"	"	"	"	
Aroclor 1254	ND	100	"	"	"	"	"	"	
Aroclor 1260	ND	100	"	"	"	"	"	"	
Aroclor 1268	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*60 %*	*50-150*		"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S16 (21L0913-16) Soil Sampled: 12/14/21 12:00 Received: 12/14/21 15:34									
Aroclor 1016	ND	20	µg/kg	1	2110479	12/16/21	12/18/21	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	ND	20	"	"	"	"	"	"	
Aroclor 1268	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*55 %*		*50-150*	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2110440 - EPA 3050B										
Blank (2110440-BLK1)				Prepared & Analyzed: 12/16/21						
Lead	ND	2.5	mg/kg							
LCS (2110440-BS1)				Prepared & Analyzed: 12/16/21						
Lead	47.7	2.5	mg/kg	50.0		95	75-125			
Matrix Spike (2110440-MS1)	**Source: 21L0913-01**			Prepared & Analyzed: 12/16/21						
Lead	50.7	2.5	mg/kg	50.0	9.42	83	75-125			
Matrix Spike Dup (2110440-MSD1)	**Source: 21L0913-01**			Prepared & Analyzed: 12/16/21						
Lead	51.3	2.5	mg/kg	50.0	9.42	84	75-125	1	30	

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2110478 - LUFT-DHS GCNV										
Blank (2110478-BLK1)				Prepared: 12/16/21 Analyzed: 12/17/21						
Aldrin	ND	1.0	µg/kg							
alpha-BHC	ND	1.7	"							
beta-BHC	ND	1.7	"							
gamma-BHC (Lindane)	ND	1.7	"							
delta-BHC	ND	1.7	"							
Chlordane-technical	ND	3.3	"							
4,4´-DDD	ND	3.3	"							
4,4´-DDE	ND	3.3	"							
4,4´-DDT	ND	3.3	"							
Dieldrin	ND	1.0	"							
Endosulfan I	ND	1.7	"							
Endosulfan II	ND	3.3	"							
Endosulfan sulfate	ND	3.3	"							
Endrin	ND	3.3	"							
Endrin aldehyde	ND	3.3	"							
Heptachlor	ND	1.7	"							
Heptachlor epoxide	ND	1.7	"							
Methoxychlor	ND	17	"							
Mirex	ND	3.3	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	*4.20*		*"*	*8.33*		*50*	*46-139*			
Surrogate: Decachlorobiphenyl	*7.21*		*"*	*8.33*		*87*	*52-141*			
LCS (2110478-BS1)				Prepared: 12/16/21 Analyzed: 12/17/21						
Aldrin	12.0	1.0	µg/kg	16.7		72	47-132			
gamma-BHC (Lindane)	13.2	1.7	"	16.7		79	56-133			
4,4´-DDT	19.9	3.3	"	16.7		120	46-137			
Dieldrin	17.2	1.0	"	16.7		103	44-143			
Endrin	18.1	3.3	"	16.7		109	30-147			
Heptachlor	13.6	1.7	"	16.7		82	33-148			
Surrogate: Tetrachloro-meta-xylene	*4.88*		*"*	*8.33*		*59*	*46-139*			

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center
3050 Industrial Boulevard	Project Number:	13340.02
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery

CLS Work Order #: 21L0913
COC #:

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2110478 - LUFT-DHS GCNV										
LCS (2110478-BS1)				Prepared: 12/16/21 Analyzed: 12/17/21						
Surrogate: Decachlorobiphenyl	*7.52*		*µg/kg*	*8.33*		*90*	*52-141*			
LCS Dup (2110478-BSD1)				Prepared: 12/16/21 Analyzed: 12/17/21						
Aldrin	12.3	1.0	µg/kg	16.7		74	47-132	2	30	
gamma-BHC (Lindane)	13.6	1.7	"	16.7		82	56-133	3	30	
4,4´-DDT	19.8	3.3	"	16.7		119	46-137	0.8	30	
Dieldrin	17.3	1.0	"	16.7		104	44-143	0.5	30	
Endrin	18.1	3.3	"	16.7		109	30-147	0.09	30	
Heptachlor	13.9	1.7	"	16.7		83	33-148	2	30	
Surrogate: Tetrachloro-meta-xylene	*4.95*		*"*	*8.33*		*59*	*46-139*			
Surrogate: Decachlorobiphenyl	*7.82*		*"*	*8.33*		*94*	*52-141*			
Matrix Spike (2110478-MS1)	**Source: 21L0913-01**			Prepared: 12/16/21 Analyzed: 12/17/21						**QRL-8**
Aldrin	11.1	5.0	µg/kg	16.7	ND	66	47-138			
gamma-BHC (Lindane)	11.9	8.5	"	16.7	ND	71	38-144			
4,4´-DDT	12.3	17	"	16.7	ND	74	41-157			
Dieldrin	13.2	5.0	"	16.7	ND	79	46-155			
Endrin	12.7	17	"	16.7	ND	76	34-149			
Heptachlor	12.5	8.5	"	16.7	ND	75	36-155			
Surrogate: Tetrachloro-meta-xylene	*16.1*		*"*	*20.8*		*77*	*46-139*			
Surrogate: Decachlorobiphenyl	*13.0*		*"*	*20.8*		*63*	*52-141*			
Matrix Spike Dup (2110478-MSD1)	**Source: 21L0913-01**			Prepared: 12/16/21 Analyzed: 12/17/21						**QRL-8**
Aldrin	11.5	5.0	µg/kg	16.7	ND	69	47-138	4	35	
gamma-BHC (Lindane)	12.6	8.5	"	16.7	ND	75	38-144	6	35	
4,4´-DDT	10.8	17	"	16.7	ND	65	41-157	13	35	
Dieldrin	13.7	5.0	"	16.7	ND	82	46-155	4	35	
Endrin	13.0	17	"	16.7	ND	78	34-149	2	35	
Heptachlor	13.1	8.5	"	16.7	ND	79	36-155	5	35	
Surrogate: Tetrachloro-meta-xylene	*17.1*		*"*	*20.8*		*82*	*46-139*			
Surrogate: Decachlorobiphenyl	*13.7*		*"*	*20.8*		*66*	*52-141*			

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2110479 - LUFT-DHS GCNV										
Blank (2110479-BLK1)				Prepared: 12/16/21 Analyzed: 12/18/21						
Aroclor 1016	ND	20	µg/kg							
Aroclor 1221	ND	20	"							
Aroclor 1232	ND	20	"							
Aroclor 1242	ND	20	"							
Aroclor 1248	ND	20	"							
Aroclor 1254	ND	20	"							
Aroclor 1260	ND	20	"							
Aroclor 1268	ND	20	"							
Surrogate: Decachlorobiphenyl	*7.12*		"	*8.33*		*85*	*50-150*			
LCS (2110479-BS1)				Prepared: 12/16/21 Analyzed: 12/18/21						
Aroclor 1260	71.4	20	µg/kg	83.3		86	29-131			
Surrogate: Decachlorobiphenyl	*6.90*		"	*8.33*		*83*	*50-150*			
LCS Dup (2110479-BSD1)				Prepared: 12/16/21 Analyzed: 12/18/21						
Aroclor 1260	72.0	20	µg/kg	83.3		86	29-131	0.8	30	
Surrogate: Decachlorobiphenyl	*6.76*		"	*8.33*		*81*	*50-150*			
Matrix Spike (2110479-MS1)	**Source: 21L0913-02**			Prepared: 12/16/21 Analyzed: 12/18/21						**QRL-8**
Aroclor 1260	65.1	100	µg/kg	83.3	ND	78	29-131			
Surrogate: Decachlorobiphenyl	*6.20*		"	*8.33*		*74*	*50-150*			
Matrix Spike Dup (2110479-MSD1)	**Source: 21L0913-02**			Prepared: 12/16/21 Analyzed: 12/18/21						**QRL-8**
Aroclor 1260	64.4	100	µg/kg	83.3	ND	77	29-131	1	30	
Surrogate: Decachlorobiphenyl	*6.38*		"	*8.33*		*77*	*50-150*			

Wallace Kuhl & Associates- West Sacramento	Project:	St. Joseph's Med Center	
3050 Industrial Boulevard	Project Number:	13340.02	**CLS Work Order #: 21L0913**
West Sacramento, CA 95691	Project Manager:	Joe Rosenbery	COC #:

Notes and Definitions

QS-4	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QRL-8	The extract of this sample was dark and/or oily. Therefore, the sample was analyzed with a dilution and the reporting limit was raised for all target compounds.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

February 08, 2022

CLS Work Order #: 22A1573
COC #:

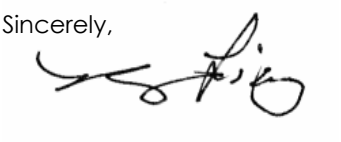
Dennis Nakamoto
Wallace Kuhl & Associates- West Sacramento
3050 Industrial Boulevard
West Sacramento, CA 95691

Project Name: Phase II ESA St. Joseph's Medical Center

Enclosed are the results of analyses for samples received by the laboratory on 01/31/22 17:03. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

WKA 15773

WallaceKuhl & Associates — A Universal Engineering Sciences Company
3050 Industrial Blvd.
West Sacramento, CA 95691
Tel: 916.372.1434
Fax: 916.372.2565

Lab No. _____ Page 1 of 4

Chain-of-Custody Record and Analysis Request

WKA Carbon Copy addresses
irosenbery@wallace-kuhl.com
dnakamoto@wallace-kuhl.com
Labresults@wallace-kuhl.com

California EDF Report? ☐ Yes ☑ No

Project Manager (Hardcopy or PDF To): D. Nakamoto
WKA Email Address: dnakamoto@wallace-kuhl.com; jchristy@wallace-kuhl.com

Company / Address: see above

Recommended but not mandatory to complete this section:
Sampling Company Log Code:
Global ID:
EDF Deliverable To (Email Address):

Phone No.:	Fax No.:
see above	see above

Project Number:	P.O. No.:
WKA 13340.02	

Project Name: Phase II ESA St. Joseph's Medical Center
Sampler Signature: Jack Christy

Project Address: 1800 N California St., Stockton, CA 95204

Analysis of Request

TAT: 12Hr ○ 24 Hr ○ 48Hr ○ 72 Hr ○ 1 WK ◉ 2WK ○

Sample Designation	Sampling: Date	Sampling: Time	Container: 4 oz Jar	Container: 8 oz. Jar	Container: SS Tube	Preservative: HNO3	Preservative: NaOH	Preservative: NH3/NH4	Preservative: HCl	Preservative: Ice	Matrix: WATER	Matrix: SOIL	CAM 17 by 6000/7000	TPHd + TPHmo by 8015	VOCs + Gas by 8260	OCPs by 8081	SVOCs by 8270	PCBs by 8082	Lead by 6010B
S1	1/28/2022	10:40	X							X		X				X			X
S2	1/28/2022	10:50	X							X		X				X			X
S3	1/28/2022	11:05	X							X		X				X			X
S4	1/28/2022	11:20	X							X		X				X			X
S5	1/28/2022	11:30	X							X		X							X
S6	1/28/2022	11:45	X							X		X				X			X
S7	1/28/2022	12:15	X							X		X				X			X
S8	1/28/2022	12:05	X							X		X				X			X
S9	1/28/2022	11:55	X							X		X				X			X
S10	1/28/2022	9:25	X							X		X							X
S11	1/28/2022	9:40	X							X		X							X
S12	1/28/2022	9:50	X							X		X						X	X

Relinquished by:	Date	Time	Received by:
Jack Christy	1/31/22	4:25	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:
	1/31/22	1625	S PEREZ

Remarks:

Bill to: Wallace-Kuhl & Associates c/o
WKA Contact and swilliams@wallace-kuhl.com

8.1/8.8

22A1573

WallaceKuhl & Associates — A Universal Engineering Sciences Company
3050 Industrial Blvd.
West Sacramento, CA 95691
Tel: 916.372.1434
Fax: 916.372.2565

Lab No. _____ Page 2 of 4

WKA Carbon Copy addresses
jrosenbery@wallace-kuhl.com
dnakamoto@wallace-kuhl.com
Labresults@wallace-kuhl.com

California EDF Report? ☐ Yes ☑ No

Chain-of-Custody Record and Analysis Request

Project Manager (Hardcopy or PDF To): D. Nakamoto
WKA Email Address: dnakamoto@wallace-kuhl.com; jchristy@wallace-kuhl.com

Company / Address: see above

Recommended but not mandatory to complete this section:
Sampling Company Log Code:
Global ID:
EDF Deliverable To (Email Address):

Phone No.: see above | **Fax No.:** see above
Project Number: WKA 13340.02 | **P.O. No.:**
Project Name: Phase II ESA St. Joseph's Medical Center
Sampler Signature: Jack Christy
Project Address: 1800 N California St., Stockton, CA 95204

Analysis of Request

TAT: ○ 12Hr ○ 24 Hr ○ 48Hr ○ 72 Hr ◉ 1 WK ○ 2WK

For Lab Use Only

Sample Designation	Date	Time	Sampling: 4 oz Jar	8 oz. Jar	SS Tube	Container: HNO3	NaOH	NH3/NH4	HCl	Ice	Preservative: WATER	Matrix: SOIL	CAM 17 by 6000/7000	TPHd + TPHmo by 8015	VOCs + Gas by 8260	OCPs by 8081	SVOCs by 8270	PCBs by 8082	Lead by 6010B
S13.1A	1/28/2022	12:30	X							X		X				X			X
S13.1B	1/28/2022	1:00	X							X		X				X			X
S13.2A	1/28/2022	12:45	X							X		X				X			X
S13.2B	1/28/2022	1:30	X							X		X				X			X
S13.3A	1/28/2022	1:10	X							X		X				X			X
S13.3B	1/28/2022	1:50	X							X		X				X			X
S13.4A	1/28/2022	1:40	X							X		X				X			X
S13.4B	1/28/2022	2:10	X							X		X				X			X
~~S14~~	1/28/2022		X							X		X							X
S15.1A	1/28/2022	11:25	X							X		X				X			X
S15.1B	1/28/2022	1:10	X							X		X				X			X
S15.2A	1/28/2022	11:45	X							X		X				X			X

Relinquished by:	Date	Time	Received by:
Jack Christy	1/31/22 ~~1/28/2022~~	4:25	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:
	1/31/22	1625	S. PEREZ

Remarks:

Bill to: Wallace-Kuhl & Associates c/o
WKA Contact and swilliams@wallace-kuhl.com

8.1/8.8

22A1573

WallaceKuhl & Associates — A Universal Engineering Sciences Company
3050 Industrial Blvd.
West Sacramento, CA 95691
Tel: 916.372.1434
Fax: 916.372.2565

Lab No. _____ Page 3 of 4

WKA Carbon Copy addresses
jrosenbery@wallace-kuhl.com
dnakamoto@wallace-kuhl.com
Labresults@wallace-kuhl.com

California EDF Report? ☐ Yes ☑ No

Chain-of-Custody Record and Analysis Request

Project Manager (Hardcopy or PDF To): D. Nakamoto
WKA Email Address: dnakamoto@wallace-kuhl.com; jchristy@wallace-kuhl.com

Company / Address: see above
Recommended but not mandatory to complete this section:
Sampling Company Log Code:
Phone No.: see above **Fax No.:** see above
Global ID:
Project Number: WKA 13340.02 **P.O. No.:**
EDF Deliverable To (Email Address):
Project Name: Phase II ESA St. Joseph's Medical Center
Sampler Signature: Jack Christy
Project Address: 1800 N California St., Stockton, CA 95204

Analysis of Request

TAT: 12Hr ○ 24 Hr ○ 48Hr ○ 72 Hr ○ 1 WK ◉ 2WK ○

Sample Designation	Date	Time	Sampling: 4 oz Jar	8 oz. Jar	SS Tube	Container: HNO3	NaOH	NH3/NH4	HCl	Preservative: Ice	Matrix: WATER	SOIL	CAM 17 by 6000/7000	TPHd + TPHmo by 8015	VOCs + Gas by 8260	OCPs by 8081	SVOCs by 8270	PCBs by 8082	Lead by 6010B	For Lab Use Only
S15.2B	1/28/2022	1:35	X							X		X				X			X	
S15.3A	1/28/2022	11:50	X							X		X				X			X	
~~S15.3B~~	~~1/28/2022~~		~~X~~							~~X~~		~~X~~				~~X~~			~~X~~	
S15.4A	1/28/2022	11:55	X							X		X				X			X	
~~S15.4B~~	~~1/28/2022~~		~~X~~							~~X~~		~~X~~				~~X~~			~~X~~	
S16.1A	1/28/2022	10:50	X							X		X				X			X	
S16.1B	1/28/2022	2:00	X							X		X				X			X	
S16.2A	1/28/2022	12:00	X							X		X				X			X	
S16.2B	1/28/2022	2:10	X							X		X				X			X	
S16.3A	1/28/2022	12:05	X							X		X				X			X	
S16.3B	1/28/2022	2:05	X							X		X				X			X	
S16.4A	1/28/2022	12:10	X							X		X				X			X	

Relinquished by: Jack Christy	**Date** 1/31/22 ~~1/28/2022~~	**Time** 9:25	**Received by:**
Relinquished by:	**Date**	**Time**	**Received by:**
Relinquished by:	**Date** 1/31/22	**Time** 1685	**Received by Laboratory:** S.PEREZ

Remarks:

Bill to: Wallace-Kuhl & Associates c/o
WKA Contact and swilliams@wallace-kuhl.com

8.1/8.8

22A1573

WallaceKuhl — A Universal Engineering Sciences Company

3050 Industrial Blvd.
West Sacramento, CA 95691
Tel: 916.372.1434
Fax: 916.372.2565

Lab No. _____ Page 4 of 4

WKA Carbon Copy addresses
jrosenbery@wallace-kuhl.com
dnakamoto@wallace-kuhl.com
Labresults@wallace-kuhl.com

California EDF Report? ☐ Yes ☑ No

Company / Address: see above

Phone No.: see above **Fax No.:** see above

Project Number: WKA 13340.02 **P.O. No.:**

Project Name: Phase II ESA St. Joseph's Medical Center

Project Address: 1800 N California St., Stockton, CA 95204

Recommended but not mandatory to complete this section:
Sampling Company Log Code:
Global ID:
EDF Deliverable To (Email Address):
Sampler Signature: Jack Christy

Chain-of-Custody Record and Analysis Request

Project Manager (Hardcopy or PDF To): D. Nakamoto
WKA Email Address: dnakamoto@wallace-kuhl.com; jchristy@wallace-kuhl.com

Sample Designation	Sampling: Date	Sampling: Time	Container: 4 oz Jar	Container: 8 oz. Jar	Container: SS Tube	Preservative: HNO3	Preservative: NaOH	Preservative: NH3/NH4	Preservative: HCl	Preservative: Ice	Matrix: WATER	Matrix: SOIL	CAM 17 by 6000/7000	TPHd + TPHmo by 8015	VOCs + Gas by 8260	OCPs by 8081	SVOCs by 8270	PCBs by 8082	Lead by 6010B
S16.4B	1/28/2022	2:30	X							X		X				X			X
S14.1A	1/31/22	11:20	X							X		X							X
S14.2A	1/31/22	11:25	X							X		X							X
S14.2B	1/31/22	12:40	X							X		X							X
S14.3A	1/31/22	11:35	X							X		X							X
S14.4A	1/31/22	11:40	X							X		X							X
S14.4B	1/31/22	1:00	X							X		X							X

Relinquished by: Jack Christy — **Date** 1/31/22 (1/28/2022) — **Time** 4:25 — **Received by:**

Relinquished by: — **Date** — **Time** — **Received by:**

Relinquished by: — **Date** 1/31/22 — **Time** 1678 — **Received by Laboratory:** SPERE2

Remarks:

Bill to: Wallace-Kuhl & Associates c/o
WKA Contact and swilliams@wallace-kuhl.com

TAT: ○ 12Hr ○ 24 Hr ○ 48Hr ○ 72 Hr ◉ 1 WK ○ 2WK

For Lab Use Only

8:1/8.8

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S1 (22A1573-01) Soil Sampled: 01/28/22 10:40 Received: 01/31/22 17:03									
Lead	**10**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S2 (22A1573-02) Soil Sampled: 01/28/22 10:50 Received: 01/31/22 17:03									
Lead	**29**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S3 (22A1573-03) Soil Sampled: 01/28/22 11:05 Received: 01/31/22 17:03									
Lead	**46**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S4 (22A1573-04) Soil Sampled: 01/28/22 11:20 Received: 01/31/22 17:03									
Lead	**27**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S5 (22A1573-05) Soil Sampled: 01/28/22 11:30 Received: 01/31/22 17:03									
Lead	**11**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S6 (22A1573-06) Soil Sampled: 01/28/22 11:45 Received: 01/31/22 17:03									
Lead	**5.6**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S7 (22A1573-07) Soil Sampled: 01/28/22 12:15 Received: 01/31/22 17:03									
Lead	**16**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S8 (22A1573-08) Soil Sampled: 01/28/22 12:05 Received: 01/31/22 17:03									
Lead	**1600**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S9 (22A1573-09) Soil Sampled: 01/28/22 11:55 Received: 01/31/22 17:03									
Lead	**22**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S10 (22A1573-10) Soil Sampled: 01/31/22 09:25 Received: 01/31/22 17:03									
Lead	**23**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S11 (22A1573-11) Soil Sampled: 01/31/22 09:40 Received: 01/31/22 17:03									
Lead	**22**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S12 (22A1573-12) Soil Sampled: 01/31/22 09:50 Received: 01/31/22 17:03									
Lead	**24**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S13.1A (22A1573-13) Soil Sampled: 01/28/22 12:30 Received: 01/31/22 17:03									
Lead	**380**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S13.1B (22A1573-14) Soil Sampled: 01/28/22 13:00 Received: 01/31/22 17:03									
Lead	**6.2**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S13.2A (22A1573-15) Soil Sampled: 01/28/22 12:45 Received: 01/31/22 17:03									
Lead	**210**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S13.2B (22A1573-16) Soil Sampled: 01/28/22 13:30 Received: 01/31/22 17:03									
Lead	**27**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S13.3A (22A1573-17) Soil Sampled: 01/28/22 13:10 Received: 01/31/22 17:03									
Lead	**270**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S13.3B (22A1573-18) Soil Sampled: 01/28/22 13:50 Received: 01/31/22 17:03									
Lead	**8.0**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S13.4A (22A1573-19) Soil Sampled: 01/28/22 13:40 Received: 01/31/22 17:03									
Lead	**400**	2.5	mg/kg	1	2200782	02/01/22	02/01/22	EPA 6010B	
S13.4B (22A1573-20) Soil Sampled: 01/28/22 14:10 Received: 01/31/22 17:03									
Lead	**6.7**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	
S15.1A (22A1573-21) Soil Sampled: 01/31/22 11:25 Received: 01/31/22 17:03									
Lead	**160**	2.5	mg/kg	1	2200790	02/01/22	02/04/22	EPA 6010B	
S15.1B (22A1573-22) Soil Sampled: 01/31/22 13:10 Received: 01/31/22 17:03									
Lead	**7.1**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	
S15.2A (22A1573-23) Soil Sampled: 01/31/22 11:45 Received: 01/31/22 17:03									
Lead	**180**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	
S15.2B (22A1573-24) Soil Sampled: 01/31/22 13:35 Received: 01/31/22 17:03									
Lead	**6.9**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	
S15.3A (22A1573-25) Soil Sampled: 01/31/22 11:50 Received: 01/31/22 17:03									
Lead	**530**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	
S15.4A (22A1573-26) Soil Sampled: 01/31/22 11:55 Received: 01/31/22 17:03									
Lead	**240**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	
S16.1A (22A1573-27) Soil Sampled: 01/31/22 10:50 Received: 01/31/22 17:03									
Lead	**490**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
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West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S16.1B (22A1573-28) Soil Sampled: 01/31/22 14:00 Received: 01/31/22 17:03									
Lead	**6.6**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	
S16.2A (22A1573-29) Soil Sampled: 01/31/22 12:00 Received: 01/31/22 17:03									
Lead	**690**	2.5	mg/kg	1	2200790	02/01/22	02/04/22	EPA 6010B	
S16.2B (22A1573-30) Soil Sampled: 01/31/22 14:10 Received: 01/31/22 17:03									
Lead	**250**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	
S16.3A (22A1573-31) Soil Sampled: 01/31/22 12:05 Received: 01/31/22 17:03									
Lead	**130**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	
S16.3B (22A1573-32) Soil Sampled: 01/31/22 14:05 Received: 01/31/22 17:03									
Lead	**6.7**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	
S16.4A (22A1573-33) Soil Sampled: 01/31/22 12:10 Received: 01/31/22 17:03									
Lead	**1800**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	
S16.4B (22A1573-34) Soil Sampled: 01/31/22 14:30 Received: 01/31/22 17:03									
Lead	**11**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	
S14.1A (22A1573-35) Soil Sampled: 01/31/22 11:20 Received: 01/31/22 17:03									
Lead	**85**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	
S14.2A (22A1573-36) Soil Sampled: 01/31/22 11:25 Received: 01/31/22 17:03									
Lead	**110**	2.5	mg/kg	1	2200790	02/01/22	02/03/22	EPA 6010B	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
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West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Metals by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S14.2B (22A1573-37) Soil Sampled: 01/31/22 12:40 Received: 01/31/22 17:03									
Lead	**4.5**	2.5	mg/kg	1	2200790	02/01/22	02/04/22	EPA 6010B	
S14.3A (22A1573-38) Soil Sampled: 01/31/22 11:35 Received: 01/31/22 17:03									
Lead	**79**	2.5	mg/kg	1	2200790	02/01/22	02/04/22	EPA 6010B	
S14.4A (22A1573-39) Soil Sampled: 01/31/22 11:40 Received: 01/31/22 17:03									
Lead	**100**	2.5	mg/kg	1	2200790	02/01/22	02/04/22	EPA 6010B	
S14.4B (22A1573-40) Soil Sampled: 01/31/22 13:00 Received: 01/31/22 17:03									
Lead	**4.6**	2.5	mg/kg	1	2200790	02/01/22	02/04/22	EPA 6010B	

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West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S1 (22A1573-01) Soil Sampled: 01/28/22 10:40 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**42**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*70 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*76 %*	*46-139*		"	"	"	"	
S2 (22A1573-02) Soil Sampled: 01/28/22 10:50 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	

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Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S2 (22A1573-02) Soil Sampled: 01/28/22 10:50 Received: 01/31/22 17:03									**QRL-8**
Chlordane-technical	**30**	17	µg/kg	5	2200825	"	02/03/22	EPA 8081A	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*107 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*78 %*	*46-139*		"	"	"	"	
S3 (22A1573-03) Soil Sampled: 01/28/22 11:05 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**30**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	**7.2**	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
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Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S3 (22A1573-03) Soil Sampled: 01/28/22 11:05 Received: 01/31/22 17:03									**QRL-8**
Endrin	ND	17	µg/kg	5	2200825	"	02/03/22	EPA 8081A	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*85 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*80 %*	*46-139*		"	"	"	"	
S4 (22A1573-04) Soil Sampled: 01/28/22 11:20 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**34**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	

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West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S4 (22A1573-04) Soil Sampled: 01/28/22 11:20 Received: 01/31/22 17:03									**QRL-8**
Mirex	ND	17	µg/kg	5	2200825	"	02/03/22	EPA 8081A	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*92 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*81 %*	*46-139*		"	"	"	"	
S6 (22A1573-06) Soil Sampled: 01/28/22 11:45 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	ND	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*83 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*73 %*	*46-139*		"	"	"	"	

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Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S7 (22A1573-07) Soil Sampled: 01/28/22 12:15 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	ND	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*79 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*81 %*	*46-139*		"	"	"	"	
S8 (22A1573-08) Soil Sampled: 01/28/22 12:05 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	**19**	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	

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West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S8 (22A1573-08) Soil Sampled: 01/28/22 12:05 Received: 01/31/22 17:03									**QRL-8**
Chlordane-technical	**63**	17	µg/kg	5	2200825	"	02/03/22	EPA 8081A	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*118 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*78 %*	*46-139*		"	"	"	"	
S9 (22A1573-09) Soil Sampled: 01/28/22 11:55 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	ND	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S9 (22A1573-09) Soil Sampled: 01/28/22 11:55 Received: 01/31/22 17:03									**QRL-8**
Endrin	ND	17	µg/kg	5	2200825	"	02/03/22	EPA 8081A	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*76 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*69 %*		*46-139*	"	"	"	"	
S13.1A (22A1573-13) Soil Sampled: 01/28/22 12:30 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	**62**	17	"	"	"	"	"	"	
4,4´-DDT	**62**	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**160**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	**8.4**	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S13.1A (22A1573-13) Soil Sampled: 01/28/22 12:30 Received: 01/31/22 17:03									**QRL-8**
Mirex	ND	17	µg/kg	5	2200825	"	02/03/22	EPA 8081A	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*76 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*84 %*	*46-139*		"	"	"	"	
S13.1B (22A1573-14) Soil Sampled: 01/28/22 13:00 Received: 01/31/22 17:03									
4,4´-DDD	ND	3.3	µg/kg	1	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*76 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*49 %*	*46-139*		"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S13.2A (22A1573-15) Soil Sampled: 01/28/22 12:45 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	**72**	17	"	"	"	"	"	"	
4,4´-DDT	**84**	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**140**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*102 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*80 %*	*46-139*		"	"	"	"	
S13.2B (22A1573-16) Soil Sampled: 01/28/22 13:30 Received: 01/31/22 17:03									
4,4´-DDD	ND	3.3	µg/kg	1	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S13.2B (22A1573-16) Soil Sampled: 01/28/22 13:30 Received: 01/31/22 17:03									
Chlordane-technical	**4.6**	3.3	µg/kg	1	2200825	"	02/03/22	EPA 8081A	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*64 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*50 %*	*46-139*		"	"	"	"	
S13.3A (22A1573-17) Soil Sampled: 01/28/22 13:10 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	**28**	17	"	"	"	"	"	"	
4,4´-DDT	**31**	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**96**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S13.3A (22A1573-17) Soil Sampled: 01/28/22 13:10 Received: 01/31/22 17:03									**QRL-8**
Endrin	ND	17	µg/kg	5	2200825	"	02/03/22	EPA 8081A	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*82 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*88 %*		*46-139*	"	"	"	"	
S13.3B (22A1573-18) Soil Sampled: 01/28/22 13:50 Received: 01/31/22 17:03									
4,4´-DDD	ND	3.3	µg/kg	1	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	**4.0**	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S13.3B (22A1573-18) Soil Sampled: 01/28/22 13:50 Received: 01/31/22 17:03									
Mirex	ND	3.3	µg/kg	1	2200825	"	02/03/22	EPA 8081A	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*77 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*60 %*		*46-139*	"	"	"	"	
S13.4A (22A1573-19) Soil Sampled: 01/28/22 13:40 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	**27**	17	"	"	"	"	"	"	
4,4´-DDT	**34**	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**200**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*72 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*60 %*		*46-139*	"	"	"	"	

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Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S13.4B (22A1573-20) Soil Sampled: 01/28/22 14:10 Received: 01/31/22 17:03									
4,4´-DDD	ND	3.3	µg/kg	1	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*72 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*56 %*	*46-139*		"	"	"	"	
S15.1A (22A1573-21) Soil Sampled: 01/31/22 11:25 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	**19**	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
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Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S15.1A (22A1573-21) Soil Sampled: 01/31/22 11:25 Received: 01/31/22 17:03									**QRL-8**
Chlordane-technical	**42**	17	µg/kg	5	2200825	"	02/03/22	EPA 8081A	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*91 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*77 %*		*46-139*	"	"	"	"	
S15.1B (22A1573-22) Soil Sampled: 01/31/22 13:10 Received: 01/31/22 17:03									
4,4´-DDD	ND	3.3	µg/kg	1	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
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Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S15.1B (22A1573-22) Soil Sampled: 01/31/22 13:10 Received: 01/31/22 17:03									
Endrin	ND	3.3	µg/kg	1	2200825	"	02/03/22	EPA 8081A	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*73 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*61 %*	*46-139*		"	"	"	"	
S15.2A (22A1573-23) Soil Sampled: 01/31/22 11:45 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	**53**	17	"	"	"	"	"	"	
4,4´-DDT	**49**	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**140**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S15.2A (22A1573-23) Soil Sampled: 01/31/22 11:45 Received: 01/31/22 17:03									**QRL-8**
Mirex	ND	17	µg/kg	5	2200825	"	02/03/22	EPA 8081A	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*144 %*		*52-141*	"	"	"	"	*QS-4*
Surrogate: Tetrachloro-meta-xylene		*79 %*		*46-139*	"	"	"	"	
S15.2B (22A1573-24) Soil Sampled: 01/31/22 13:35 Received: 01/31/22 17:03									
4,4´-DDD	ND	3.3	µg/kg	1	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	**4.0**	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*82 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*63 %*		*46-139*	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S15.3A (22A1573-25) Soil Sampled: 01/31/22 11:50 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200825	02/02/22	02/03/22	EPA 8081A	
4,4´-DDE	**190**	83	"	25	"	"	"	"	
4,4´-DDT	**220**	83	"	"	"	"	"	"	
Aldrin	ND	5.0	"	5	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**220**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*88 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*76 %*	*46-139*		"	"	"	"	
S15.4A (22A1573-26) Soil Sampled: 01/31/22 11:55 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200873	02/03/22	02/04/22	EPA 8081A	
4,4´-DDE	ND	17	"	"	"	"	"	"	
4,4´-DDT	ND	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
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West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S15.4A (22A1573-26) Soil Sampled: 01/31/22 11:55 Received: 01/31/22 17:03									**QRL-8**
Chlordane-technical	ND	17	µg/kg	5	2200873	"	02/04/22	EPA 8081A	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*98 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*66 %*		*46-139*	"	"	"	"	
S16.1A (22A1573-27) Soil Sampled: 01/31/22 10:50 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	83	µg/kg	25	2200873	02/03/22	02/04/22	EPA 8081A	
4,4´-DDE	**150**	83	"	"	"	"	"	"	
4,4´-DDT	**100**	83	"	"	"	"	"	"	
Aldrin	ND	5.0	"	5	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**450**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	**24**	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	

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West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S16.1A (22A1573-27) Soil Sampled: 01/31/22 10:50 Received: 01/31/22 17:03									**QRL-8**
Endrin	ND	17	µg/kg	5	2200873	"	02/04/22	EPA 8081A	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*89 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*78 %*		*46-139*	"	"	"	"	
S16.1B (22A1573-28) Soil Sampled: 01/31/22 14:00 Received: 01/31/22 17:03									
4,4´-DDD	ND	3.3	µg/kg	1	2200873	02/03/22	02/04/22	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	

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Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S16.1B (22A1573-28) Soil Sampled: 01/31/22 14:00 Received: 01/31/22 17:03									
Mirex	ND	3.3	µg/kg	1	2200873	"	02/04/22	EPA 8081A	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*82 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*64 %*	*46-139*		"	"	"	"	
S16.2A (22A1573-29) Soil Sampled: 01/31/22 12:00 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	**66**	17	µg/kg	5	2200873	02/03/22	02/04/22	EPA 8081A	
4,4´-DDE	**74**	17	"	"	"	"	"	"	
4,4´-DDT	**51**	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**420**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*71 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*67 %*	*46-139*		"	"	"	"	

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Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S16.2B (22A1573-30) Soil Sampled: 01/31/22 14:10 Received: 01/31/22 17:03									
4,4´-DDD	ND	3.3	µg/kg	1	2200873	02/03/22	02/04/22	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	**6.5**	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*77 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*58 %*	*46-139*		"	"	"	"	
S16.3A (22A1573-31) Soil Sampled: 01/31/22 12:05 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	**46**	17	µg/kg	5	2200873	02/03/22	02/04/22	EPA 8081A	
4,4´-DDE	**99**	17	"	"	"	"	"	"	
4,4´-DDT	**46**	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	

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West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S16.3A (22A1573-31) Soil Sampled: 01/31/22 12:05 Received: 01/31/22 17:03									**QRL-8**
Chlordane-technical	**210**	17	µg/kg	5	2200873	"	02/04/22	EPA 8081A	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	**6.6**	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	
Mirex	ND	17	"	"	"	"	"	"	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*84 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*86 %*		*46-139*	"	"	"	"	
S16.3B (22A1573-32) Soil Sampled: 01/31/22 14:05 Received: 01/31/22 17:03									
4,4´-DDD	ND	3.3	µg/kg	1	2200873	02/03/22	02/04/22	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	

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Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S16.3B (22A1573-32) Soil Sampled: 01/31/22 14:05 Received: 01/31/22 17:03									
Endrin	ND	3.3	µg/kg	1	2200873	"	02/04/22	EPA 8081A	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*80 %*	*52-141*		"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*55 %*	*46-139*		"	"	"	"	
S16.4A (22A1573-33) Soil Sampled: 01/31/22 12:10 Received: 01/31/22 17:03									**QRL-8**
4,4´-DDD	ND	17	µg/kg	5	2200873	02/03/22	02/04/22	EPA 8081A	
4,4´-DDE	**40**	17	"	"	"	"	"	"	
4,4´-DDT	**38**	17	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
alpha-BHC	ND	8.5	"	"	"	"	"	"	
beta-BHC	ND	8.5	"	"	"	"	"	"	
Chlordane-technical	**42**	17	"	"	"	"	"	"	
delta-BHC	ND	8.5	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	8.5	"	"	"	"	"	"	
Endosulfan II	ND	17	"	"	"	"	"	"	
Endosulfan sulfate	ND	17	"	"	"	"	"	"	
Endrin	ND	17	"	"	"	"	"	"	
Endrin aldehyde	ND	17	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	8.5	"	"	"	"	"	"	
Heptachlor	ND	8.5	"	"	"	"	"	"	
Heptachlor epoxide	ND	8.5	"	"	"	"	"	"	
Methoxychlor	ND	85	"	"	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S16.4A (22A1573-33) Soil Sampled: 01/31/22 12:10 Received: 01/31/22 17:03									**QRL-8**
Mirex	ND	17	µg/kg	5	2200873	"	02/04/22	EPA 8081A	
Toxaphene	ND	100	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*124 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*89 %*		*46-139*	"	"	"	"	
S16.4B (22A1573-34) Soil Sampled: 01/31/22 14:30 Received: 01/31/22 17:03									
4,4´-DDD	ND	3.3	µg/kg	1	2200873	02/03/22	02/04/22	EPA 8081A	
4,4´-DDE	ND	3.3	"	"	"	"	"	"	
4,4´-DDT	ND	3.3	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
alpha-BHC	ND	1.7	"	"	"	"	"	"	
beta-BHC	ND	1.7	"	"	"	"	"	"	
Chlordane-technical	ND	3.3	"	"	"	"	"	"	
delta-BHC	ND	1.7	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.7	"	"	"	"	"	"	
Endosulfan II	ND	3.3	"	"	"	"	"	"	
Endosulfan sulfate	ND	3.3	"	"	"	"	"	"	
Endrin	ND	3.3	"	"	"	"	"	"	
Endrin aldehyde	ND	3.3	"	"	"	"	"	"	
gamma-BHC (Lindane)	ND	1.7	"	"	"	"	"	"	
Heptachlor	ND	1.7	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.7	"	"	"	"	"	"	
Methoxychlor	ND	17	"	"	"	"	"	"	
Mirex	ND	3.3	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Decachlorobiphenyl		*86 %*		*52-141*	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*73 %*		*46-139*	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
S12 (22A1573-12) Soil Sampled: 01/31/22 09:50 Received: 01/31/22 17:03									
Aroclor 1016	ND	20	µg/kg	1	2200872	02/03/22	02/07/22	EPA 8082	
Aroclor 1221	ND	20	"	"	"	"	"	"	
Aroclor 1232	ND	20	"	"	"	"	"	"	
Aroclor 1242	ND	20	"	"	"	"	"	"	
Aroclor 1248	ND	20	"	"	"	"	"	"	
Aroclor 1254	ND	20	"	"	"	"	"	"	
Aroclor 1260	**310**	100	"	5	"	"	"	"	
Aroclor 1268	ND	20	"	1	"	"	"	"	
Surrogate: Decachlorobiphenyl		*82 %*		*50-150*	"	"	"	"	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Metals by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2200782 - EPA 3010A										
Blank (2200782-BLK1)				Prepared & Analyzed: 02/01/22						
Lead	ND	2.5	mg/kg							
LCS (2200782-BS1)				Prepared & Analyzed: 02/01/22						
Lead	50.2	2.5	mg/kg	50.0		100	75-125			
Matrix Spike (2200782-MS1)	**Source: 22A1573-01**			Prepared & Analyzed: 02/01/22						
Lead	54.8	2.5	mg/kg	50.0	10.4	89	75-125			
Matrix Spike Dup (2200782-MSD1)	**Source: 22A1573-01**			Prepared & Analyzed: 02/01/22						
Lead	60.6	2.5	mg/kg	50.0	10.4	100	75-125	10	30	
Batch 2200790 - EPA 3050B										
Blank (2200790-BLK1)				Prepared: 02/01/22 Analyzed: 02/03/22						
Lead	ND	2.5	mg/kg							
LCS (2200790-BS1)				Prepared: 02/01/22 Analyzed: 02/03/22						
Lead	43.1	2.5	mg/kg	50.0		86	75-125			
Matrix Spike (2200790-MS1)	**Source: 22A1573-20**			Prepared: 02/01/22 Analyzed: 02/03/22						
Lead	48.7	2.5	mg/kg	50.0	6.66	84	75-125			
Matrix Spike Dup (2200790-MSD1)	**Source: 22A1573-20**			Prepared: 02/01/22 Analyzed: 02/03/22						
Lead	48.8	2.5	mg/kg	50.0	6.66	84	75-125	0.2	30	

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2200825 - LUFT-DHS GCNV										
Blank (2200825-BLK1)				Prepared: 02/02/22 Analyzed: 02/03/22						
Aldrin	ND	1.0	µg/kg							
alpha-BHC	ND	1.7	"							
beta-BHC	ND	1.7	"							
gamma-BHC (Lindane)	ND	1.7	"							
delta-BHC	ND	1.7	"							
Chlordane-technical	ND	3.3	"							
4,4´-DDD	ND	3.3	"							
4,4´-DDE	ND	3.3	"							
4,4´-DDT	ND	3.3	"							
Dieldrin	ND	1.0	"							
Endosulfan I	ND	1.7	"							
Endosulfan II	ND	3.3	"							
Endosulfan sulfate	ND	3.3	"							
Endrin	ND	3.3	"							
Endrin aldehyde	ND	3.3	"							
Heptachlor	ND	1.7	"							
Heptachlor epoxide	ND	1.7	"							
Methoxychlor	ND	17	"							
Mirex	ND	3.3	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	*6.36*		*"*	*8.33*		*76*	*46-139*			
Surrogate: Decachlorobiphenyl	*7.31*		*"*	*8.33*		*88*	*52-141*			
LCS (2200825-BS1)				Prepared: 02/02/22 Analyzed: 02/03/22						
Aldrin	13.9	1.0	µg/kg	16.7		83	47-132			
gamma-BHC (Lindane)	14.1	1.7	"	16.7		85	56-133			
4,4´-DDT	18.7	3.3	"	16.7		112	46-137			
Dieldrin	16.6	1.0	"	16.7		99	44-143			
Endrin	17.0	3.3	"	16.7		102	30-147			
Heptachlor	13.1	1.7	"	16.7		78	33-148			
Surrogate: Tetrachloro-meta-xylene	*5.54*		*"*	*8.33*		*66*	*46-139*			

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2200825 - LUFT-DHS GCNV										
LCS (2200825-BS1)				Prepared: 02/02/22 Analyzed: 02/03/22						
Surrogate: Decachlorobiphenyl	*8.42*		*µg/kg*	*8.33*		*101*	*52-141*			
LCS Dup (2200825-BSD1)				Prepared: 02/02/22 Analyzed: 02/03/22						
Aldrin	14.9	1.0	µg/kg	16.7		89	47-132	7	30	
gamma-BHC (Lindane)	15.3	1.7	"	16.7		92	56-133	8	30	
4,4´-DDT	16.5	3.3	"	16.7		99	46-137	13	30	
Dieldrin	15.5	1.0	"	16.7		93	44-143	7	30	
Endrin	15.9	3.3	"	16.7		96	30-147	6	30	
Heptachlor	14.5	1.7	"	16.7		87	33-148	10	30	
Surrogate: Tetrachloro-meta-xylene	*6.92*		*"*	*8.33*		*83*	*46-139*			
Surrogate: Decachlorobiphenyl	*8.11*		*"*	*8.33*		*97*	*52-141*			
Matrix Spike (2200825-MS1)	**Source: 22A1573-01**			Prepared: 02/02/22 Analyzed: 02/03/22						**QRL-8**
Aldrin	10.5	5.0	µg/kg	16.7	ND	63	47-138			
gamma-BHC (Lindane)	11.2	8.5	"	16.7	ND	67	38-144			
4,4´-DDT	14.1	17	"	16.7	1.34	76	41-157			
Dieldrin	12.7	5.0	"	16.7	ND	76	46-155			
Endrin	11.8	17	"	16.7	ND	71	34-149			
Heptachlor	7.29	8.5	"	16.7	ND	44	36-155			
Surrogate: Tetrachloro-meta-xylene	*12.6*		*"*	*20.8*		*60*	*46-139*			
Surrogate: Decachlorobiphenyl	*11.8*		*"*	*20.8*		*57*	*52-141*			
Matrix Spike Dup (2200825-MSD1)	**Source: 22A1573-01**			Prepared: 02/02/22 Analyzed: 02/03/22						**QRL-8**
Aldrin	10.3	5.0	µg/kg	16.7	ND	62	47-138	2	35	
gamma-BHC (Lindane)	11.1	8.5	"	16.7	ND	67	38-144	0.7	35	
4,4´-DDT	13.4	17	"	16.7	1.34	73	41-157	5	35	
Dieldrin	12.2	5.0	"	16.7	ND	73	46-155	4	35	
Endrin	11.6	17	"	16.7	ND	70	34-149	0.9	35	
Heptachlor	13.3	8.5	"	16.7	ND	80	36-155	58	35	QR-1
Surrogate: Tetrachloro-meta-xylene	*12.3*		*"*	*20.8*		*59*	*46-139*			
Surrogate: Decachlorobiphenyl	*11.6*		*"*	*20.8*		*56*	*52-141*			

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2200873 - LUFT-DHS GCNV										
Blank (2200873-BLK1)				Prepared: 02/03/22 Analyzed: 02/04/22						
Aldrin	ND	1.0	µg/kg							
alpha-BHC	ND	1.7	"							
beta-BHC	ND	1.7	"							
gamma-BHC (Lindane)	ND	1.7	"							
delta-BHC	ND	1.7	"							
Chlordane-technical	ND	3.3	"							
4,4´-DDD	ND	3.3	"							
4,4´-DDE	ND	3.3	"							
4,4´-DDT	ND	3.3	"							
Dieldrin	ND	1.0	"							
Endosulfan I	ND	1.7	"							
Endosulfan II	ND	3.3	"							
Endosulfan sulfate	ND	3.3	"							
Endrin	ND	3.3	"							
Endrin aldehyde	ND	3.3	"							
Heptachlor	ND	1.7	"							
Heptachlor epoxide	ND	1.7	"							
Methoxychlor	ND	17	"							
Mirex	ND	3.3	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	*7.68*		*"*	*8.33*		*92*	*46-139*			
Surrogate: Decachlorobiphenyl	*8.60*		*"*	*8.33*		*103*	*52-141*			
LCS (2200873-BS1)				Prepared: 02/03/22 Analyzed: 02/04/22						
Aldrin	17.8	1.0	µg/kg	16.7		107	47-132			
gamma-BHC (Lindane)	18.0	1.7	"	16.7		108	56-133			
4,4´-DDT	19.9	3.3	"	16.7		119	46-137			
Dieldrin	19.1	1.0	"	16.7		114	44-143			
Endrin	19.7	3.3	"	16.7		118	30-147			
Heptachlor	17.0	1.7	"	16.7		102	33-148			
Surrogate: Tetrachloro-meta-xylene	*6.50*		*"*	*8.33*		*78*	*46-139*			

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
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West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Organochlorine Pesticides by EPA Method 8081A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2200873 - LUFT-DHS GCNV										
LCS (2200873-BS1)				Prepared: 02/03/22 Analyzed: 02/04/22						
Surrogate: Decachlorobiphenyl	*8.26*		*µg/kg*	*8.33*		*99*	*52-141*			
LCS Dup (2200873-BSD1)				Prepared: 02/03/22 Analyzed: 02/04/22						
Aldrin	14.4	1.0	µg/kg	16.7		87	47-132	21	30	
gamma-BHC (Lindane)	14.9	1.7	"	16.7		89	56-133	19	30	
4,4´-DDT	15.9	3.3	"	16.7		95	46-137	23	30	
Dieldrin	14.9	1.0	"	16.7		90	44-143	24	30	
Endrin	15.5	3.3	"	16.7		93	30-147	24	30	
Heptachlor	14.4	1.7	"	16.7		86	33-148	17	30	
Surrogate: Tetrachloro-meta-xylene	*6.27*		*"*	*8.33*		*75*	*46-139*			
Surrogate: Decachlorobiphenyl	*7.17*		*"*	*8.33*		*86*	*52-141*			
Matrix Spike (2200873-MS1)	**Source: 22A1573-26**			Prepared: 02/03/22 Analyzed: 02/04/22						**QRL-8**
Aldrin	15.5	5.0	µg/kg	16.7	ND	93	47-138			
gamma-BHC (Lindane)	16.2	8.5	"	16.7	ND	97	38-144			
4,4´-DDT	30.1	17	"	16.7	8.50	130	41-157			
Dieldrin	16.7	5.0	"	16.7	ND	100	46-155			
Endrin	17.4	17	"	16.7	ND	104	34-149			
Heptachlor	13.6	8.5	"	16.7	ND	82	36-155			
Surrogate: Tetrachloro-meta-xylene	*16.2*		*"*	*20.8*		*78*	*46-139*			
Surrogate: Decachlorobiphenyl	*20.3*		*"*	*20.8*		*97*	*52-141*			
Matrix Spike Dup (2200873-MSD1)	**Source: 22A1573-26**			Prepared: 02/03/22 Analyzed: 02/04/22						**QRL-8**
Aldrin	11.4	5.0	µg/kg	16.7	ND	68	47-138	31	35	
gamma-BHC (Lindane)	12.3	8.5	"	16.7	ND	74	38-144	27	35	
4,4´-DDT	21.3	17	"	16.7	8.50	77	41-157	34	35	
Dieldrin	12.2	5.0	"	16.7	ND	73	46-155	31	35	
Endrin	12.9	17	"	16.7	ND	78	34-149	29	35	
Heptachlor	9.97	8.5	"	16.7	ND	60	36-155	31	35	
Surrogate: Tetrachloro-meta-xylene	*15.5*		*"*	*20.8*		*75*	*46-139*			
Surrogate: Decachlorobiphenyl	*20.2*		*"*	*20.8*		*97*	*52-141*			

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2200872 - LUFT-DHS GCNV										
Blank (2200872-BLK1)				Prepared: 02/03/22 Analyzed: 02/07/22						
Aroclor 1016	ND	20	µg/kg							
Aroclor 1221	ND	20	"							
Aroclor 1232	ND	20	"							
Aroclor 1242	ND	20	"							
Aroclor 1248	ND	20	"							
Aroclor 1254	ND	20	"							
Aroclor 1260	ND	20	"							
Aroclor 1268	ND	20	"							
Surrogate: Decachlorobiphenyl	*6.62*		"	*8.33*		*79*	*50-150*			
LCS (2200872-BS1)				Prepared: 02/03/22 Analyzed: 02/07/22						
Aroclor 1260	72.0	20	µg/kg	83.3		86	29-131			
Surrogate: Decachlorobiphenyl	*6.57*		"	*8.33*		*79*	*50-150*			
LCS Dup (2200872-BSD1)				Prepared: 02/03/22 Analyzed: 02/07/22						
Aroclor 1260	71.7	20	µg/kg	83.3		86	29-131	0.4	30	
Surrogate: Decachlorobiphenyl	*6.56*		"	*8.33*		*79*	*50-150*			
Matrix Spike (2200872-MS1)	**Source: 22B0061-05**			Prepared: 02/03/22 Analyzed: 02/07/22						**QRL-8**
Aroclor 1260	68.2	100	µg/kg	83.3	ND	82	29-131			
Surrogate: Decachlorobiphenyl	*4.70*		"	*8.33*		*56*	*50-150*			
Matrix Spike Dup (2200872-MSD1)	**Source: 22B0061-05**			Prepared: 02/03/22 Analyzed: 02/07/22						**QRL-8**
Aroclor 1260	68.1	100	µg/kg	83.3	ND	82	29-131	0.2	30	
Surrogate: Decachlorobiphenyl	*5.11*		"	*8.33*		*61*	*50-150*			

Wallace Kuhl & Associates- West Sacramento	Project:	Phase II ESA St. Joseph's Medical Center	
3050 Industrial Boulevard	Project Number:	WKA 13340.02	**CLS Work Order #: 22A1573**
West Sacramento, CA 95691	Project Manager:	Dennis Nakamoto	COC #:

Notes and Definitions

QS-4	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QRL-8	The extract of this sample was dark and/or oily. Therefore, the sample was analyzed with a dilution and the reporting limit was raised for all target compounds.
QR-1	The RPD value for the sample duplicate or MS/MSD was outside of the QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Appendix H

Existing and Project Sewer Demand Review, Water Supply Assessment, Sewer Capacity Study

WEST YOST
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2020 Research Park Drive
Suite 100
Davis CA 95618

530.756.5905 phone
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TECHNICAL MEMORANDUM

DATE: January 12, 2023

Project No.: 1051-60-22-01
SENT VIA: EMAIL

TO: Roy Brewer, Brewer Lofgren, LLP

CC: Ann Okubo, City of Stockton
Edwin Yu, Morton Pitalo

FROM: Chris Malone, PE, RCE #51009

REVIEWED BY: Patrick Johnston, PE, RCE #59028



SUBJECT: Collection System Impacts of Proposed St. Joseph's Medical Center Expansion

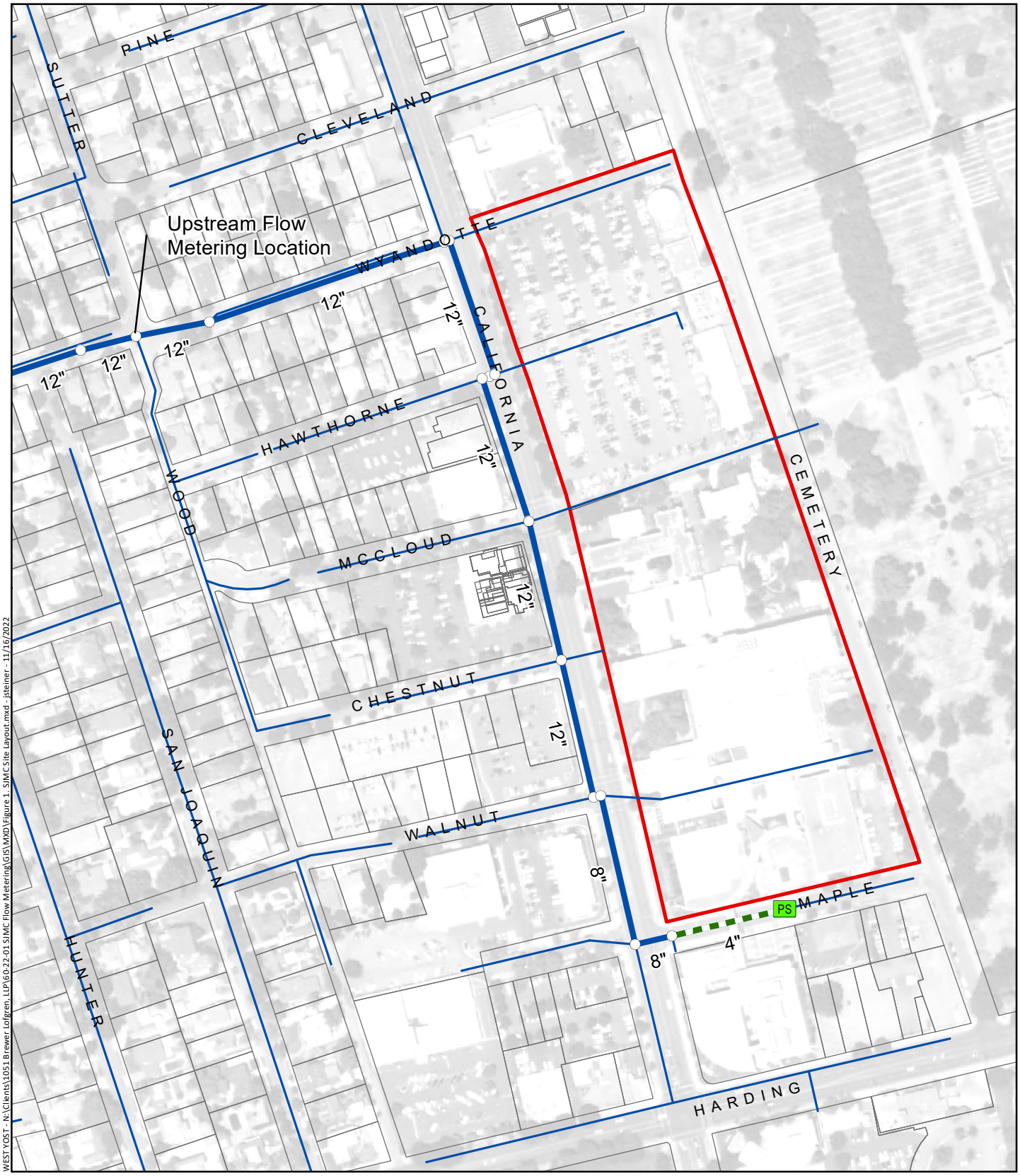
The purpose of this technical memorandum (TM) is to present the results of an investigation into the potential collection system impacts of a flow increase due to the proposed expansion of the St. Joseph's Medical Center (SJMC), located on California Street in Stockton. The major topics addressed in this TM include the following:

- Flow Pathway
- Flow Metering Program Results
- Onsite Flow Generation
- Collection System Modeling Results
- Conclusions and Recommendations

The City of Stockton (City) recently completed its Wastewater Master Plan Update report (Master Plan). The Master Plan involved an extensive evaluation of the City's wastewater collection system, and included elements of flow data collection and analysis, collection system surveying, hydraulic model development, system capacity analysis, system condition analysis, and Capital Improvement Plan development. The results of that Master Plan serve as the basis for the analysis presented in this TM.

FLOW PATHWAY

The SJMC is a multi-building medical complex located between California Street, Harding Way, Cemetery Lane, and Wyandotte Street, as shown on Figure 1. The portion of the site located north of McCloud Avenue is currently a parking lot, and a significant portion of the proposed expansion is planned for that part of the site. Additional changes are also planned for portions of the site further south, as detailed in Attachment A of this TM.



WEST YOST - N:\Clients\1051 Brewer Lofgren, LLP\60-22-01 SJMC Flow Metering\GIS\MXD\Figure 1. SJMC Site Layout.mxd - jsteiner - 11/16/2022

- Modeled Sewer Main
- Modeled Force Main
- Unmodeled Sewer Line
- Modeled Maintenance Hole
- PS Maple Street Pump Station
- Saint Joseph's Medical Center

N

0 125 250

Scale in Feet

WEST YOST

Figure 1

St. Joseph's Medical Center
Site Layout

Brewer Lofgren, LLC
Collection System Impacts of
Additional SJMC Flows

The SJMC site discharges into the City's collection system via a pump station located on Maple Street, plus a series of service laterals located in Maple Street, Walnut Street, Chestnut Street, McCloud Avenue, and Hawthorne Street, all of which flow into a gravity sewer in California Street, as shown on Figure 1. Flows from the site first travel north in the California Street sewer, then west in the Wyandotte Street sewer. Thereafter, the flows follow the path shown on Figure 2, which includes gravity sewers located in Pacific Avenue, Bedford Road, Kensington Way, Tuxedo Avenue, Orange Street, and Country Club Boulevard before flowing south into the Smith Canal & Fontana Pump Station (PS).

The pump station has two force mains that discharge at separate locations further downstream into large diameter trunk sewers that flow to the City's Regional Wastewater Control Facility (RWCF). Because of the very large full-pipe capacities of these downstream trunk sewers, the facilities downstream of the pump station are not considered to be of concern with regard to this analysis.

FLOW METERING PROGRAM RESULTS

As part of the Master Plan, the City conducted a flow metering program at 25 locations throughout the wastewater collection system during the period of October 2020 through March 2021. The purpose of this flow metering program was twofold: first to determine dry weather flow distributions and patterns throughout the collection system, and second to evaluate the response of the collection system to severe wet weather events.

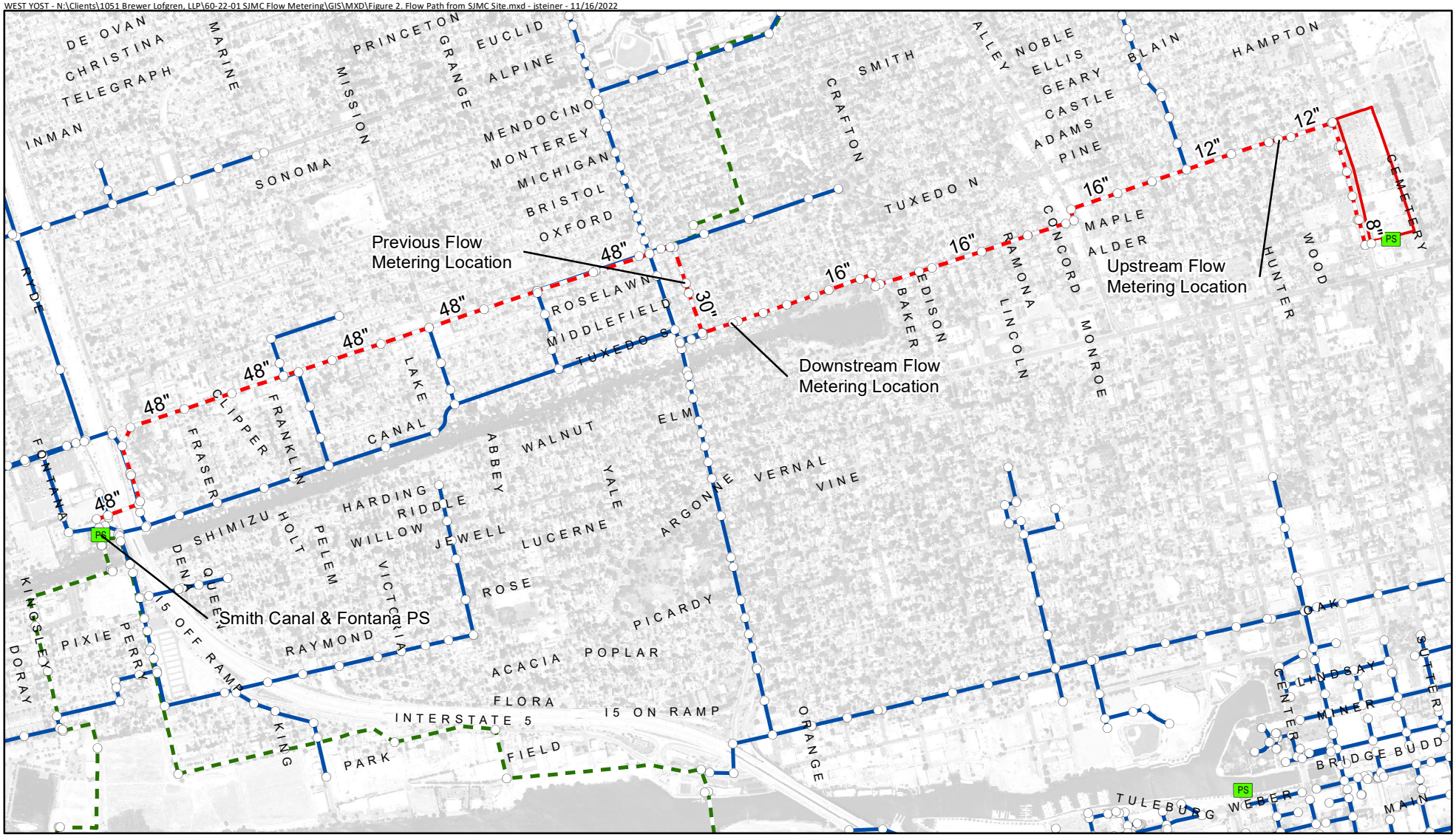
The data obtained from the flow metering program were used to calibrate a hydraulic collection system model that would accurately reproduce the dry and wet weather flow patterns in the areas upstream of each flow meter. This process resulted in the most accurate model of the collection system yet developed by the City. Nevertheless, the flow metering data and the resulting model does not necessarily provide a high degree of granularity in areas upstream of each flow meter. Therefore, it becomes necessary in some situations to collect additional flow data to better understand flow patterns in areas upstream of the flow metering locations monitored as part of the Master Plan.

The flow metering location downstream of the SJMC that was monitored as part of the Master Plan flow metering program was located on Orange Street, as shown on Figure 2. The total area tributary to that meter is estimated to be approximately 1,100 acres, or about 1.7 square miles. In assessing the impacts of proposed flow increases from SJMC, a need was identified to confirm the accuracy of the model in areas upstream of the Orange Street flow meter. Specifically, the following two objectives were identified:

1. The need to confirm existing flows immediately downstream of the SJMC.
2. The need to confirm existing flows on trunk sewers that appear to be approaching capacity at intermediate locations between the SJMC and the Orange Street flow meter.

In selecting a flow metering site, the hydraulics of the location are important. Therefore, sites needed to be selected that had adequate site hydraulics while also meeting the above objectives.

It should be noted that there is no single location in the collection system that represents the totality of flows from the SJMC while having no other flow inputs. Nevertheless, if a hydraulically suitable site could be found nearby that closely matches the flows predicted by the model, such a result would provide confidence that the model is reliably representing flows from the SJMC. Similarly, if the flow results at a location further downstream also closely match the flows predicted by the model, such a result would provide additional confidence that the model is reliable for all areas tributary to the meter.



SJMC Flow Path
Modeled Sewer Main
Modeled Force Main
Modeled Maintenance Hole
PS Pump Station
Saint Joseph's Medical Center

N

0 750 1,500
Scale in Feet

WEST YOST

Figure 2

Flow Path from the SJMC Site

Brewer Lofgren, LLC
Collection System Impacts of Additional SJMC Flows

Given the above criteria and objectives, the following two flow monitoring sites were selected:

- Upstream flow metering location: The 12-inch diameter Wyandotte Street sewer (near SJMC), as shown on Figures 1 and 2 above.
- Downstream flow metering location: The 16-inch diameter Tuxedo Avenue sewer, as shown on Figure 2 above.

In the interests of expeditiousness, it was agreed by all parties that any confirmation of flows would be limited to dry weather flow conditions only. The timing of significant wet weather events is notoriously difficult to predict and efforts to capture adequate wet weather flow conditions could significantly delay the process. Moreover, a relatively high confidence exists that if the collection system model is adequately representing dry weather conditions, it is reasonable to assume that it accurately represents wet weather conditions as well.

Upon receiving all requisite approvals from the City, flow meters were installed by V&A Consulting Engineers (V&A) at the two locations described above on September 29, 2022. Both meters continued operation until their removal on October 13, 2022. Summary flow statistics for both sites are presented in Table 1. Flow results are shown in units of million gallons per day (mgd). Attachment B contains information provided by V&A, including site photos, time series charts, field procedures, and other information relevant to the flow metering effort.

Table 1. Flow Metering Program Summary Statistics

Parameter	units	Average	Maximum	Minimum
Wyandotte Street (MH 30M004); Pipe Diameter=12 inches				
Flow	mgd	0.082	0.220	0.021
Depth	inches	2.6	3.9	1.6
Velocity	feet/second	0.96	1.60	0.45
Tuxedo Avenue (MH 30K155); Pipe Diameter=16 inches				
Flow	mgd	0.402	0.779	0.125
Depth	inches	4.9	6.8	3.0
Velocity	feet/second	1.64	2.22	0.92

Modeled versus metered flows at both locations are shown in Figures 3 and 4, respectively, where the metered flows are averaged over the two-week monitoring period. As is typical with collection system flow data, distinct flow patterns exist for weekday and weekend conditions. Modeled flows usually more closely represent weekday flows, which tend to be higher than weekend flows. Summary statistics corresponding to the flow curves in Figures 3 and 4 are presented in Table 2. The difference between the modeled flow and the metered weekday flow is also shown for comparison purposes.

It should be noted that the collection system model uses an assumed SJMC flow generation rate of approximately 0.079 mgd, which is based on adjusted water meter use from February and March 2019. This period was selected as the basis for dry weather flow generation because significant rainfall occurred during that period, such that onsite irrigation would have been minimal, thus making water usage a close approximation of sewer flow generation.

Figure 3. Metered vs. Modeled Flows, Wyandotte Street Flow Meter

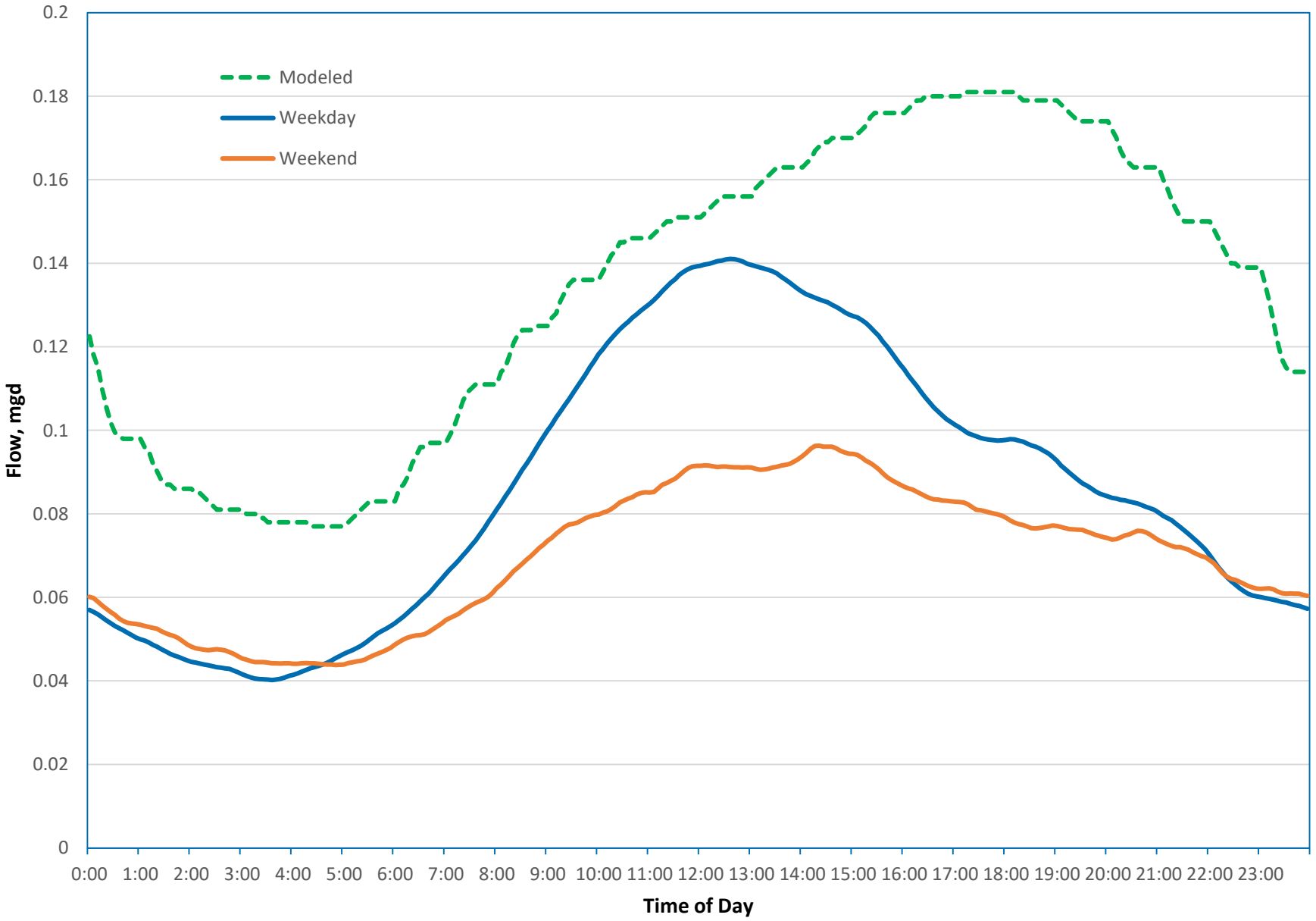


Figure 4. Metered vs. Modeled Flows, Tuxedo Avenue Flow Meter

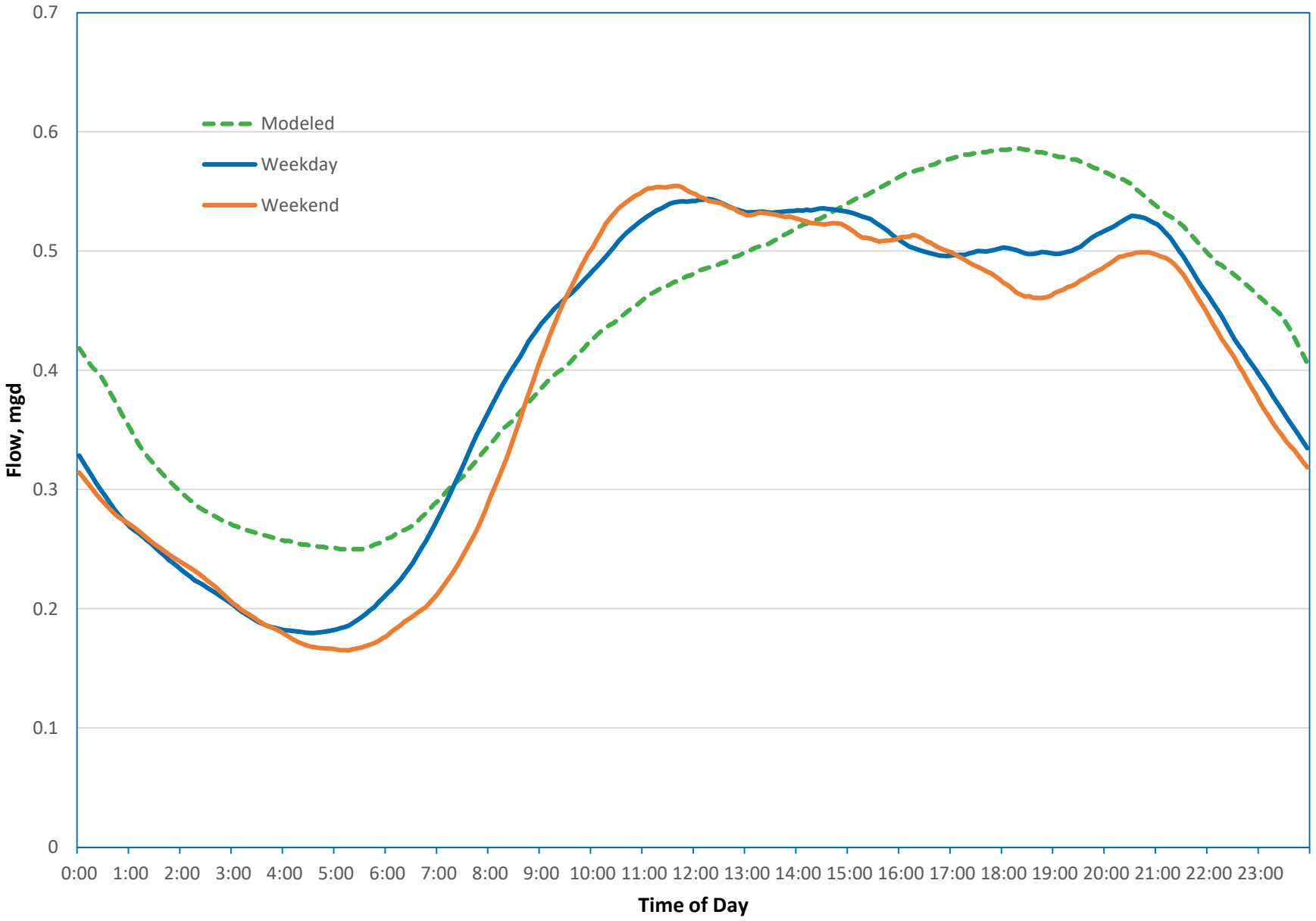


Table 2. Modeled versus Metered Flows, Existing Conditions			
Flow, mgd	Average	Typical Maximum	Typical Minimum
Wyandotte Street (MH 30M004)			
Modeled	0.134	0.181	0.077
Metered Weekday	0.086	0.141	0.040
Metered Weekend	0.070	0.096	0.044
Modeled minus Weekday	**0.048**	**0.040**	**0.037**
Tuxedo Avenue (MH 30K155)			
Modeled	0.434	0.586	0.250
Metered Weekday	0.406	0.544	0.180
Metered Weekend	0.391	0.555	0.165
Modeled minus Weekday	**0.028**	**0.042**	**0.070**

Given that the existing SJMC currently has 355 beds, the modeled existing SJMC flow generations rate of approximately 0.079 mgd equates to a unit flow rate of approximately 220 gallons per day (gpd) per bed. For comparison, the widely used textbook *Wastewater Engineering* (Metcalf and Eddy) estimates that the typical range of wastewater flow generation by hospitals is 130–260 gpd/bed, plus 5–15 gpd/employee. Assuming a total of two employees per hospital bed would result in an upper end of the range of 290 gpd/bed with employees accounted for.

The results shown in Table 2 indicate that the model is generally overpredicting flows in both metering locations. These disparities suggest that the model is conservatively high in its estimate of the SJMC flows. It should also be noted that dry weather flow is less than half of the total flow during modeled peak wet weather flow (PWWF) conditions; therefore, a degree of conservatism in the dry weather flows is considered acceptable as a factor of safety in the modeling analysis.

ONSITE FLOW GENERATION

An SJMC onsite water demand and sanitary sewer flow analysis by Capital Engineering Consultants, Inc. titled “Dignity Health – Saint Joseph Future Development” and dated September 20, 2022 (CEC Analysis) serves as the basis for the evaluation of the downstream collection system impacts. The CEC Analysis is included as Attachment C to this TM.

The CEC Analysis estimates an average water use of approximately 217,000 gpd (0.217 mgd) and an average sanitary sewer flow of approximately 318,000 gpd (0.318 mgd). The disparity between the two systems (sewer flows should never be higher than water usage) reflects the use of Universal Plumbing Code (UPC) standards for estimating both water use and sewer flow generation, where consistency between the two systems is not considered. For purposes of this analysis, the average water use of 217,000 gpd is used as the basis for sewer flow generation associated with the proposed SJMC expansion.

The use of UPC-based estimates for water use and sewer flow generation are primarily intended for sizing onsite facilities such as building water pipes and sewer laterals, and as such there are various safety factors built in. These estimates have very little relationship to the overall flows that the SJMC site would generate at any given time and are thus not intended for analysis of downstream collection system impacts.

The results from the recently completed collection system flow metering program indicate that the CEC Analysis flow generation rates significantly overestimate the flows that the SJMC expansion is likely to generate in the downstream collection system. As discussed above (see Flow Metering Program Results), the collection system model effectively uses a unit flow basis of 220 gpd/bed, which results in downstream collection system flow results that are higher than were observed during the recent flow metering study. By contrast, the CEC Analysis produces onsite water use estimates for the SJMC expansion (excluding existing flows) that equate to 1,010 gpd/bed, which is several times higher than the 220 gpd/bed estimate.

From the standpoint of assessing downstream collection system impacts, it appears that the CEC Analysis essentially double-counts flow sources. That analysis starts with an assumption of 350 gpd/bed for the water use analysis and then adds flows from a series of other sources. The 290 gpd/bed unit flow value taken from *Wastewater Engineering* (Metcalf and Eddy) is intended to represent the totality of all flows from the facility, not just those specifically associated with actual beds. In other words, from a downstream collection system standpoint, the 290 gpd/bed estimate is a surrogate for flows generated throughout the facility, not just bed-specific flow generation.

Given these considerations, the use of the CEC Analysis as the basis for estimating downstream collection system impacts is highly conservative and likely significantly overstates what the actual downstream impacts would be. Nevertheless, if it can be shown that the use of such flows results in no observable collection system capacity exceedances, such a finding would provide a high degree of confidence that the system has the capacity to reliably accommodate flows from the proposed SJMC expansion.

COLLECTION SYSTEM MODELING RESULTS

For this analysis, the projected flows resulting from the proposed SJMC expansion were simulated for both existing and buildout development conditions using the hydraulic model developed as part of the Master Plan to assess impacts on the downstream collection system. The hydraulic model is generally limited to gravity sewers of 12-inch diameter and greater, as shown in Figures 1 and 2 above. This TM is not intended to provide an assessment of the adequacy of existing onsite piping, or the need for new onsite piping, to serve the proposed SJMC expansion. It is the responsibility of the site owner to ensure that all onsite utilities are adequate to serve the needs of the expansion of SJMC facilities.

To model the effects of the proposed SJMC expansion on the City's wastewater collection system, an average flow value of 0.217 mgd (per the CEC analysis described above) was added from the SJMC site. For conservatism, it was assumed that all such flows enter the system at the intersection of McCloud Avenue and California Street, even though it is understood that some of the new flows would likely enter at Hawthorne Street or Wyandotte Street. The diurnal flow curve that is already used in the model for the SJMC site was then applied to the average flow value following the proposed expansion to achieve a 24-hour time-varying flow pattern. The 10-year, 24-hour design storm condition was then overlaid on the revised flow patterns to simulate PWWF conditions in the downstream collection system facilities.

The model indicates that the addition of 0.217 mgd of average flow corresponds to a peak flow of approximately 0.33 mgd, which corresponds to a flow peaking factor of approximately 1.53 in the downstream lines. This result is consistent both with the Master Plan flow metering results and the flow metering results described above. For modeling purposes, it is expected that additional I&I entering the system as a result of the SJMC expansion would be minimal.

Table 3 summarizes the existing collection system configuration along the gravity sewer flow pathway from the SJMC to the Smith Canal & Fontana PS, including pipe diameters, lengths, depths from ground surface (rim) to pipe crown, and gravity flow capacities. Table 4 summarizes modeled existing and buildout PWWF results, both with and without the proposed SJMC expansion, versus full-pipe gravity flow capacities along the flow pathway. Table 4 also shows the modeled PWWF results at the Smith Canal & Fontana PS versus pump station firm capacity (defined as the capacity with the largest pumping unit out of service) both with and without the proposed SJMC expansion.

As indicated in Table 4, the addition of the SJMC expansion flows does not cause any of those lines to exceed their full-pipe capacities. Moreover, the lines in question are relatively deep, so even if minor surcharging were to occur, the risk of system outflows is expected to be insignificant.

Table 3. Collection System Configuration Summary

Sewer Location	Pipe Diameter, in	No. of Pipe Segments	Total Pipe Length, ft	Average Gravity Flow Capacity, mgd	Minimum Rim-to-Crown Depth, ft
California Street	12	7	1,098	0.89	8.9
Wyandotte Street	12	6	1,624	1.05	9.1
Wyandotte Street	16	4	1,418	1.86	10.0
Bedford Road[(a)]	16	7	2,211	1.78	10.0
Tuxedo Avenue	16	9	2,030	2.08	9.4
Orange Street	30	4	995	8.41	11.8
Country Club Blvd	48	17	7,449	29.09	11.6

(a) Also includes one segment of 14-inch diameter inverted siphon under a storm drain at Bedford Road and Baker Place.

Table 4. Modeled PWWF Gravity Sewer Results

Sewer Location	System Capacity, mgd[(a)]	Modeled PWWF, mgd			
		Existing	Existing + SJMC	Buildout	Buildout + SJMC
California Street	0.89	0.21	0.54	0.23	0.55
Wyandotte Street	1.05	0.41	0.74	0.43	0.76
Wyandotte Street	1.86	1.27	1.60	1.26	1.60
Bedford Road[(b)]	1.78	1.29	1.63	1.32	1.65
Tuxedo Avenue	2.08	1.36	1.70	1.39	1.72
Orange Street	8.41	5.60	5.93	6.80	7.13
Country Club Blvd	29.09	9.75	10.08	21.23	21.56
Smith Canal & Fontana PS	37.92	32.42	32.76	44.98	45.31

(a) Refers to full-pipe gravity flow capacity for gravity sewers and firm capacity for the pump station.
(b) Includes one segment of 14-inch diameter siphon at Bedford Road and Baker Place.
NOTE: Yellow shading refers to a modeled exceedance of collection system capacity.

As also indicated in Table 4, the Smith Canal & Fontana PS has approximately 5.5 mgd of additional capacity available for existing conditions, which is more than enough to accommodate the addition of the proposed SJMC expansion flows. The pump station does show an overage for buildout conditions; however, as discussed in the Master Plan, buildout flow conditions within the City are speculative and are based on a series of conservative assumptions that may never be realized. Moreover, the proposed additional flow from the SJMC expansion is estimated to be on the order of 0.9 percent of the firm capacity of the Smith Canal & Fontana PS and is therefore considered to be inconsequential in terms of impacts on the station.

CONCLUSIONS AND RECOMMENDATIONS

Based upon the flow metering results and the modeling analysis presented in this TM, it appears that the City's wastewater collection system facilities have adequate capacity to accommodate the proposed SJMC expansion. Moreover, it appears that the model slightly overestimates existing flows from the SJMC and significantly overestimates flow from the SJMC expansion (as described above; see Onsite Flow Generation), thus providing an additional factor of safety in the analysis. Because wet weather data have not been collected on the Beford Road or Tuxedo Avenue sewers, as a precautionary measure, the City may want to consider putting a SmartCover™ (or equivalent) flow depth measurement device at a suitable point on that line to confirm flow levels during peak wet weather flow conditions.

Attachment A

Existing and Proposed SJMC Sewer Site Maps

28L 28M 28N

29L 29N

30L 30M 30N

SINGLE FAMILY RESIDENCE SEWER

CLASSROOM SEWER

HCCL BUILDING SEWER

PROJECT SITE

WYANDOTTE ST

MONTEREY AV

BLAIN AV

GEARY ST

CASTLE ST

EL DORADO ST

ARCADE ST

ALLEY

NOBLE ST

SAN JOAQUIN ST

HUNTER ST

ELLIS ST

GEARY ST

SUTTER ST

HAMPTON ST

CALIFORNIA ST

PINE ST

CLEVELAND ST

ADAMS ST

CEMETERY LN

HAWTHORNE ST

4" Bypass

SANITARY - AUGUST 2019

0 100 200 400 600 800 Feet

THIS MAP IS FOR CITY USE ONLY

The information is based on the most current information available to the City of Stockton Geographic Information System Division. The information is not intended to replace engineering, financial or primary records research.

29M

28L 28M 28N

29L 29N

30L 30M 30N

SANITARY - AUGUST 2019

0 100 200 400 600 800 Feet

S MAP IS FOR CITY USE ONLY

ormation is based on the most current information available to the Stockton Geographic Information System Division. The information ntended to replace engineering, financial or primary records research.

29M

PROPOSED SEWER

MAINTENANCE PLANT BLDG SEWER

PROPOSED PRIVATE SEWER LIFT STATION

PROPOSED SEWER

HCCL BLDG SEWER

FUEL YARD SEWER

REROUTE SEWER NORTH ON CEMETERY LANE

PROJECT SITE

MONTEREY AV

ALLEY

ARCADE ST

SAN JOAQUIN ST

NOBLE ST

HUNTER ST

ELLIS ST

GEARY ST

BLAIN AV

SUTTER ST

HAMPTON ST

EL DORADO ST

CASTLE ST

ADAMS ST

PINE ST

CLEVELAND ST

CALIFORNIA ST

CEMETERY LN

WYANDOTTE ST

HAWTHORNE ST

4" Bypass

ONE FRONTIER

CHURCH OF CHRIST

29L 29M 29N

30L

31L 31M 31N

PLANT MAINTENANCE SEWER

McCLOUD BUILDING SEWER

MAIN WING SEWER

MAIN BUILDING SEWER

MAIN BUILDING SEWER

PROJECT SITE

PRIVATE CLINIC SEWER

PAVILION SEWER

ST JOSEPHS MEDICAL CENTER

ST. JOSEPH'S MEDICAL CENTER SANITARY SEWER PUMP STATION

MAPLE ST 4" FM

Private Pump Station Located Here

SS Line Plugged

SAN JOAQUIN COUNTY MENTAL HEALTH

VINE ST CAMPUS

PINE ST

CLEVELAND ST

WYANDOTTE ST

HAWTHORNE ST

MCCLOUD AV

CHESTNUT ST

WALNUT ST

CALIFORNIA ST

COMMERCE ST

MAPLE ST

ALLEY

ALDER ST

EL DORADO ST

CENTER ST

ELM ST

SPERRY AV

HARDING WY

EUCALYPTUS AV

SAN JOAQUIN ST

HUNTER ST

WOOD LN

SUTTER ST

ERY LN

SA - AUGUST 2019

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Feet 0 100 400 600 800

30M

29L 29M 29N

30L 30N

31L 31M 31N

SANITARY - AUGUST 2019

PROPOSED SEWER

REROUTE SEWER NORTH ON CEMETERY LANE

EXISTING SEWER FROM CEMETERY

PROPOSED SEWER

PROPOSED SEWER

PROJECT SITE

MAIN BLDG SEWER

PRIVATE CLINIC SEWER

PAVILION SEWER

Private Pump Station Located Here

SS Line Plugged

ST JOSEPHS MEDICAL CENTER

ST. JOSEPH'S MEDICAL CENTER
SANITARY SEWER PUMP STATION

SAN JOAQUIN COUNTY MENTAL HEALTH

VINE ST CAMPUS

PINE ST

CLEVELAND ST

WYANDOTTE ST

HAWTHORNE ST

MCCLOUD AV

CHESTNUT ST

WALNUT ST

CALIFORNIA ST

MAPLE ST

CEMETERY LN

SUTTER ST

COMMERCE ST

MAPLE ST

ALLEY

ALDER ST

EL DORADO ST

EUCALYPTUS AV

SAN JOAQUIN ST

HUNTER ST

WOOD LN

CENTER ST

ELM ST

SPERRY AV

HARDING WY

Feet 0 100 200 400 600 800

THIS MAP IS FOR CITY USE ONLY

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30M



30N

THIS MAP IS FOR CITY USE ONLY

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SANITARY - AUGUST 2019

0 100 200 400 600 800 Feet



30N

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SANITARY - AUGUST 2019

0 100 200 400 600 800 Feet

Attachment B

V&A – Sanitary Sewer Flow Monitoring Study Report

St. Joseph's Medical Center, City of Stockton

Sanitary Sewer Flow Monitoring Study







Prepared for:

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2020 Research Park Drive, Suite 100
Davis, CA 95618

Date:

October 14, 2022

Prepared by:

V&A consulting engineers

V&A Project No. 22-0255

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Photo 2-2. Typical Personal Four-Gas Monitor 1

Abbreviations and Acronyms

Abbreviations/Acronyms	Definition
ADWF	Average dry weather flow
CO	Carbon monoxide
d/D	flow depth over pipe diameter
FPS	Feet per second
MGD	Gallons per minute
H2S	Hydrogen Sulfide
IN.	Inch
LEL	Lower explosive limit
O_2	Oxygen
V&A	V&A Consulting Engineers, Inc.
VCP	Vitrified Clay Pipe

1 Introduction

V&A Consulting Engineers, Inc. (V&A) was retained by West Yost to perform flow monitoring at two (2) locations for two (2) weeks in support of the future expansion at the St. Joseph Medical Center on 1800 N. California Street, Stockton, CA. The two (2) locations were monitored for 14 days from September 29, 2022, through October 13, 2022. Flow monitoring sites are identified as the manholes where the flow monitors were secured and the pipelines wherein the flow sensors were placed.

Information regarding the flow monitoring location is listed in Table 1-1. Figure 1-1 illustrates the location of the project site and its proximity to the flow monitoring site. A detailed description of the flow monitoring sites, including photographs, is included in Appendix A.

Table 1-1. List of Flow Monitoring Locations

Flow Monitoring Site	Manhole ID	Location	Pipe Diameter (in)	Pipe Material	Pipe Monitored
Site 01	30M004	N Sutter St & E Wyandotte St	12	VCP	East Inlet
Site 02	30K155	1167 S Tuxedo Ave	16.5	VCP	East Inlet

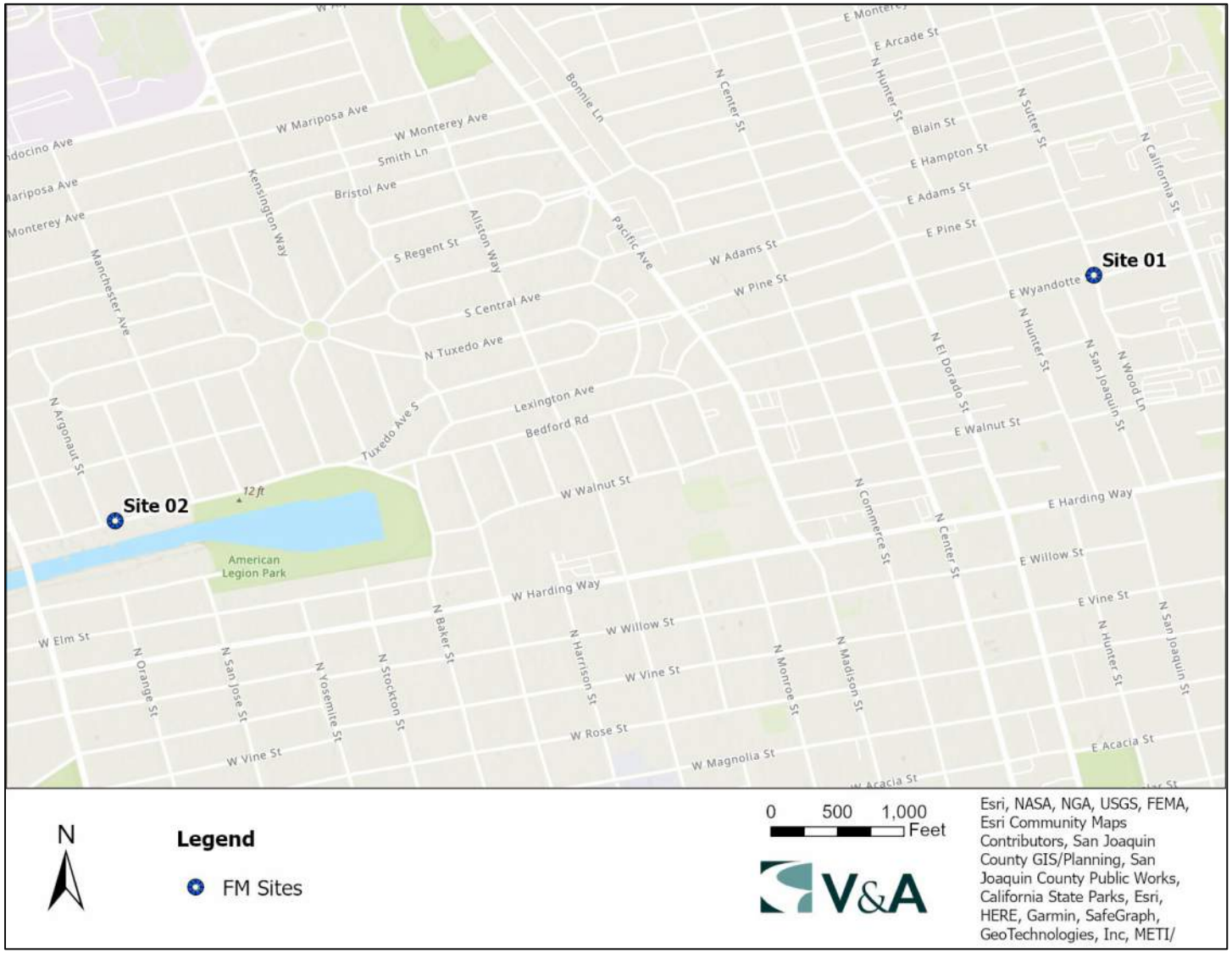


Figure 1-1. Location of Development and Flow Monitoring Sites

2 Approach

2.1 Confined Space Entry

A confined space (Photo 2-1) is defined as any space that is large enough and so configured that a person can bodily enter and perform assigned work, has limited or restricted means for entry or exit, and is not designed for continuous employee occupancy. In general, the atmosphere must be constantly monitored for sufficient levels of oxygen (19.5% to 23.5%), the presence of hydrogen sulfide (H_2S) gas, carbon monoxide (CO) gas, and lower explosive limit (LEL) levels. Typically, a confined space entry crew has members with OSHA-defined responsibilities of Entrant, Attendant, and Supervisor. The Entrant is the individual performing the work. He or she is equipped with the necessary personal protective equipment needed to perform the job safely, including a personal four-gas monitor (Photo 2-2). If it is not possible to maintain line-of-sight with the Entrant, then more Entrants are required until line-of-sight can be maintained. The Attendant is responsible for maintaining contact with the Entrants to monitor the atmosphere using another four-gas monitor and maintaining records of all Entrants if there is more than one. The Supervisor is responsible for developing a safe work plan for the job at hand before entering.



Photo 2-1. Confined Space Entry



Photo 2-2. Typical Personal Four-Gas Monitor

2.2 Flow Meter Installation

V&A installed Hach FL900 area-velocity flow meters for temporary metering within the collection system. Hach FL900 meters use submerged sensors with a pressure transducer to collect depth readings and an ultrasonic Doppler sensor to determine the average fluid velocity. The ultrasonic sensor emits high-frequency (500 kHz) sound waves, which are reflected by air bubbles and suspended particles in the flow. The sensor receives the reflected signal and determines the Doppler frequency shift, which indicates the estimated average flow velocity. The sensor is typically mounted at a manhole inlet to take advantage of smoother upstream flow conditions. The sensor may be offset to one side to lessen the chances of fouling and sedimentation where these problems are expected to occur. Manual level and velocity measurements were taken during the installation of the flow meters and again when they were removed and compared to simultaneous level and velocity readings from the flow meters to ensure proper calibration and accuracy.

Typical installation for a flow meter with a submerged sensor.

2.3 Flow Calculation

Data retrieved from the flow meter was placed into a spreadsheet program for analysis. Data analysis includes data comparison to field calibration measurements, as well as necessary geometric adjustments as required for sediment (sediment reduces the pipe's wetted cross-sectional area available to carry flow).

Area-velocity flow metering uses the continuity equation,

$$Q = v \cdot A = v \cdot (A_T - A_S)$$

where Q: volume flow rate
v: average velocity as determined by the ultrasonic sensor
A: cross-sectional area available to carry flow
A_T: total cross-sectional area with both wastewater and sediment
A_S: cross-sectional area of sediment.

For circular pipes,

$$A_T = \left[\frac{D^2}{4}\cos^{-1}\left(1-\frac{2d_W}{D}\right)\right] - \left[\left(\frac{D}{2}-d_W\right)\left(\frac{D}{2}\right)\sin\left(\cos^{-1}\left(1-\frac{2d_W}{D}\right)\right)\right]$$

$$A_S = \left[\frac{D^2}{4}\cos^{-1}\left(1-\frac{2d_S}{D}\right)\right] - \left[\left(\frac{D}{2}-d_S\right)\left(\frac{D}{2}\right)\sin\left(\cos^{-1}\left(1-\frac{2d_S}{D}\right)\right)\right]$$

where d_W: distance between wastewater level and pipe invert
d_S: depth of sediment
D: pipe diameter

Weekday and weekend flow patterns differ and are separated when determining average dry weather flows (ADWF). The Overall ADWF was determined from:

$$ADWF = \left(ADWF_{Mon-Fri} \times \frac{5}{7}\right) + \left(ADWF_{Sat-Sun} \times \frac{2}{7}\right)$$

3 Findings

3.1 Peak Existing Measured Flow - Flow Monitoring Results

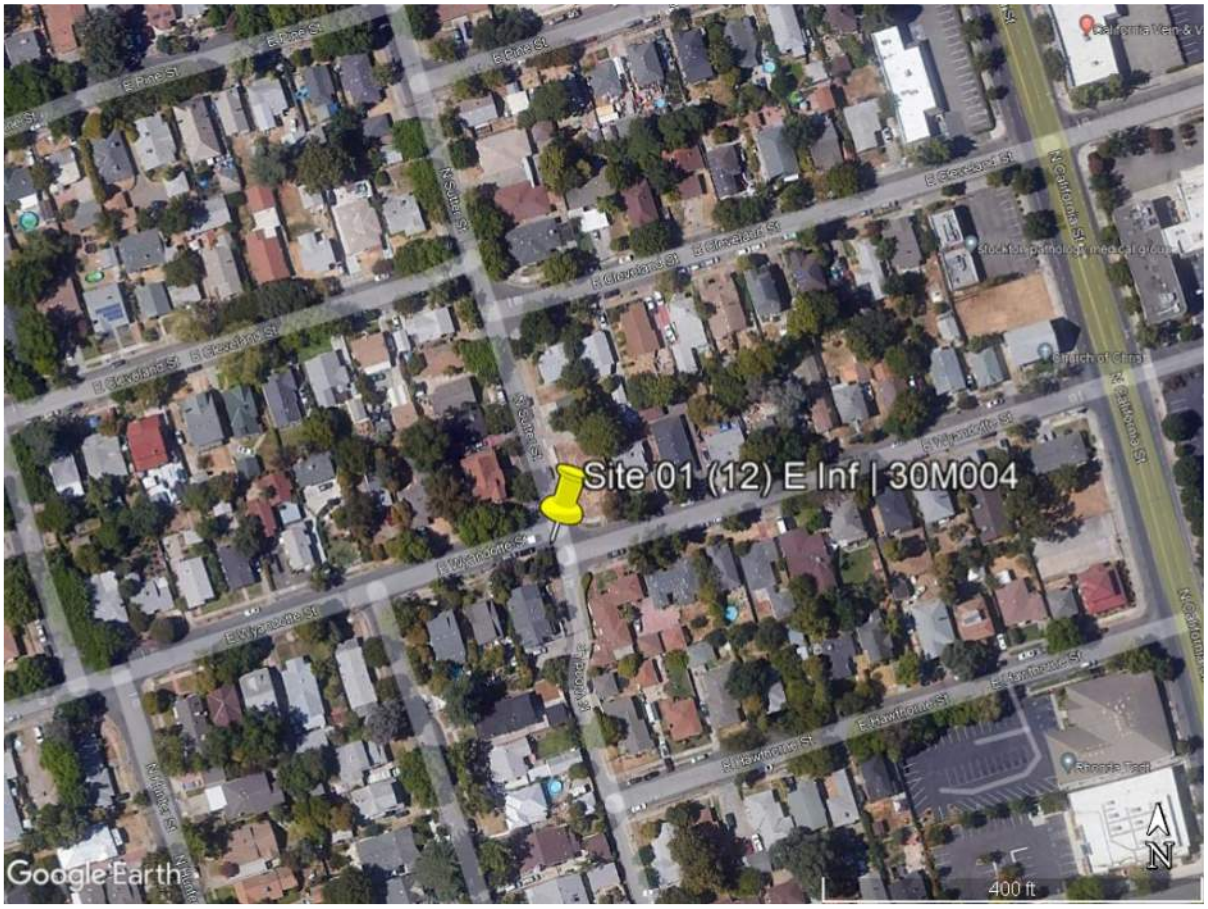
Table 3-1 lists the ADWF, peak measured flow and other calculated factors used to determine the pipeline capacity. Detailed graphs of the flow monitoring data are included in *Appendix A*.

Table 3-1. Flow Monitoring Summary

Item	Site 01 East Inlet	Site 02 East Inlet
Pipe Diameter (in):	12	16.5
Measured Sediment (in):	0	0
Weekday (Monday-Friday) ADWF (mgd):	0.086	0.404
Weekend (Saturday-Sunday) ADWF (mgd):	0.070	0.391
Overall ADWF (mgd):	0.081	0.400
Peak Measured Dry Weather Flow (mgd) (PDWF):	0.208	0.755
Peak Measured Dry Weather Level (in):	3.8	6.7
Peak Measured Dry Weather d/D Ratio:	0.32	0.41
Peak Measured Peaking Factor (PDWF/ADWF):	2.57	1.89

Appendix A
Flow Monitoring Site Report: Data, Graphs, Information

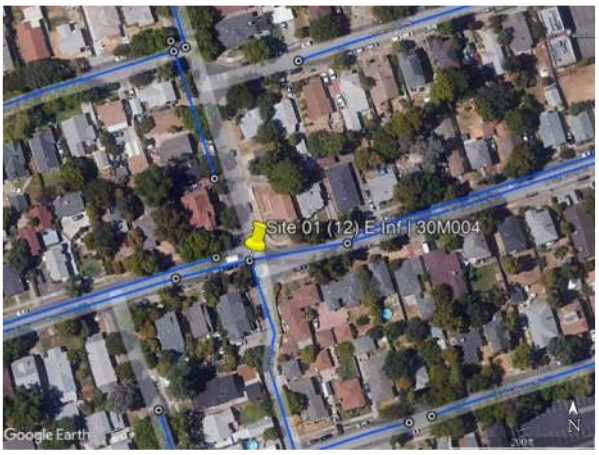
Site 01: Manhole 30M004 East Inlet



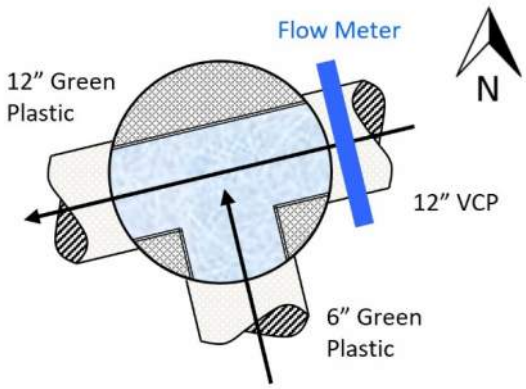
Satellite View



Street View



Sanitary Map



Flow Diagram



Plan View



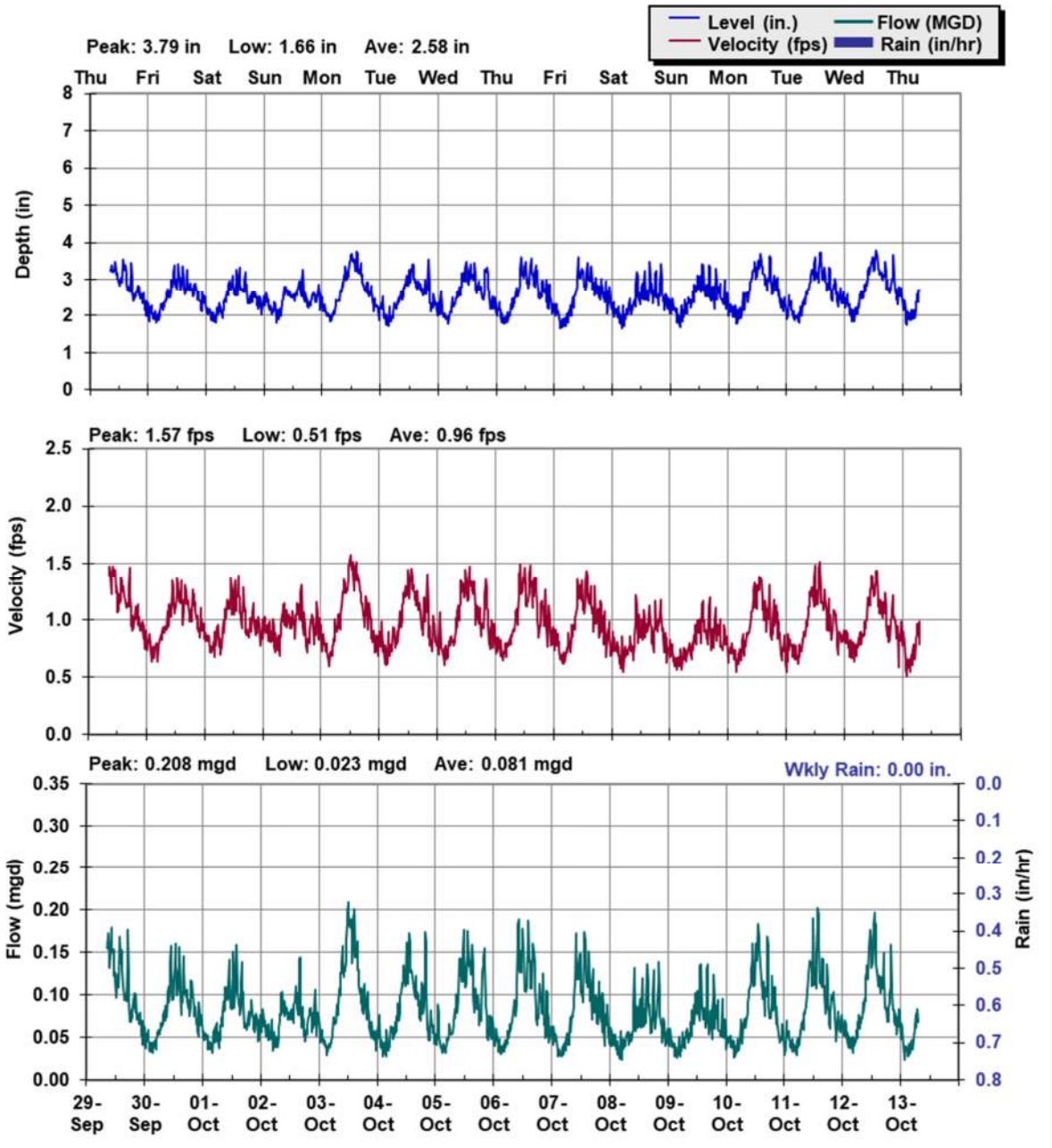
Outlet Pipe



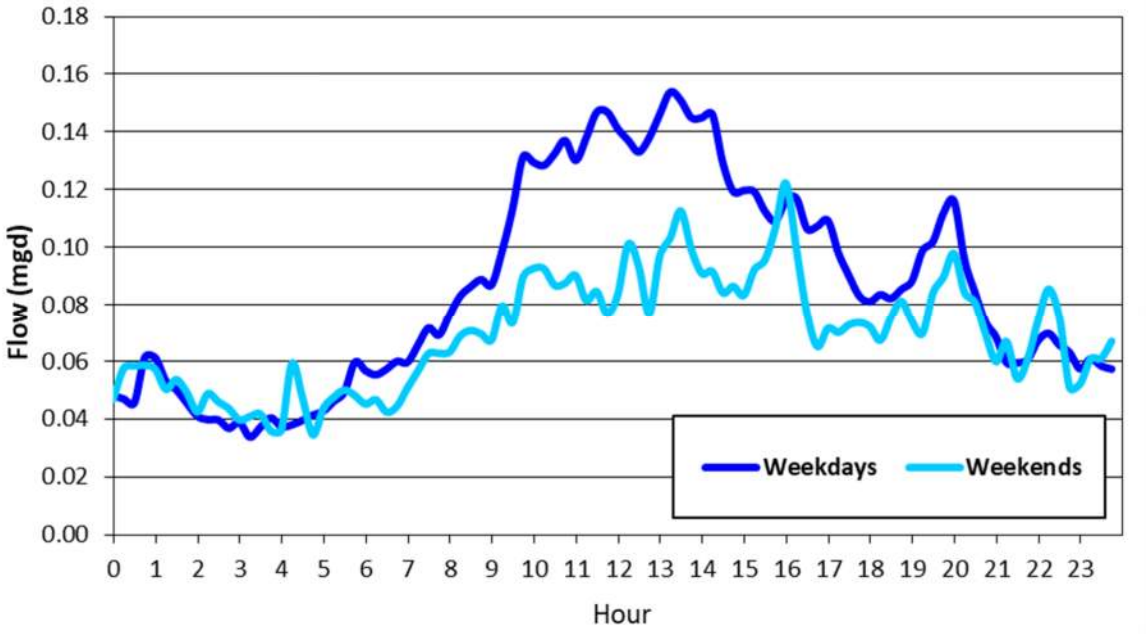
Monitored Southeast Inlet Pipe



Southwest Inlet Pipe

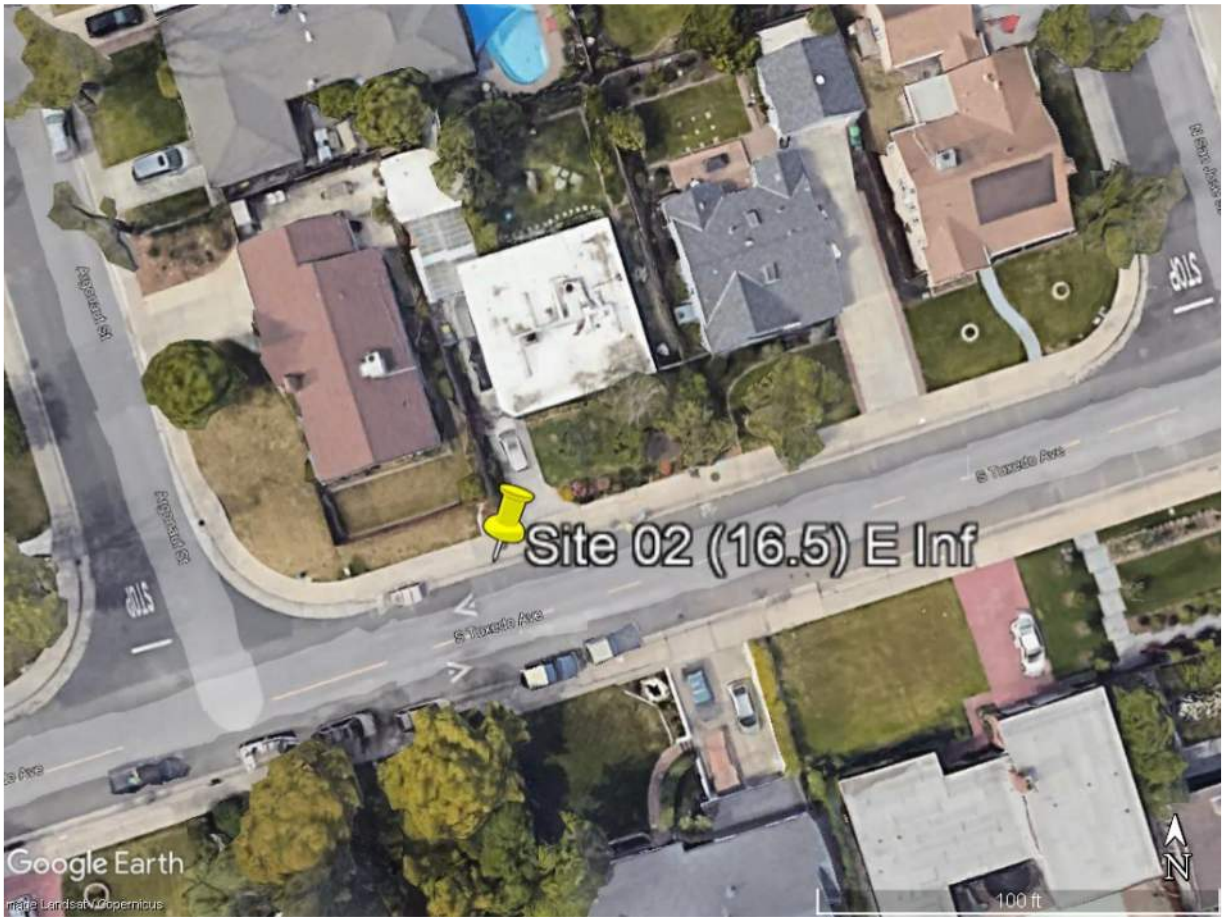


Site 01: Flow Monitoring Details (09/29/2022 to 10/13/2022)



Site 01: Average Dry Weather Flow

Site 02: Manhole 30K155 East Inlet



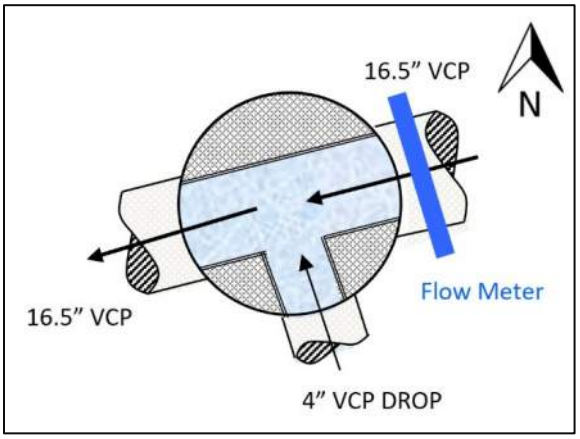
Satellite View



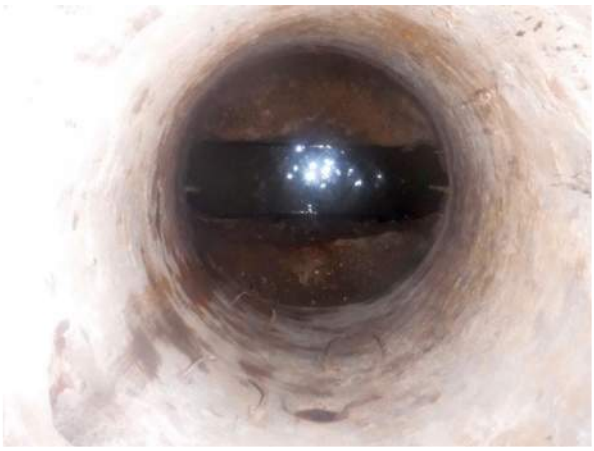
Sanitary Map



Street View



Flow Diagram



Plan View



Outlet Pipe



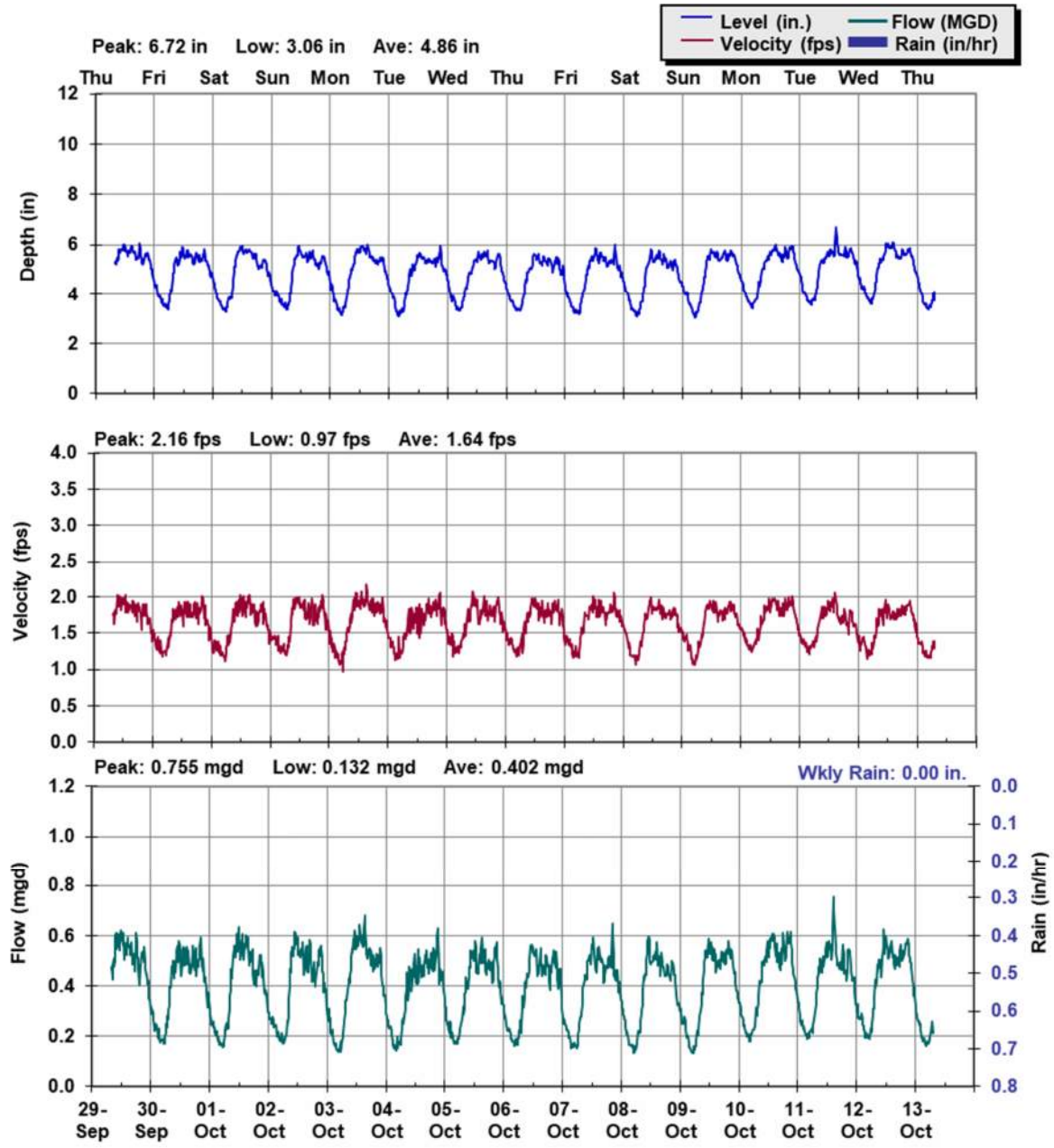
Monitored East Inlet Pipe



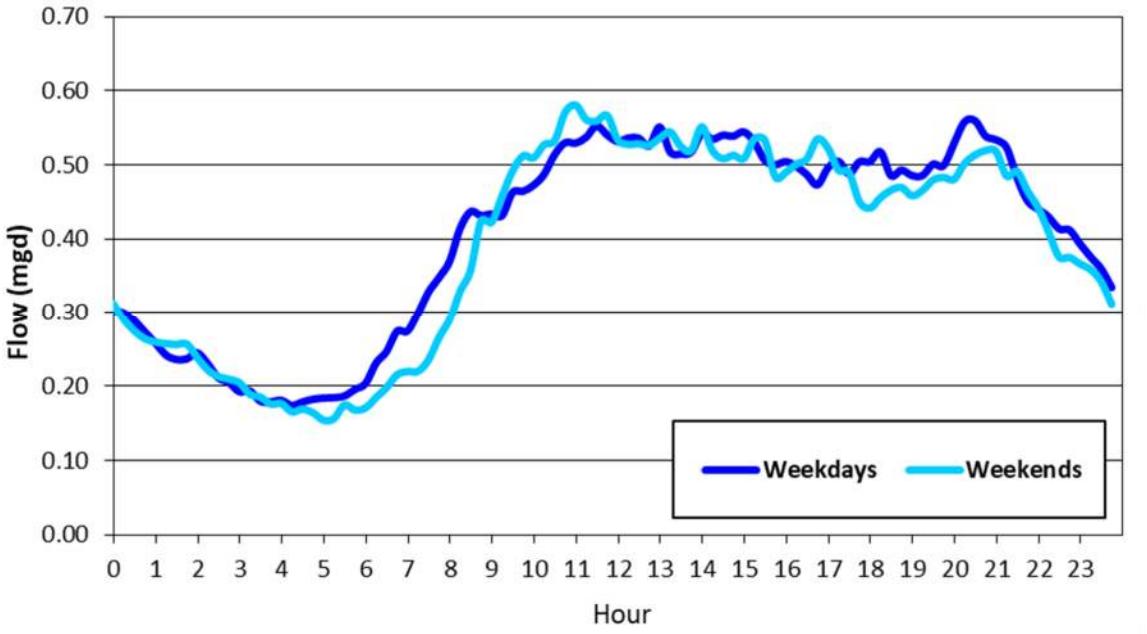
South Drop Inlet Pipe (Low)



South Drop Inlet Pipe (High)



Site 02: Flow Monitoring Details (09/29/2022 to 10/13/2022)



Site 02: Average Dry Weather Flow







V&A
consulting engineers
1000 Broadway, Suite 320
Oakland, CA 94607
<510.903.6600>
510.903.6601, Fax
V&A Project No. 22-0255

Attachment C

Capital Engineering Consultants, Inc. – Dignity Health – Saint Joseph Future Development

CAPITAL
ENGINEERING CONSULTANTS, INC.

DIGNITY HEALTH – SAINT JOSEPH FUTURE DEVELOPMENT

The following report submitted is relating to the provided program named, "Dignity Health Saint Joseph Medical Center Campus Master Development Plan, dated April 22, 2022".

Project Information

New Patient Tower = 281,000 - 331,000 SQ. FT.
New Parking Structure = Up to 800,000 SQ. FT.
New Central Utility Plant = 25,000 – 30,000 SQ. FT.
New Fuel Tank Yard = 2,500 – 3,500 SQ. FT.
New Generator Building = 2,000 – 3,500 SQ. FT.
New Plant Maintenance Building = 15,000 – 18,000 SQ. FT.
Phase 5 Expansion – Acute Care 5-Story Tower = Up to 150,000 SQ. FT (Assume 30,000 SQ. FT / Flr.)

Utility Demands do not include loads for Existing Buildings to be removed or demolished scope.

Preliminary Site Utility Summary

The data provided is based on Site Master Plan documents noted above and typical usages. The provided site utilities will need to be verified when floor plans are developed.

- Building A - New Patient Tower
  - Domestic Water = 300 GPM; **6-inch main**
  - Sanitary Sewer = 1,474 DFU = **(1) 8" SS main, (2) 6" SS mains**
- Building B – New Parking Structure
  - Domestic Water = 50 GPM; **2-1/2-inch main**
  - Sanitary Sewer = 7 DFU = **4" SS main**
- Building C – New Central Utility Plant
  - Water = 200 GPM; **4-inch main**
  - Sanitary Sewer = 68 DFU = **4" SS main**
- Building E – New Generator Building
  - Water = 40 GPM; **2-inch main**
  - Sanitary Sewer = 11 DFU = **4" SS main**
- Building F – New Plant Maintenance Building
  - Water = 65 GPM; **2-1/2-inch main**
  - Sanitary Sewer = 38 DFU = **4" SS main**
- New Modular Buildings – Cemetery / Harding
  - Water = 54.5 GPM; **2-1/2-inch main**
  - Sanitary Sewer = 43 DFU = **4" SS main**
- New Modular Buildings – California / Harding
  - Water = 54.5 GPM; **2-1/2-inch main**
  - Sanitary Sewer = 43 DFU = **4" SS main**

- **Phase 5 Expansion – 5-Story Tower**
  - Domestic Water = 180 GPM; **4-inch main**
  - Sanitary Sewer = 668 DFU = **(1) 8" SS main, (2) 6" SS mains**

Preliminary Utilities Demand

The projected water usage estimate of water demand is based on the design criteria below. The projected demands are likely to be reduced in recognition of the commitment to implement water conservation measures and maximizing water efficiency within building during the design development.

Water Demand

Building A - New Patient Tower

Estimated Water Demand based on typical Gallons per day, per bed Standard.

New Patient Tower Hours of Operation: 24/7/365
Total Inpatient Beds: 144

- 350 gallons per bed, per day (GPD) = 50,400 GPD
- 50,400 GPD x 30 days = 1,512,000 Gals./Mo.
- 1,512,000 Gals./Mo. x 12 Mos. = 18,144,000 GPY

Emergency Department Hours of Operation: 24/7/365
Total Exam / Bays: 70 + Support Spaces

- 144 gallons per Exam Sink per day (GPD) x 70 Bays = 10,800 GPD
- 10,800 GPD x 365 = 3,679,200 GPY

Estimated Domestic Water Demand = 21,823,000 GPY

Building B – New Parking Structure

New Parking Structure, Hours of Operation: 24/7/365
Approximate Number of Full Time Employees: 2

- Assume (1) One Restroom / Office
- Assume (2) FTE @ 2 8hr shifts
- 4 Uses / Day / FTE x (2) FTE = 8 Uses / Day x (2) Shifts = 16 uses / Day
- 1.28 GPF x 20.48 GPD x 365 = 7,475 GPY
- 0.5 gpm / Lavatory / 1 min use.* 16 Uses / Day = 8 GPD
- 8 GPD x 365 = 2,920 GPY
- 7,475 + 2,920 = 10,395 GPY

Parking Structure Washdown: Once per Month / 12 Times / Yr.

- Using .02 Gal. / Sq. Ft.
- 800,000 Sq. Ft. Area x .02 Gals. / SF = 16,000 Gals. / Month
- 16,000 Gals. / Month x 12 Months = 192,000 Gals. / Yr.

Estimated Domestic Water Demand = 10,395 GPY + 192,000 GPY = 202,395 GPY
(Water demand for proposed Helipad Holding Tank(s) not addressed at this time as square foot area of Helipad(s) have not been defined).

Building C – New Central Utility Plant

New Central Utility Plant, Hours of Operation: 24/7/365
Approximate Number of Full Time Employees: 9

- Assume (2) Two Restrooms w/ shower / CUP Office
- Assume (5) Five Wash Sinks
- Assume (3) FTE @ (3) 8hr shifts
- 4 Uses / Day / FTE x (3) FTE = 12 Uses / Day x (3) Shifts = 36 uses / Day
- Water Closet @ 1.28 GPF x 36 = 46.08 GPD x 365 = 16,820 GPY
- (2) Lavatory @ 0.5 gpm / 1 min use x 36 Uses / Day = 36 GPD
- 36 GPD x 365 = 13,140 GPY
- 6 GPH / Sink /10 uses / Day = 60 GPD x 365 = 21,900 GPY
- 1.5 GPM / 5 min. Shower / 2 uses each shift / Day = 7.5 gals. x 2 = 15 gals x 3 shifts = 45 GPD x 365 = 16,425 GPY
- 16,820 + 13,140 + 21,900 + 16,425 = 68,285 GPY

Estimated Domestic Water Demand for Fixtures = 68,285 GPY

Cooling Towers Water Use, Per Ainsworth – 2,530 Tons (Peak)
Condenser Water GPM - 2 gpm / ton = 5060 gpm/ ton x Cooling Range (10°F)
5,060 x 10 x 0.001 = 50.6 gpm Evaporation Rate
50.6 gpm Evaporation Rate x 60 Mins. = 3,036 GPH Peak

Estimated Cooling Tower Demand based on monthly peak / off peak average = 275,669 GPY

Estimated Domestic Water Demand for Fixtures = 68,285 GPY

Estimated Total Water Demand – Central Utility Plant = 343,954 GPY

Building D – New Fuel Tank Yard

- Assume Open yard with no water requirements.

Building E – New Generator Building

New Generator Building, Hours of Operation: 24/7/365
Approximate Number of Full Time Employees: 1

- Assume (1) One Restrooms / Office
- Assume (1) One Wash Sinks
- Assume (1) FTE @ (2) 8hr shifts
- 4 Uses / Day / FTE x (1) FTE = 4 Uses / Day x (2) Shifts = 8 uses / Day
- Water Closet @ 1.28 GPF x 8 = 10.24 GPD x 365 = 3,738 GPY
- (1) Lavatory @ 0.5 gpm / 1 min use x 8 Uses / Day = 4 GPD
- 4 GPD x 365 = 1,460 GPY
- 6 GPH / Sink / 5 uses / Day = 30 GPD x 365 = 10,950 GPY
- 3,738 + 1,460 + 10,950 = 16,148 GPY

Estimated Domestic Water Demand for Fixtures = 16,148 GPY

Building F – New Plant Maintenance Building

New Plant Maintenance Building, Hours of Operation: 24/7/365
Approximate Number of Full Time Employees: 9

- Assume (2) Two Restrooms
- Assume (5) Five Wash Sinks
- Assume (3) FTE @ (3) 8hr shifts
- 4 Uses / Day / FTE x (3) FTE = 12 Uses / Day x (3) Shifts = 36 uses / Day
- Water Closet @ 1.28 GPF x 36 = 46.08 GPD x 365 = 16,820 GPY
- (2) Lavatory @ 0.5 gpm / 1 min use x 36 Uses / Day = 36 GPD
- 36 GPD x 365 = 13,140 GPY
- 6 GPH / Sink /10 uses / Day = 60 GPD x 365 = 21,900 GPY
- 16,820 + 13,140 + 21,900 = 51,860 GPY

Estimated Domestic Water Demand for Fixtures = 51,860 GPY

Approximate Site Water for Irrigation:

Assume 10% of Developed Site = 10 acres * 10% = 1 acre = 43,560 SQFT
Watering to be scheduled for every 3rd day per week = **2** times per week
Approximately 26 weeks per year watering

Lawn Sprinklers: 10% of water demand (4,360 SQFT)

- 100 gallons per day per 60 SQFT for Sprinklers
- 4,360 ÷ 60 = 72.67 72.67 * 100 = 7,267 GPD
- 7,267 GPD * 2 Days / Wk. = 14,534 Gals / Wk.
- 14,534 Gals / Wk. * 26 Wks. / Yr. = 377,867 GPY

Drip Irrigation: 90% of water demand (39,200 SQFT)

- 3 gallons per day per 60 SQFT for Drip System
- 39,200 ÷ 60 = 653 SQ.FT. 653 * 3 Gals = 1,960 GPD
- 1,960 GPD * 2 Days / Wk. = 3,920 Gals / Wk.
- 3,920 Gals / Wk. * 26 Wks. = 101,920 GPY

Estimated Water Demand = 479,787 GPY

Total Estimated New Building Water Demand = 22,917,144 GPY

Estimated Peak Demand for Plumbing Fixtures, Mechanical Equipment and Medical Processes related to support services for the **New Patient Tower**

- Approximate Water Demand =
  - Kitchen = 199 WSFU; 90 GPM
  - Central Sterile = 104 WSFU; 68 GPM
    Total Estimated Peak Demand = 158 GPM
  - 158 GPM x 60 mins. = 9,480 GPH
  - Assume 40% usage / hr. = 9,480 x 0.40. = 3,792 GPH
  - 3,792 x 24 Hrs. = 91,008 GPD x 30 Days = 2,730,240 Gal / Mo.
  - 2,730,240 x 12 = 32,762,880 GPY

Phase 5 Expansion – 5-Story Tower

Assumed breakdown for each floor:

- ED (50%), Lab (25%), imaging (25%), 1st Level
- Surgery (5 ORs) (60%), pre / post (25%), central sterile (15%), 2nd Level
- Pharmacy (15%), supply services (85%), 3rd Level
- Beds (20 – 25 beds), 4th Level
- Beds (20 – 25 beds), 5th Level

Estimated Water Demand based on typical Gallons per day, per bed Standard (Assumed Bed count of 25 on each patient floor with separate patient rooms with toilet on top two floors. Program not yet available)

New Tower - Hours of Operation: 24/7/365

- Inpatient Beds: 50
- Assumed Pre-Op / PACU beds: 16
- 66 Beds x 350 gallons per bed, per day (GPD) = 23,100 GPD
- 23,100 GPD x 30 days = 693,000 Gals./Mo.
- 693,000 Gals./Mo. x 12 Mos. = 8,316,000 GPY

Emergency Department Hours of Operation: 24/7/365

Total Exam / Bays: 24 + Support Spaces

- 144 gallons per Exam Sink per day (GPD) x 24 Bays = 3,456 GPD
- 3,456 GPD x 365 = 1,261,440 GPY

Estimated Peak Demand for Plumbing Fixtures, Mechanical Equipment and Medical Processes related to support services for the **Phase 5 Expansion:**

- Approximate Water Demand =
  - Central Sterile = 104 WSFU; 68 GPM
    Total Estimated Peak Demand = 68 GPM
  - 68 GPM x 60 mins. = 4,080 GPH
  - Assume 40% usage / hr. = 4,080 x 0.40. = 1,632 GPH
  - 1,632 x 24 Hrs. 39,168 GPD x 30 Days = 1,175,040 Gal / Mo.
  - 1,175,040 x 12 = 14,100,480 GPY

Estimated Domestic Water Demand = 23,677,920 GPY

Site Totals – Including Support Services for New Patient Tower, New Building Water Demand & Phase 5 Expansion:

22,917,144 + 32,762,880 + 23,677,920 = 79,357,944 GPY

Total Water Demand for Pipe Sizing = 1,724 FU - NPT + 20 FU - PS + 22 FU - CUP + 8 FU-GB + 22 FU-PMB + 775 - Ph 5 = 2,571 FU = **390 GPM**

- Based on the estimated total water demand, the proposed site would require a minimum **6-inch water main.**

- **The following two areas are not included in the totals for the site Domestic Water loads as these are for temporary transition use (Make Ready) during the phased construction and are to be removed at completion of construction.**

New Modular Building / Trailers (Cemetery / Harding Lot)

- (8) Double wide trailers, (5) single trailers, (3) Modular Buildings ~ Approx. 1,792 SF each, 28,672 SF Total SF

- Assume (1) Single trailer to house Men's / Women's Toilets, Jan. Closet
- (4) WC each side, (8) WC Total, (8) Lavatories, (2) HB, (1) Service Sink
- WC-40 WFU, LAV-8 WFU, HB – 3.5 WFU, SS-3 WFU = 54.5 WFU = 2-1/2" DCW
- 28,672 / 1,000 = 28.67 * 200 GPD (Office Use) = 5,734 GPD
- 5,734 GPD ÷ 24 = 239 GPH
- 239 GPH ÷ 60 = 3.98 GPM ÷ 448.8 = 0.009 CFS

New Modular Building / Trailers (California / Harding Lot)

- (6) single trailers, (3) Modular Buildings ~ Approx. 1,792 SF each, 16,128 SF Total SF
- Assume (1) Single trailer to house Men's / Women's Toilets, Jan. Closet
- (4) WC each side, (8) WC Total, (8) Lavatories, (2) FD, (1) Service Sink
- WC-40 WFU, LAV-8 WFU, HB – 3.5 WFU, SS-3 WFU = 54.5 WFU = 2-1/2" DCW
- 16,128 ÷ 1,000 = 16.13 * 200 GPD (Office Use) = 3,225 GPD
- 3,225 GPD ÷ 24 = 134 GPH
- 134 GPH ÷ 60 = 2.25 GPM ÷ 448.8 = 0.005 CFS

Sanitary Sewer

The sanitary sewer service to the St. Joseph campus site will be collected in a series of points around each building on site.

Estimated Sanitary Sewer Demand based on approximate Plumbing Fixtures, Mechanical Equipment and Medical Processes.

Building A - New Patient Tower

- Total Inpatient Beds: 144
- 144 x 500 Gals/Bed/Day (Avg) = 72,000 GPD Avg. Discharge / Day
- 72,000 GPD x 2.5 (Peak Flow) = 180,000 GPD Peak
- 180,000 GPD ÷ 24 Hrs. = 7,500 GPH
- 7,500 GPH ÷ 60 Mins.= 125 GPM
- 125 GPM ÷ 448.8 (CFS) = Flowrate 0.28 CFS

Building B – New Parking Structure

Domestic Use:

- New Parking Garage = 800,000 SQFT
- 20 GPM / 1,000 Sq. Ft. = 16,000 GPD
- 16,000 GPD ÷ 24 Hrs. = 667 GPH
- 667 GPH ÷ 60 = 11.1 GPM
- 11.1 GPM ÷ 448.8 = 0.025 CFS

Washdown:

- 0.02 GPM / SF x 800,000 SF = 16,000 Gals.
- 16,000 Gals Used for Washdown / Once / Month
- 16,000 GPD ÷ 24 Hrs. = 667 GPH
- 667 GPH ÷ 60 Mins. = 11.12 GPM
- 11.12 GPM ÷ 448.8 = 0.025 CFS
- 0.025 CFS+ 0.025 CFS = 0.05 CFS

Building C – New Central Utility Plant

- New Central Utility Plant = 30,000 SQ. FT.
- 250 GPD / 1,000 Sq. Ft. = 7,500,000 / 1,000 = 7,500 GPD
- 7,500 GPD X 2.5 (Peak Flow) = 18,750 GPD
- 18,750 GPD ÷ 24 = 782 GPH
- 782 GPH ÷ 60 = 13.03 GPM ÷ 448.8 = 0.03 CFS

- Cooling Towers – Average Discharge / Yr. = 96,500 Gals
- Peak discharge / Day = 13,800 GPD
- 13,800 GPD ÷ 24 = 575 GPH
- 575 GPH ÷ 60 = 9.58 GPM ÷ 448.8 = 0.02 CFS

Building D – New Fuel Tank Yard

- Assume Open yard with no sanitary sewer requirements.

Building E – New Generator Building

- New Generator Building = 3,500 SQ. FT.
- 100 GPD / 1,000 Sq. Ft. = 3,500 / 1,000 = 3.5
- 3.5 x 100 = 350 GPD
- 350 GPD X 2 (Peak Flow) = 700 GPD
- 700 GPD ÷ 24 = 29.17 GPH
- 29.17 GPH ÷ 60 = 0.48 GPM ÷ 448.8 = 0.001 CFS*
  *Insignificant load

Building F – New Plant Maintenance Building

- New Plant Maintenance Building = 18,000 SQ. FT
- 250 GPD / 1,000 Sq. Ft. = 250 GPD x 18,000 / 1,000 = 18.00
- 18.00 x 250 = 4,500 GPD
- 4,500 GPD X 2.5 (Peak Flow) = 11,250 GPD
- 11,250 GPD ÷ 24 = 468.75 GPH
- 468.75 GPH ÷ 60 = 7.8 GPM ÷ 448.8 = 0.017 CFS

Phase 5 Expansion – 5-Story Tower

- Total Inpatient Beds: 66
- 66 x 500 Gals/Bed/Day (Avg) = 33,000 GPD Avg. Discharge / Day
- 33,000 GPD x 2.5 (Peak Flow) = 82,500 GPD Peak
- 82,500 GPD ÷ 24 Hrs. = 3,438 GPH
- 3,438 GPH ÷ 60 Mins.= 57.3 GPM
- 57.3 GPM ÷ 448.8 (CFS) = Flowrate 0.13 CFS

Site Sanitary Load:
7,500 + 667 + 667 + 782 + 575 + 469 + 3,438 GPH = 14,098 GPH
14,098 GPH ÷ 60 Mins. = 234.97 GPM ÷ 448.8 = **0.52 CFS**

The proposed Sewer Demand would require a minimum 8" sanitary sewer main.

- **The following two areas are not included in the totals for the site sanitary loads as these are for temporary transition use (Make Ready) during the phased construction and are to be removed at completion of construction.**

New Modular Building / Trailers (Cemetery / Harding Lot)

- (8) Double wide trailers, (5) single trailers, (3) Modular Buildings ~ Approx. 1,792 SF each, 28,672 SF Total SF
- Assume (1) Single trailer to house Men's / Women's Toilets, Jan. Closet
- (4) WC each side, (8) WC Total, (8) Lavatories, (2) FD, (1) Service Sink
- WC-32 DFU, LAV-8 DFU, FD-0 DFU, SS-3 DFU = 43 DFU = 4" SS
- 28,672 / 1,000 = 28.67 * 200 GPD (Office Use) = 5,734 GPD
- 5,734 GPD ÷ 24 = 239 GPH
- 239 GPH ÷ 60 = 3.98 GPM ÷ 448.8 = 0.009 CFS

New Modular Building / Trailers (California / Harding Lot)

- (6) single trailers, (3) Modular Buildings ~ Approx. 1,792 SF each, 16,128 SF Total SF
- Assume (1) Single trailer to house Men's / Women's Toilets, Jan. Closet
- (4) WC each side, (8) WC Total, (8) Lavatories, (2) FD, (1) Service Sink
- WC-32 DFU, LAV-8 DFU, FD-0 DFU, SS-3 DFU = 43 DFU = 4" SS
- 16,128 ÷ 1,000 = 16.13 * 200 GPD (Office Use) = 3,225 GPD
- 3,225 GPD ÷ 24 = 134 GPH
- 134 GPH ÷ 60 = 2.25 GPM ÷ 448.8 = 0.005 CFS

CALIFORNIA WATER SERVICE
Water Resource Sustainability Department 1720 North First Street
San Jose, CA 95112

October 26, 2022

Edwin K. Yu, P.E., LEED AP, Principal Engineer
Morton & Pitalo, Inc.
600 Coolidge Drive, Suite 140
Folsom, CA 95630

Re: Review of St. Joseph's Medical Center Expansion WSA

Dear Mr. Yu:

California Water Service Company's (Cal Water) has completed the review the Water Supply Assessment (WSA) for the St. Joseph's Medical Center Expansion in Stockton, California developed by Morton & Pitalo, Inc.

The revised WSA, dated October 5, 2022, directly addresses all comments and includes more details regarding the project demand estimates. We have no further comments and are approving this WSA. This approval is contingent on the developer's compliance with any conditions set forth in the WSA.

Authority for this approval is pursuant to Cal Water's "Resolution to Approve Water Supply Assessment and Related Documents for New Developments" dated October 27, 2021.

Should you have any questions, please contact Michael Bolzowski at mbolzowski@calwater.com or (408) 367-8338.

Sincerely,

Ken Jenkins
Chief Water Resource Sustainability Officer

CITY OF STOCKTON, CALIFORNIA

ST. JOSEPH'S MEDICAL CENTER

M&P Project No. 21-0074-00 (v.2)

WATER SUPPLY ASSESSMENT

October 5, 2022

PREPARED FOR:

Dignity Health St. Joseph's Medical Center
1800 N. California Street
Stockton, CA 95204

PREPARED BY:



600 Coolidge Drive, Suite 140
Folsom, CA 95630
Telephone: (916) 927-2400
Fax: (916) 984-9617

WATER SUPPLY ASSESSMENT

FOR

ST. JOSEPH'S MEDICAL CENTER

1800 N. California Street
Stockton, California 95204

October 2022

mortonpitalo

600 Coolidge Drive, Suite 140
Folsom, CA 95630
Telephone: (916) 984-7621
Fax: (916) 984-9617

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Appendix A – Dignity Health - Saint Joseph Future Development (Capital Engineering Consultants)

EXECUTIVE SUMMARY

An Environmental Impact Report (EIR), to be certified in accordance with the California Environmental Quality Act (CEQA), is being prepared in support of the St. Joseph's Medical Center Expansion Project (the Project). The EIR will include an assessment of utilities, including water supply. Senate Bill 610 requires that a water supply assessment (WSA), based on specific criteria, be prepared to document the sufficiency of available water supply for the California Water Service Stockton District (Cal Water or the District) and the Project. The WSA identifies water supply and reliability to Cal Water and the Project both now and in the future.

The WSA includes a discussion of the relevant legislation which requires the WSA; an overview of the proposed Project; identification of current water demands for the Cal Water existing service area, and estimated demands of the Project over a 20-plus year planning period; and an analysis of reliability of Cal Water's water supplies. This WSA includes discussion of the potential impacts each agency that supplies water to the region has on Cal Water, and concludes with a sufficiency analysis of water supply during normal, single-dry, and multiple dry years over a 20- plus year planning period.

St. Joseph's Medical Center Project

The Project site is located in the City of Stockton on approximately 18.7 acres bounded by E. Harding Way on the south, Cemetery Lane on the east, E. Cleveland Street on the north, and N. California Street on the west, with two additional roads, E. Maple Street and McCloud Avenue, dividing the site. Existing uses of the Project site include the St. Joseph's Medical Center campus.

The Project is anticipated to be built over five phases and will include the following: removal of existing buildings and other site preparation work; the construction of a new Acute Care Hospital Tower; a new multi-level parking structure; a new Central Utility Plant; a Plant Maintenance building; and other facilities to support the Project.

Water Supply

As described in the Cal Water 2020 Urban Water Management Plan (UWMP), Cal Water relies primarily on purchased water from the Stockton East Water District (SEWD), and groundwater extracted from the underlying Eastern San Joaquin Subbasin (ESJS). Cal Water has a total of 41 wells located within its service area boundaries. Currently 25 of the wells are active, while the remainder are inactive or on standby.

Water Demand

Cal Water's total potable and non-potable water demand in 2020 was approximately 24,106 acre-feet, and is anticipated to be approximately 23,517 acre-feet by 2045.

The existing SJMC total water demand is estimated to be approximately 150.5 acre-feet per year. The combined future and existing SJMC total water demand is estimated to be approximately 394.0 acre-feet per year, an increase of 243.6 acre-feet.

Demand and Supply Projections

Water supply allocations for Cal Water currently meet its future water demands. The increase in the water demands for the future project are anticipated to be covered by an increase in purchased

potable water from SEWD. Analyses of normal, single-dry, and multiple-dry year scenarios also demonstrate Cal Water's ability to supply water to meet demand until year 2045 under each hydrologic scenario.

Reliability

Cal Water purchases treated water from the Stockton East Water District (SEWD) and pumped groundwater from wells located within its service area in the Eastern San Joaquin Subbasin. Cal Water has met historical water demands with these supplies, including demands during average, single-dry, and multiple-dry year scenarios. Cal Water has been able to meet all demands with its existing water supply portfolio, including through periods of single and multiple-dry years.

Conclusion

The information included in this Water Supply Assessment is based on Cal Water's 2020 UWMP, which describes its plans for continuing to provide reliable water supplies to satisfy the District's anticipated future water demands. It concludes that a sufficient water supply exists for the Stockton District, its current water users, current development projects and anticipated population and business growth within the District's service area.

1.0 INTRODUCTION

An Environmental Impact Report (EIR), to be certified in accordance with the California Environmental Quality Act (CEQA), is being prepared for the St. Joseph's Medical Center Expansion Project (SJMC or Project). The EIR will include an assessment of utilities, including water supply. Legislation implemented in 2002 (Senate Bill 610), requires that a water supply assessment (WSA), based on specific criteria, be prepared to document the sufficiency of available water supply for the City and the Project. The WSA identifies water supply and reliability to the City, now and into the future, and makes a determination regarding water supply sufficiency for the Project. The vicinity map of the Project is shown in **Exhibit 1**.

The Project site is located in the City of Stockton on approximately 18.7 acres bounded by E. Harding Way on the south, Cemetery Lane on the east, E. Cleveland Street on the north, and N. California Street on the west, with two additional roads, E. Maple Street and McCloud Avenue, dividing the site. The site currently consists of the existing St. Joseph's Medical Center campus. The project is located within the California Water Service Stockton District (Cal Water). **Exhibit 2** shows the location of the project within the Cal Water service area.

The Project is anticipated to be built over five phases and will include the following: removal of existing buildings and other site preparation work; the construction of a new Acute Care Hospital Tower; a new multi-level parking structure; a new Central Utility Plant; a Plant Maintenance building; and other facilities required to support the Project.

The WSA is part of the ongoing planning efforts of Cal Water to optimize the use of its water resources. The WSA includes a discussion of the Senate Bill 610 legislation, an overview of the proposed Project, and an analysis of water supply and demand for Cal Water's existing service area, including the Project and other development projects planned within the service area over a 20-year planning period. The WSA also includes an analysis of reliability of the Cal Water water supplies and water quality, and concludes with an analysis describing water supply during normal, single-dry, and multiple dry years over a 20-plus year planning period.

Exhibit 1 – Vicinity Map

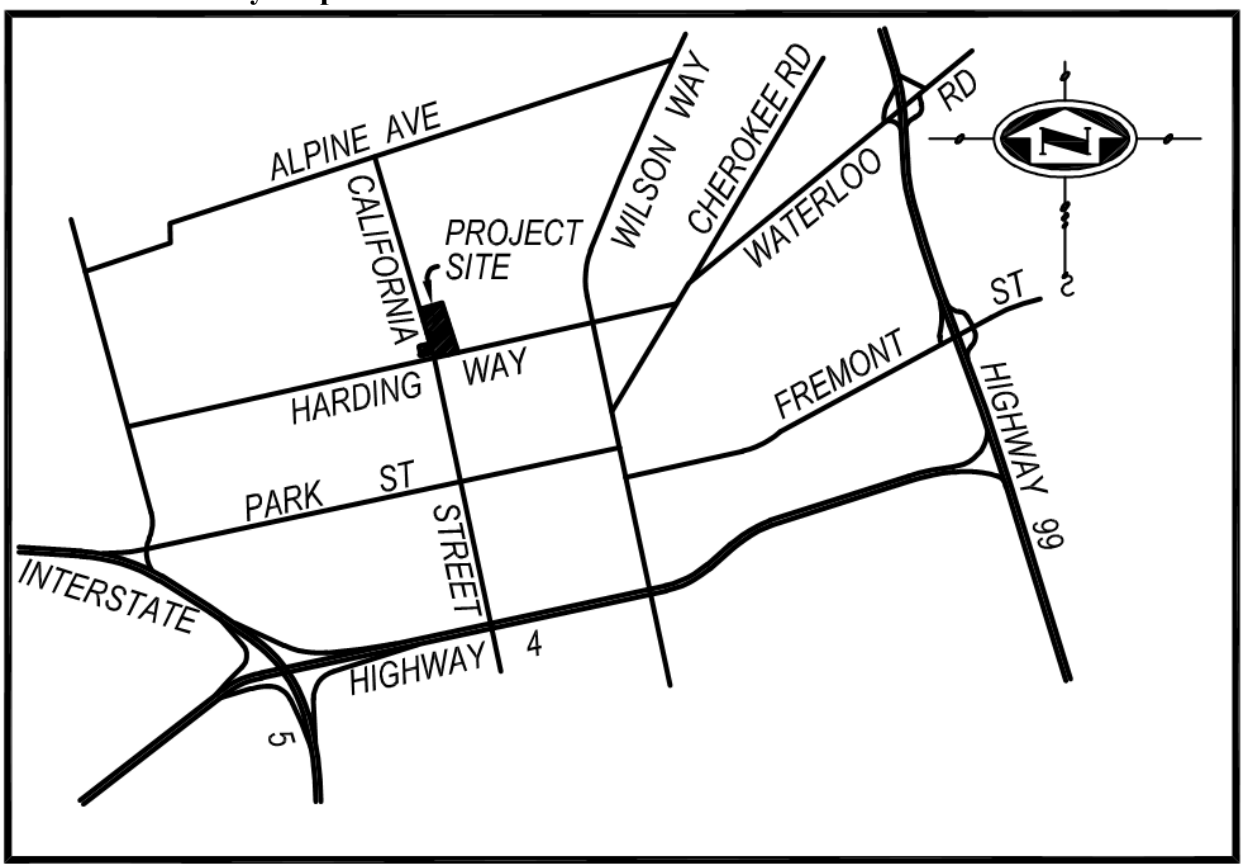
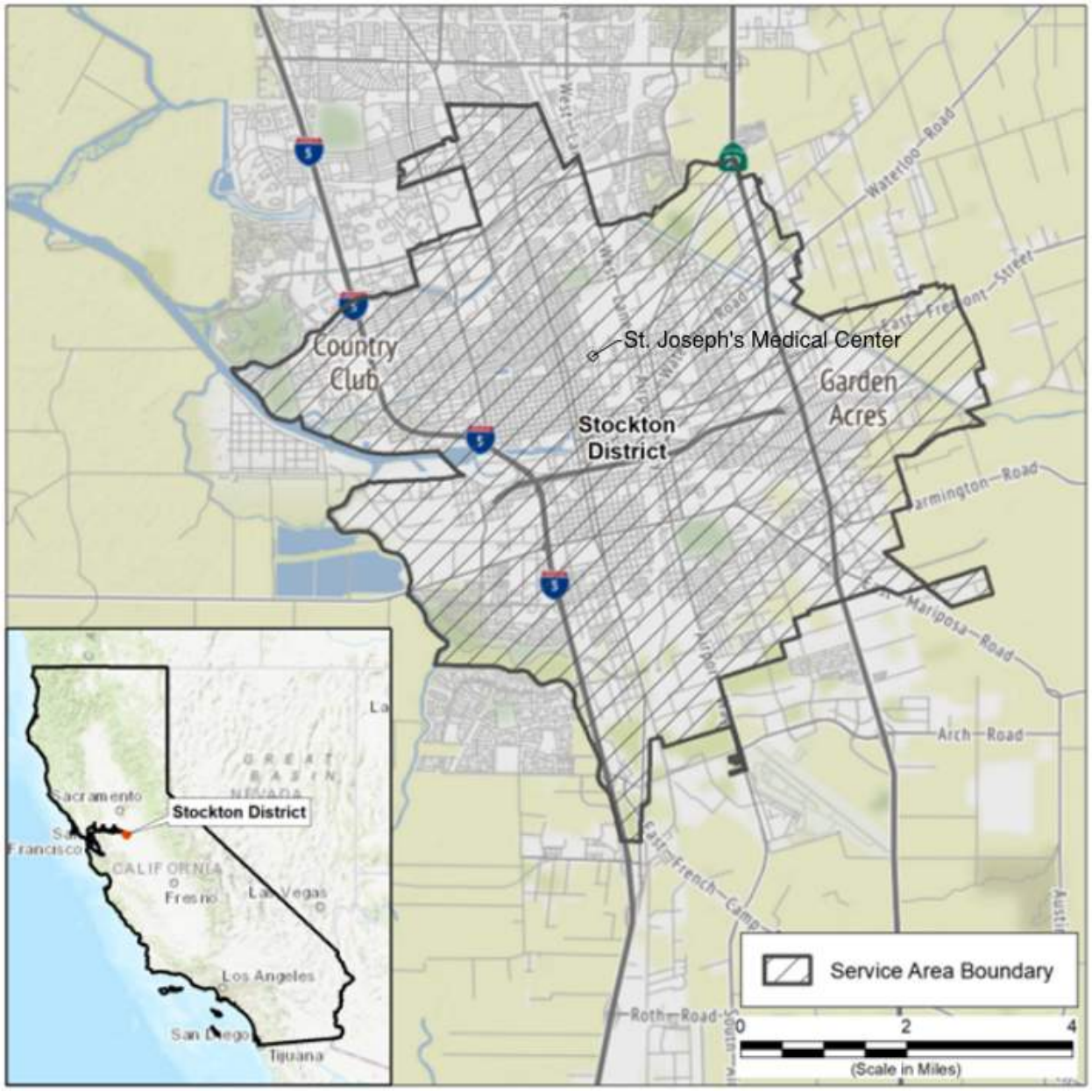


Exhibit 2 – Cal Water Stockton District Location and Service Boundaries



Source: California Water Service Stockton District 2020 UWMP (Figure 3-1)

2.0 LEGISLATION

Due to the potential impact of the Project on current and future water supplies, the State of California, through SB 610, requires that a WSA be completed for the proposed development. The Project is proposed to include construction of a new Acute Care Hospital Tower; a new multi-level parking structure; a new Central Utility Plant; a Plant Maintenance building; and other facilities to support the expansion. As the Project demands an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project, preparation of a WSA is required as a basis for determining the sufficiency of water supply to the Project and the City's water customers, now and for a 20-year planning period. The following information outlines the requirements of SB 610.

2.1. SB 610 Water Supply Planning

Senate Bill (SB) 610 was implemented January 2002. SB 610 requires a development that qualifies as a "Project" under Water Code 10912 to be supported in CEQA documentation with a Water Supply Assessment report drafted to specifically identify the public water system that will supply water to the project and analyze the availability and reliability of water supply to the development. The Water Supply Assessment is to include the following if applicable to the supply conditions:

1. Discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses.

2. Identification of existing water supply entitlements, water rights, or water service contracts secured by the purveying agency and water received in prior years pursuant to those entitlements, rights, and contracts.

3. Description of the quantities of water received in prior years by the public water system under the existing water supply entitlements, water rights or water service contracts.

4. Water supply entitlements, water rights or water service contracts shall be demonstrated by supporting documentation such as the following:
   a. Written contracts or other proof of entitlement to an identified water supply.
   b. Copies of capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.
   c. Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.
   d. Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

5. Identification of other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system.

6. If groundwater is included for the supply for a proposed project, the following additional information is required:
   a. Description of groundwater basin(s) from which the proposed project will be supplied. Adjudicated basins must have a copy of the court order or decree adopted and a description of the amount of groundwater the public water system has the legal right to pump. For non-adjudicated basins, information on whether the DWR has identified the basin as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of DWR that characterizes the condition of the basin, and a detailed description of the efforts being undertaken in the basin to eliminate the long-term overdraft condition.
   b. Description and analysis of the amount and location of groundwater pumped by the public water system for the past five (5) years from any groundwater basin from which the proposed project will be supplied. Analysis should be based on information that is reasonably available, including, but not limited to, historic use records.
   c. Description and analysis of the amount and location of groundwater projected to be pumped by the public water system from any groundwater basin from which the proposed project will be supplied. Analysis should be based on information that is reasonably available, including, but not limited to, historic use records.
   d. Analysis of sufficiency of the groundwater from the basin(s) from which the proposed project will be supplied.

7. The water supply assessment shall be included in any environmental document prepared for the project.

8. The assessment may include an evaluation of any information included in that environmental document. A determination shall be made whether the projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

2.2. SBX7-7

The Water Conservation Act of 2009 (SBx7-7) requires all California urban water agencies to set and meet certain demand reduction targets in order to assist the State in reducing urban water use by 20 percent by 2020. The Act also requires each agency to monitor its progress toward its targets. This was implemented for the purpose of meeting the mandate to reduce per capita urban water consumption by 20 percent statewide. SBx7-7 describes the overall process by which the City of Stockton is to comply with the requirements. It specifically identifies methods for establishing urban water use targets. These requirements are outlined in the Cal Water 2020 UWMP.

3.0 ST. JOSEPH'S MEDICAL CENTER PROJECT

3.1. Existing Medical Facility Water Demands

The water demand for the existing Medical Center is based on water usage that is billed on a monthly cycle from the local water purveyor, Cal Water. The billed amounts do not differentiate between demand types, such as hospital usage, mechanical and cooling, and irrigation demands. The existing water usage from August 2019 to July 2021 was provided by the hospital and is summarized in the following table:

Table 3-1 – Existing SJMC Monthly Water Demand Summary

Month/Year	Water Usage (Gallons)	Month/Year	Water Usage (Gallons)
8/2019	5,015,840	8/2020	4,606,041
9/2019	4,305,914	9/2020	4,367,177
10/2019	3,952,713	10/2020	3,954,403
11/2019	3,554,034	11/2020	3,353,493
12/2019	3,224,625	12/2020	2,879,787
1/2020	5,180,657	1/2021	2,874,555
2/2020	3,961,028	2/2021	3,130,605
3/2020	3,302,884	3/2021	3,258,790
4/2020	4,114,869	4/2021	3,402,134
5/2020	4,161,600	5/2021	3,359,283
6/2020	3,943,004	6/2021	3,413,510
7/2020	4,304,118	7/2021	3,805,050

Source: SJMC – Stockton Utilities Data (SJMC Stockton Utilities Data.xlsx provided via email from the Applicant on 11/16/2021)

The 2019-20 (August 2019 to July 2020) and 2020-21 (August 2020 to July 2021) total existing water demands are summarized in the following table:

Table 3-2 – Existing 2019-20 and August 2020-21 (August to July) Water Demand

Year	Gallons per Year	Acre-Feet per Year	Average Gallons per Day
2019-20	49,021,286	150.45	134,305
2020-21	42,404,828	130.14	116,178

For analysis purposes, the yearly water demands for water year 2019-20 will be used. We feel that this may better represent an average water year as the 2020-21 water demands may be skewed based on the COVID-19 pandemic.

The existing Medical Center has five existing water connections to Cal Water; account numbers 9713533333, 7813533333, 6813533333, 5813533333, 3813533333 (Source: Dignity Health via email July 5, 2022). The average distribution system real water loss per the validated water loss audits submitted by Cal Water Stockton District from 2018 to 2020 is 24.7 gallons per connection per day. This equates to approximately 9,016 gallons per year per connection or 0.03 acre-feet per

year per connection. For the five existing connections the total water loss is approximately 0.14 acre-feet per year. This loss is accounted for in the existing SJMC monthly and year totals identified in the preceding two tables.

3.2. Proposed Project Description

The proposed Project is anticipated to be built over five phases and will include the following: removal of existing buildings and other site preparation work; the construction of a new Acute Care Hospital Tower ; a new multi-level parking structure; a new Central Utility Plant, a Plant Maintenance building; and other facilities on the existing Medical Center campus to support the expansion of services.

The Project area and building square-footage are summarized in the following table, the existing site plan is shown in **Exhibit 3**, and the site master plan is shown on **Exhibit 4A** and **Exhibit 4B**.

Table 3-3 – Proposed Building Summary

Building Name	Approx. Building Area	Use
Acute Care Hospital Tower	Up to 331,000 Square Feet	Medical Services
Parking Structure	Up to 800,000 Square Feet	Parking & Heliports
Central Utility Plant	Up to 30,000 Square Feet	Support
Fuel Tank Yard	Up to 3,500 Square Feet	Support
Generator Building Addition	Up to 3,500 Square Feet	Support
Plant Maintenance Building	Up to 18,000 Square Feet	Support
Phase 5 Acute Care Hospital Tower	Potential expansion up to 150,000 Square Feet	Medical Services
Phase 5 Parking Structure	To Be Determined – Water Demands Not Included in WSA	Parking

Source: St. Joseph's Medical Center of Stockton Hospital Expansion Project, Master Development Plan, October 2021

The following assumptions summarize the approximate site water for irrigation:

- 10% of developed site (10-acre site x 10% = 1-acre = 43,560 square feet of irrigated area)
- Watering to be scheduled for every 3rd day per week = 2 times per week
- Water approximately 26 weeks per year
- Lawn Sprinklers
    - 10% of water demand (4,360 square feet)
    - 100 gallons per day per 60 square feet for sprinklers
    - 377,867 gallons per year
- Drip Irrigation
    - 90% of water demand (39,200 square feet)
    - 3 gallons per day per 60 square feet for drip system
    - 101,920 gallons per year

3.3. St. Joseph's Medical Center Project Water Demands

The following table summarizes the SJMC estimated future water demands.

Table 3-4 – SJMC Future Water Demand Estimate

Building Name	Future Water Demand		
	Gallons per Year	Acre-Feet per Year	Gallons per Day
Acute Care Hospital Tower	21,823,000	66.98	59,789
Parking Structure	202,395	0.62	555
Central Utility Plant	343,954	1.06	942
Fuel Tank Yard	0	0.0	0
Generator Building Addition	16,148	0.05	44
Plant Maintenance Building	51,860	0.16	142
Irrigation	479,787	1.47	1,314
Support Services for New Tower[1]	32,762,880	100.55	89,761
Phase 5 Acute Care Hospital Tower	23,677,920	72.67	64,871
Total Future Demand (Phase 1-5)	79,357,944	243.56	217,419

Source: Capital Engineering Consultants, Inc., Dignity Health – St. Joseph Future Development – See **Appendix A**

[1] Estimated peak demand for plumbing fixtures, mechanical equipment, and medical processes related to Support Services for New Tower

The following table summarizes the existing, future, and combined water demands for the SJMC project.

Table 3-5 – Existing and Future Water Demand Summary

Water Demand	Gallons per Year	Acre-Feet per Year	Gallons per Day	Gallons per Minute
Existing	49,021,286	150.5	134,305	93.3
Future (Phase 1-5)	79,357,944	243.6	217,419	151.0
Combined	128,379,230	394.0	351,724	243.6

As mentioned in Section 3.1, the average distribution system water losses of 24.7 gallons per connection per day are anticipated. At this time, it is unknown if any new connections to the Cal Water system will be implemented during the phased construction of the project. Should any new connections be made to the Cal Water distribution system, then distribution system water losses of approximately 0.03 acre-feet per year per connection would be added to the totals listed above.

Acknowledging that any construction project is subject to the vagaries of the marketplace, including the approvals of regulatory agencies other than the City, escalating construction costs and the cost of money for financing of construction, the following represents one likely phasing schedule for the expansion:

- No sooner than 12 - 18 months following approval by the City Council: demolition of the existing McCloud Building, the Main Wing, and several additional buildings; removal of the existing surface parking lot; relocation of utilities; commence construction of the Hospital Support Building and the new parking structure.
- 18 – 30 months: construction of the new Central Utility Plant
- 24 – 54 months: construction of the new Acute Care Hospital Tower
- 54 – 78 months: renovation construction
- 36 – 84 months: seismic upgrades

At this time the schedule of when each construction phase will be built is unknown. The following summarizes the major tasks that will be untaken to construct each phase per the Master Development Plan.

- Existing – Existing Conditions
- Phase 1 - Demolition and site prep
- Phase 2 - Parking Structure, Plant Maintenance Building
- Phase 3 - Acute Care Hospital Tower, Support Service Buildings/Expansions (Central Utility Plant, Fuel Tank Yard, Generator Building Addition
- Phase 4 - Demolition and façade improvements
- Phase 5 - Phase 5 Acute Care Hospital Tower

The following table summarizes the existing and future water demand for the Project by phase of construction.

Table 3-6 – Existing and Future Water Demand Summary by Construction Phase

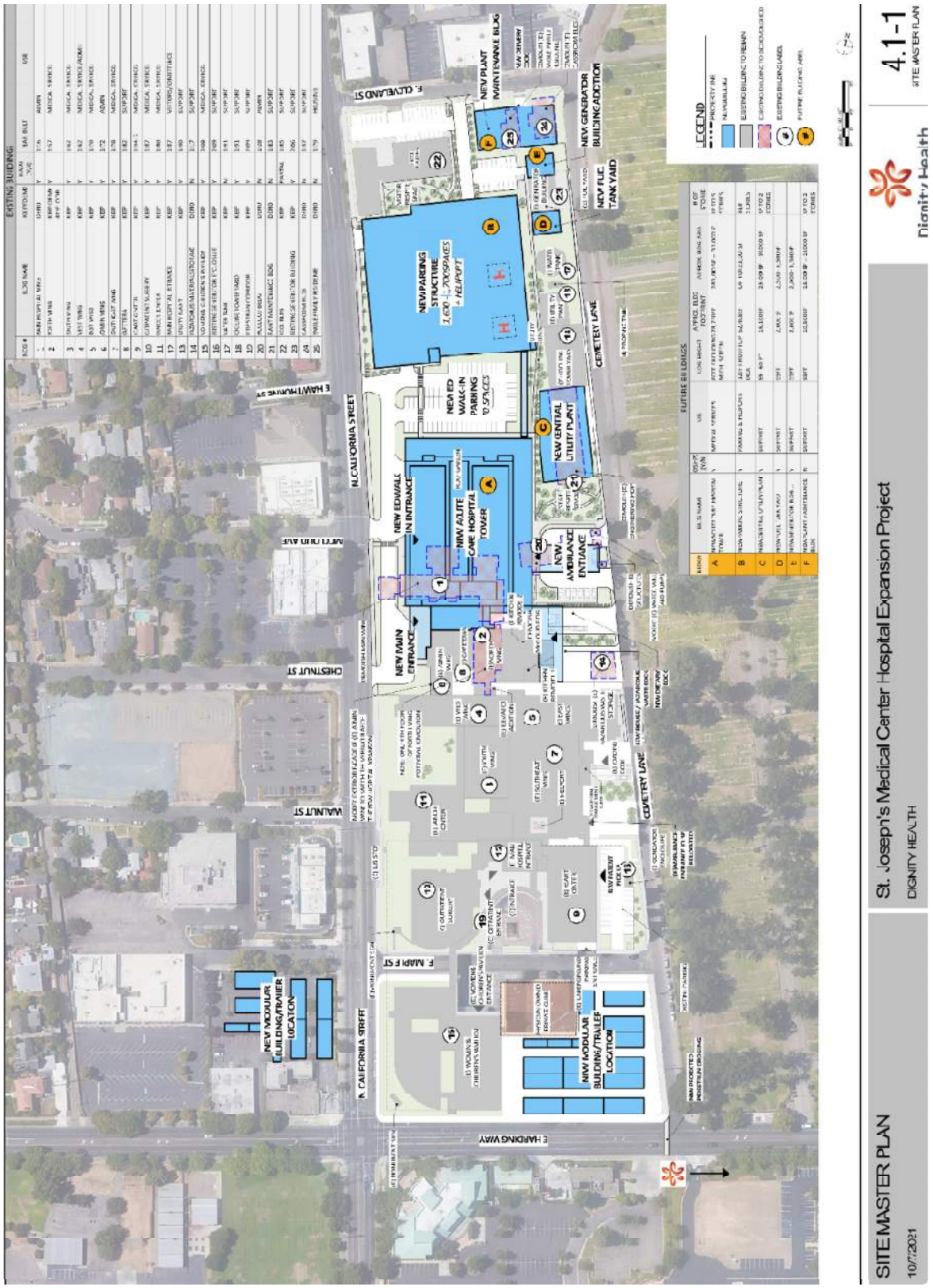
Phase	Phased Acre-Feet per Year	Total Acre-Feet per Year
Existing Conditions	150.5	150.5
1	1.5	151.9
2	0.8	152.7
3	168.6	321.3
4	0	321.3
5	72.7	394.0

Exhibit 3 – SJMC Existing Site Plan



Source: St. Joseph's Medical Center of Stockton Master Development Plan

Exhibit 4A – SJMC Site Master Plan (Phase 1-4)



Source: St. Joseph's Medical Center of Stockton Master Development Plan

Exhibit 4B – SJMC Site Master Plan (Phase 5)



Source: St. Joseph's Medical Center of Stockton Master Development Plan

4. CAL WATER STOCKTON DISTRICT WATER DEMAND AND SUPPLIES

Cal Water serves portions of the City of Stockton and adjacent unincorporated San Joaquin County and covers an area of approximately 38 square miles. Cal Water's land use is a mixture of low, medium, and high-density residential, mixed use, commercial, industrial, public facilities and parks/open space. The Cal Water service area is shown in **Exhibit 2**.

4.1 Overview of Supply and Demand

The total potable and non-potable water supplies for Cal Water over the previous five years to the writing of the 2020 UWMP averaged approximately 23,260 acre-feet per year (per Table 4-1 2020 UWMP). Based on the 2020 UWMP, in 2020 Cal Water produced a total of 24,106 acre-feet, of which 1,484 acre-feet was produced from local groundwater sources, and 22,622 acre-feet was purchased from the Stockton East Water District.

Over the past several years, Cal Water's local groundwater has accounted for approximately 16 percent of the overall demand, with purchased water accounting for the remaining 84 percent of the overall demand. Future demand projections assume approximately the same percentage distribution between groundwater and purchased water supplies. The anticipated drinking water quantities are projected to remain relatively consistent as future demands increase slightly through the planning horizon of year 2045.

Cal Water supplies a combination of locally produced and surface water purchased from the Stockton East Water District. Cal Water operates 25 groundwater wells, 17 booster pumps, and 8 storage tanks to deliver approximately 22 million gallons of water daily to more than 43,000 service connections.

Water service for the Medical Center is currently provided by Cal Water. There is an existing 6-inch water main located in Cemetery Lane and an 8-inch water main in N. California Street. The existing Cal Water potable water distribution facilities surrounding the Project are shown in **Exhibits 5** through **8.** Domestic water supply service to the existing Medical Center is currently provided via a direct tap to the existing water main along Cemetery Lane (via north side of the East Wing). Chilled water is provided and routed to the existing Medical Center from the on-site cooling tower. For fire, there are existing perimeter fire hydrants located along N. California Street, E. Harding Way, Cemetery Lane, E. Maple Street, McCloud Ave., and E. Cleveland Street.

Exhibit 5 – Cal Water Stockton District Existing Water System Facilities Map (STK-30-29)



Exhibit 6 – Cal Water Stockton District Existing Water System Facilities Map (STK-29-28)

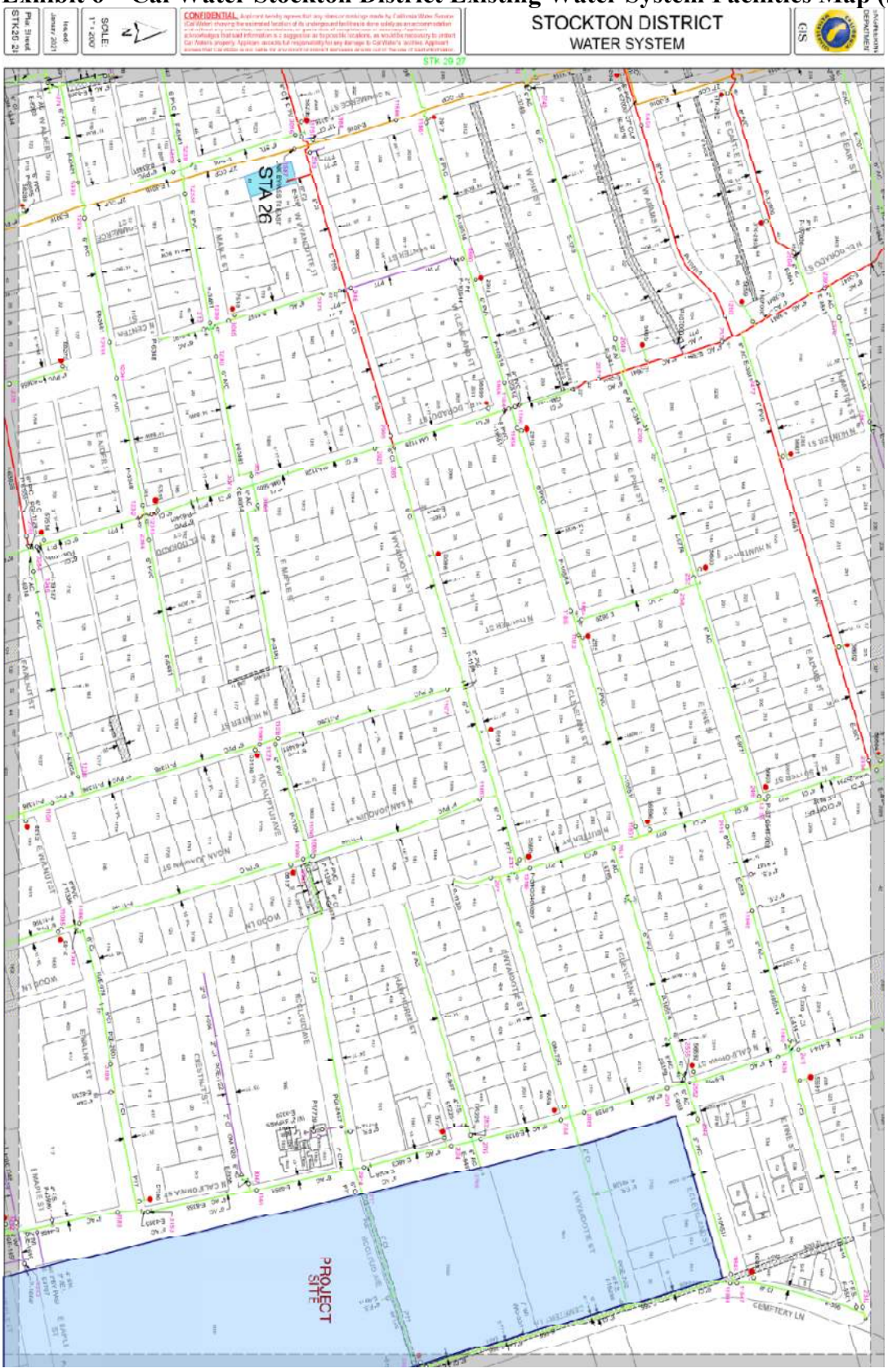


Exhibit 7 – Cal Water Stockton District Existing Water System Facilities Map (STK-29-29)

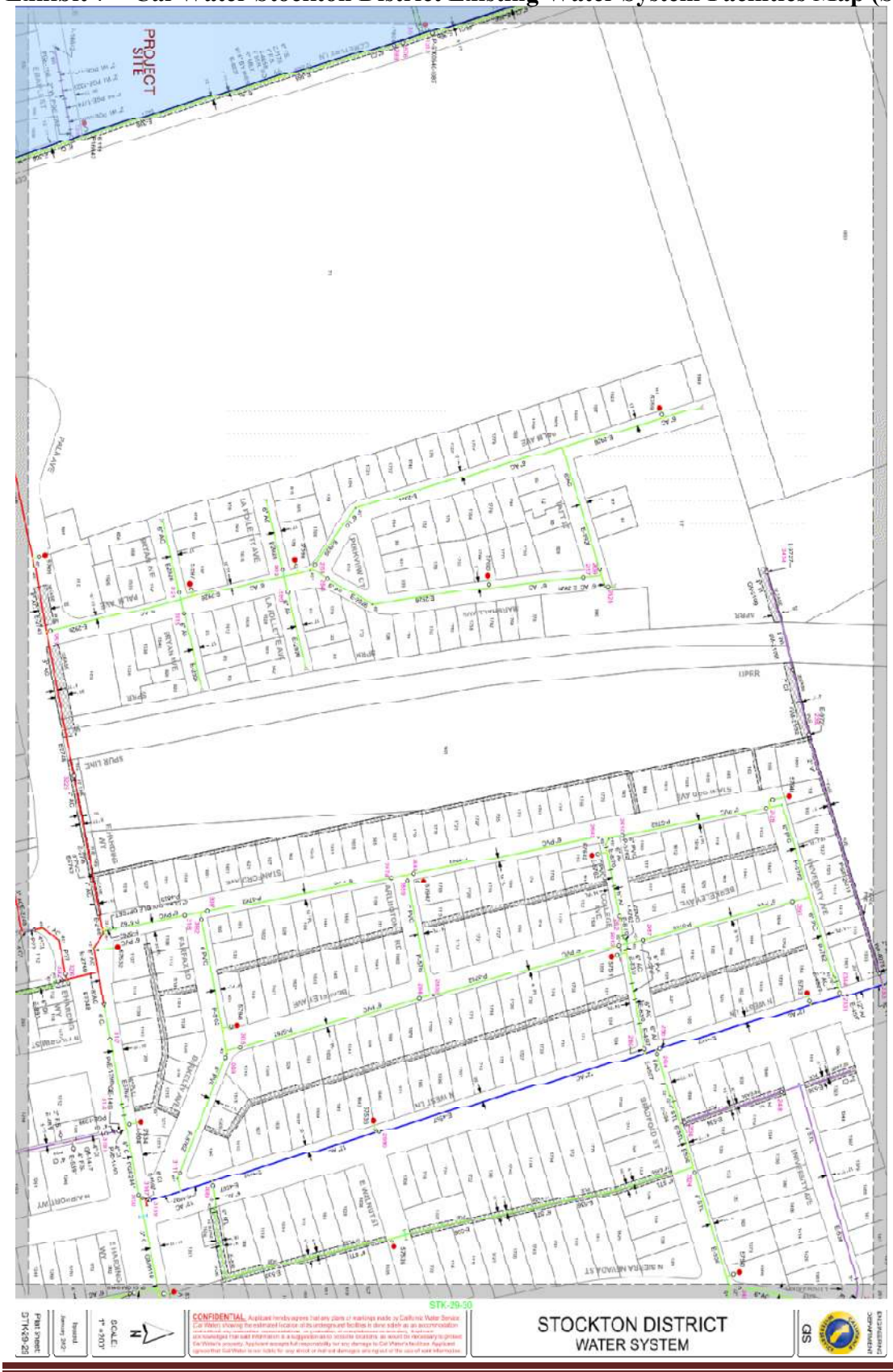


Exhibit 8 – Cal Water Stockton District Existing Water System Facilities Map (STK-30-28)



4.1.1 Growth Rate

Cal Water's 2020 UWMP includes an analysis of the District's anticipated growth rate. The 2020 service area population was approximately 173,910. The population is expected to increase to approximately 184,469 by 2045. The following table shows the projected service area population for the Stockton District.

Table 4-1 – California Water Service Stockton District Service Area Population

Year	2020	2025	2030	2035	2040	2045
Cal Water Stockton District Water Service Area Population	173,910	176,022	178,134	180,246	182,358	184,469

Source: California Water Service Stockton District 2020 UWMP (Table 3-1)

4.1.2 Water Demand

Based on the Cal Water 2020 UWMP, the District's total water demand in 2020 was approximately 24,106 acre-feet, and is anticipated to be approximately 23,517 acre-feet per year by 2045. The existing Medical Center total water demand is estimated to be 150.5 acre-feet per year. The future (with project) Medical Center total water demand is estimated to be 394.0 acre-feet, representing an increase of 243.6 acre-feet over existing demands. All other current development projects within the Cal Water service area are not anticipated to increase the District's demands by an appreciable amount due to development size, or is a redevelopment project replacing older services not designed to current-day water conservation standards.

4.1.3 Demand and Supply Comparison

The following table shows the demand and supply data for projected water demand and supply for the Stockton District through 2045. This represents a 20-year minimum planning period as required by Senate Bill 610.

Table 4-2 – Projected Water Demand and Supply for Cal Water Stockton District

	Projected (acre-feet per year)				
	2025	2030	2035	2040	2045
Demand					
Potable Water, Non-potable	23,733	23,588	23,548	23,480	23,517
Total Water Demand	23,733	23,588	23,548	23,480	23,517
Supply					
Purchased	22,393	22,248	22,208	22,140	22,177
Groundwater	1,340	1,340	1,340	1,340	1,340
Total Water Supply	23,733	23,588	23,548	23,480	23,517
Potable Water Supply Surplus	0	0	0	0	0

Source: California Water Service Stockton District 2020 UWMP (Tables 4-3 & 6-9)

Projected water use is estimated as a function of expected service growth and a forecast of average water use per service for each of the use types (single-family, multi-family, commercial, institutional/government, industrial, other potable, landscape, and losses). Population and service growth projections are based on historical rates of service growth.

Section 3 in this WSA identifies an increase in water demand due to the Project. While the existing project is included in the 2020 UWMP (identified as administrative professional land use in Appendix D), the increases in the projected water demand due to the construction of the Project is not directly included in the 2020 UWMP.

Table 4-6 in the Stockton District 2020 UWMP identifies future water savings in projected water use. The following summarizes the future water savings from Table 4-6:

- Year 2025 704 acre-feet
- Year 2030 1,251 acre-feet
- Year 2035 1,534 acre-feet
- Year 2040 1,846 acre-feet
- Year 2045 2,051 acre-feet

The Stockton District uses forecasts of per capita water savings from appliance standards and plumbing codes to adjust its projections of average use per service. The forecasts incorporate the effects of the following codes and regulations:

- Assembly Bill 715 (2007) – requires that any toilet or urinal sold or installed in California on or after January 1, 2014, cannot have a flush rating exceeding 1.28 and 0.5 gallons per flush.
- Water use efficiency is summarized by the water factor for the appliance which measures the gallons of water used per cycle per cubic foot of capacity. Water use efficiency for commercial clothes and dish washers has been and will be increased over time.
- New construction and renovations in California are subject to CalGreen Code requirements.
- Senate Bill 407 (2009) – mandates that all building in California come up to current State plumbing fixture standards within this decade

The projected future water savings due to the updates to the above-mentioned appliance standards and plumbing codes offset the increases identified in Section 4.1.2 due to the project.

The Cal Water 2020 Urban Water Master Plan (UWMP or the Plan), adopted in June 2021, expressly contemplates and accommodates future population growth and the resulting increase in water demand consistent with the growth projections included in General Plans:

1. Chapter 1 – Introduction and Overview
    a. Section 1.3. Relationship to Other Planning Efforts
        i. "…water management does not happen in isolation; there are other planning processes that integrate with the UWMP to accomplish urban planning." The Plan incorporates "…city and county General Plans…" as well as "…local and regional water resource plans…" (UWMP, p. 13)

b. Section 1.6 Lay Description
    i. "This UWMP serves as a foundational planning document and includes descriptions of historical and projected water demands, and water supplies, and the resulting reliability during a set of defined water supply conditions over a 20-year planning horizon." (UWMP, p. 15)

The Plan also contemplates and addresses water conservation efforts:

2. Chapter 2 – Plan Preparation
    a. Section 2.3 Individual or Regional Planning and Compliance (Regional Alliance)
        i. "…this UWMP provides information on the District's compliance with its SB X7-7 water conservation targets as an individual urban water supplier." (UWMP, p. 20)

3. Chapter 4 – Water Use Characterization
    a. Section 4.2.2 Projected Water Use and Section 4.2.4 Future Water Savings in Projected Water Use.
        i. Table 4-6 Future Conservation Savings (AF) reflects a savings of 2,051 AF by 2045 (UWMP, p. 41)

4. Chapter 8 – Water Shortage Contingency Planning
    a. Table 8-2 Demand Reduction Actions (DWR 8-2) describes actions being taken and contemplated to reduce water demand, now and in the future. (UWMP, pp. 99-104)

The Plan addresses sources of water, now and extending into the future:

5. Chapter 6 - Water Supply Characterization.
    a. "Based on the available information, the available groundwater supply and the purchased water supply are expected to be sufficient to meet the projected future demands of the District in normal and multiple dry year periods through 2045." (UWMP, p. 58)
    b. Section 6.9 Summary of Existing and Planned Sources of Water describes projections of water supply.
        i. Table 6-9 Water Supplies – Projected (DWR Table 6-9) reflects a decline in the "reasonably available volume" water supply of ~216 AF between 2025 and 2045. (UWMP, p. 70)

The Plan makes a definitive, affirmative statement about the District's ability to provide water to meet anticipated future demand:

6. Chapter 7 - Water Supply Reliability Assessment:
    a. Section 7.1.1 says "…under all hydrologic conditions, the combination of its purchased water and groundwater supply for the Stockton District will fully meet future demands." (UWMP, p. 76) (Emphasis added)

Acknowledging that the adoption by Cal Water of the UWMP in June 2021 occurred over two years after the most recent update to the General Plan for the City of Stockton, Envision Stockton 2040 General Plan, adopted by the City Council on December 4, 2018, one may reasonably conclude from Section 1.3 of the UWMP that it incorporates the growth projections included in the City's 2040 General Plan. Although the 2040 General Plan does not expressly anticipate the proposed hospital expansion, Table 3-5 Employment Forecast by Industry does reflect an anticipation of significant growth in the Educational and Health Services industry, as well as in the Information, Financial, Professional, and Business industries. In fact, these industry sectors are projected to have the greatest growth of all sectors identified in the General Plan. (Envision Stockton 2040 General Plan, p. 3-16)

The industry sectors identified immediately above are included in General Plan under the land use category of Commercial uses (2040 General Plan, Table 2-1, p. 2-18) and the Development Code under the zoning designation Commercial (Chapter 16.16.020 and Chapter 16.20.020, Title 16 Development Code of the Stockton Municipal Code). The General Plan "…assumes the following maximum development projections for the year 2040…:"

- 40,900 new dwelling units
- 13.8 million square feet of new commercial and office space
- 35.6 million square feet of new industrial space (2040 General Plan, p. 3-21)

The 13.8 million square feet of new commercial and office space by 2040 is more than sufficient to accommodate the proposed hospital expansion.

In conclusion, all of the affirmative statements in the Plan quoted above, particularly Section 1.3 and Section 7.1.1, the UWMP demonstrates the ability of the District to accommodate the proposed hospital expansion.

The following sections discuss each of the water sources for Cal Water. Reliability of each of these sources is discussed in Section 5.

4.2 Purchased Water

Cal Water's primary source of water, serving approximately 84 percent of the District's demands over the past decade (Source: 2020 UWMP Section 6.1 Purchased Water), is purchased water from the Stockton East Water District (SEWD).

SEWD acquires the supply from both the New Hogan Reservoir on the Calaveras River and the New Melones Reservoir on the Stanislaus River. SEWD entered into Water Supply Contracts with the United States Bureau of Reclamation (USBR) for water from both reservoirs, as well as a short-term transfer agreements with the South San Joaquin Irrigation District (SSJID) and Oakdale Irrigation District (OID). The short-term transfer agreements are entered by the parties on a year-to-year basis, and no continuous transfer agreement with SSJID and OID is in place. Under its agreements with USBR, SEWD is guaranteed 56.5 percent of the yield of New Hogan Reservoir and has an entitlement of 75,000 acre-feet per year (AFY) from New Melones Reservoir (Source: 2020 UWMP Section 6.1 Purchased Water). These SEWD supplies serve both agricultural and

urban demands within the SEWD service area. Water for urban use is conveyed through an extensive conveyance system owned, operated, and maintained by SEWD. Raw water is treated at SEWD's treatment plant located on the eastern edge of the City of Stockton. Treated water is pumped from the plant via transmission mains to the District, the City of Stockton, and two San Joaquin County maintenance districts (Lincoln Village Maintenance District and Colonial Heights Maintenance District) within the City of Stockton (collectively these entities are referred to as the "urban water purveyors").

Each urban water purveyor's share of the SEWD plant output in each water year is based on SEWD's prior year water production as a percentage of the total water production for all of the urban water purveyors. The allocation method for SEWD plant output is specified in what is referred to as the "Second Amended Contract", which was signed by all parties.

Growth in the City of Stockton's service area in the last 10 years has been and continues to be at a faster rate than in Cal Water's service area. As a consequence, Cal Water's share of SEWD treatment plant output is projected to continue to decline in the future. An offset to this loss was the expansion of the SEWD plant capacity, which was increased in 2006 from 40 million gallons per day (MGD) to 65 MGD (Source: 2020 UWMP Section 6.1 Purchased Water).

After the City of Stockton's Delta Water Supply Project (DWSP) came on-line in 2012, the urban water purveyors' planned deliveries from SEWD were reallocated. Cal Water's percentage of the SEWD supply was increased to 58.1 percent of the total available water from the SEWD plant (Source: 2020 UWMP Section 6.1 Purchased Water). Each water year, the urban water purveyors are asked to review and update their projected surface water delivery quantities.

The remainder of the SEWD surface water supply (i.e., untreated water) is currently used either for surface irrigation of agricultural crops by farmers in the SEWD service area or for groundwater recharge. SEWD has undertaken and is expanding its groundwater recharge program (i.e., the Farmington Groundwater Recharge Program, and several in-lieu recharge projects included in the Eastern San Joaquin Subbasin Groundwater Sustainability Plan [GSP]) to increase basin storage so that during drought periods there is increased groundwater supply available to its agricultural and urban customers.

Cal Water plans on maximizing the use of treated surface water purchased from SEWD to meet year-round demands. During summer months when customer demands are greatest, Cal Water augments its SEWD supply by pumping groundwater from the underlying Eastern San Joaquin Subbasin (discussed below). Use of SEWD imported surface supplies in this manner contributes to reducing overdrafting of the groundwater basin in the Stockton area (Source: 2020 UWMP Section 6.1 Purchased Water).

The following table lists the specific references of water rights agreements between SEWD, Cal Water, and other parties.

Table 4-3 – Water Rights Agreements Between SEWD, Cal Water, and other Parties

District	PWS	Document Type	Document Link	Title	Description	Effective Date	Expiration or Sunset Date	Latest Update Date	Status
Stockton	Stockton	Purchase Agreement	2nd Amended Contract-SEWD 1987.pdf	2nd Amended Contract - Treated Water Supply Agreement between the Stockton-East Water District and City of Stockton, Lincoln Village Maintenance District, Colonial Heights Maintenance District and California Water Service Company.	Treated Water Supply Agreement between the Stockton East Water District and California Water Service Company.	9/25/1987	4/1/2035	3/23/1990	Current
Stockton	Stockton	Purchase Agreement	Addendum to 2nd Amended Contract-1990.pdf	Addendum to 2nd Amended Contract - Treated Water Supply Agreement between the Stockton-East Water District and City of Stockton, Lincoln Village Maintenance District, Colonial Heights Maintenance District and California Water Service Company.	Addendum to "2nd Amended Contract - Stockton East Water District". County of San Joaquin added as party to the original contract.	3/23/1990	4/1/2035	-	Current
Stockton	Stockton	Joint Powers Agreement	Stockton-County JPA Agreement 04112017.pdf	Stockton County Joint Exercise of Powers Agreement	Stockton County Joint Exercise of Powers Agreement Establishing the Eastern San Joaquin Groundwater Authority	2/8/2017	-	-	Current
Stockton	Stockton	Memorandum of Agreement	Stockton Cal Water MOA A-17-146 06052017.pdf	Stockton Cal Water Memorandum of Agreement	Memorandum of Agreement forming the Cal Water-County Groundwater Sustainability Agency	5/23/2017	-	-	

Source: Agreements provided by Cal Water via email dated 9/16/2022

4.3 Groundwater

Groundwater makes up a smaller portion of Cal Water's water supply, averaging approximately 16 percent of the total supply over the past decade.

Cal Water overlies the Eastern San Joaquin Subbasin (ESJS) (California Department of Water Resources [DWR] Basin No. 5- 022.01) of the San Joaquin Valley Basin. DWR recently evaluated the ESJS and determined that it is in a condition of critical overdraft.

The ESJS is designated as a high priority basin under DWR's 2019 Phase 2 Basin Prioritization. The main factors driving the ESJS's designation include population growth, total number of wells, irrigated acreage per square mile, and documented impacts including declining groundwater levels and subsidence.

The groundwater used by Cal Water is extracted from the underlying Eastern San Joaquin Subbasin. Cal Water has a total of 41 wells located within its service area boundaries. Currently 25 of the wells are active, while the remainder are inactive or on standby.

There are eight surface storage structures, enabling the groundwater wells to pump to storage during non-peak demand periods and provide peak day demand. In conjunction with its purchased treated water supplies, Cal Water has sufficient groundwater production capacity to meet all their current annual average day and maximum day demands.

4.4 Surface Water

Cal Water purchases treated surface water from SEWD, as described above in Section 4.2.

4.5 Stormwater

Cal Water currently has no plans to divert stormwater for beneficial uses in the Stockton District.

4.6 Wastewater and Recycled Water

Currently, no wastewater is recycled for direct reuse from the domestic or industrial wastewater streams by Cal Water.

Despite the water rights conditions faced by water purveyors in the Stockton area, Cal Water continues to actively evaluate recycling water alternatives for the District. In the near term, however, Cal Water does not anticipate distributing recycled water to its customers within the District.

4.7 Desalinated Water Opportunities

There are no opportunities for the development of desalinated water in the District by Cal Water.

4.8 Water Exchanges and Transfers

Cal Water is not pursuing water exchanges or water transfers involving other entities at the time.

Cal Water has a total of seven emergency interties. Five of these interties are with the City of Stockton and two interties are with SEWD.

4.9 Future Water Projects

Cal Water has an active well maintenance program to monitor all of its wells and identify which wells need to be replaced to maintain the reliability of the system. Cal Water will maintain sufficient wells and distribution facilities to meet the anticipated increases in future demand as needed.

While there are currently no planned future water supply projects or programs that are expected to provide a quantifiable increase to the District's water supply, in light of the over-drafted condition of the ESJS, Cal Water will assess supply augmentation alternatives. Cal Water will also work with Eastern San Joaquin Groundwater Authority, as it is able, to improve the water supply reliability for the ESJS.

The Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment), prepared by the State Water Board, establishes water quality control measures and flow requirements needed to provide reasonable protection of beneficial uses in the watershed. The Stockton District 2020 UWMP does not factor the Bay-Delta Plan Amendment into the water reliability assessment. Since implementation of the Bay-Delta Plan Amendment remains uncertain due to ongoing legal challenges, the Amendment may affect SEWD's ability to deliver water to the Stockton District, potentially resulting in supply shortfalls.

5. RELIABILITY OF WATER SUPPLIES

The 2020 UWMP was used as the primary source document for the preparation of this Water Supply Assessment, which contains planning information to assist the District in developing a reliable supply of quality water in sufficient quantities for beneficial uses.

Cal Water purchases treated water from the Stockton East Water District (SEWD) and pumped groundwater from wells located within its service area in the Eastern San Joaquin Subbasin. Cal Water has met historical water demands with these supplies, including demands during average, single-dry, and multiple-dry year scenarios. Cal Water has been able to meet all demands with its existing water supply portfolio, including through periods of single and multiple-dry years.

5.1 Purchased Water

Purchased water supplies by Cal Water are available pursuant to their contract with the regional wholesaler, SEWD. Cal Water's current contract with SEWD extends through 2035, and Cal Water expects that the contract will be renewed/extended in its current form. Although unlikely, any change to the current agreement with SEWD could negatively affect the future availability of supply.

To fulfill its obligations under its contracts with its wholesale customers, including Cal Water, SEWD obtains water from New Hogan Reservoir on the Calaveras River and the New Melones Reservoir on the Stanislaus River. SEWD entered into Water Supply Contracts with the United States Bureau of Reclamation (USBR) for water from both reservoirs, as well as a short-term transfer agreements with the South San Joaquin Irrigation District (SSJID) and Oakdale Irrigation District (OID). The short-term transfer agreements are entered by the parties on a year-to-year basis, and no continuous transfer agreement with SSJID and OID is in place.

Based on the 2020 SEWD Urban Water Management Plan (UWMP), SEWD has a reliable water supply and shall make available to the urban water purveyors, including Cal Water, a minimum of 20,000 AFY of treated water annually, and may make available additional quantities of water. The urban water purveyors, including Cal Water, shall use their best efforts to accept both the base supply and additional amounts of treated water. Based on the 2020 SEWD UWMP, SEWD has sufficient projected supply to meet the projected demands within its service area, except in the third year of the multiple dry years scenario, which shows approximately a six percent shortage. Since groundwater will be used to serve any remaining District demand that is not met with purchased surface water supplies, sufficient projected purchased surface water and groundwater supplies are anticipated to meet the future demands of the Stockton District under all hydrologic conditions. Detailed information regarding SEWD's water service reliability is provided in its 2020 SEWD UWMP.

5.2 Groundwater

Groundwater pumped from the Eastern San Joaquin Subbasin provides a portion of Cal Water's water supplies. Cal Water's groundwater pumping has ranged historically from 924 AFY to 23,481 AFY since 1980, and more recently (over the past ten years) has ranged from 924 AFY to 6,740

AFY, averaging 3,991 AFY. The high historical rates of annual groundwater supply demonstrate that Cal Water has the capacity to pump groundwater, as needed, to meet nearly all of its projected demand, should the need arise.

Historically, the groundwater supplies available to Cal Water from the underlying Eastern San Joaquin Subbasin have always been sufficient, in conjunction with purchased water supplies, to meet the District's demands and the District's supply wells have not dewatered, even during historical drought periods.

Although the Basin as a whole is considered overdrafted, groundwater conditions vary spatially within the Basin, and in the vicinity of the District groundwater conditions (as represented by water levels measured in the District's wells) have been generally stable over the long-term, varying within a relatively small and consistent range of approximately 20 feet over the past 25 years. Groundwater level hydrographs for wells in the Stockton area presented in the Water Year 2019 Groundwater Sustainability Plan (GSP) Annual Report showed stable to increasing groundwater levels since 2014 (i.e., the start of the data period of record for these wells). These conditions indicate that overdraft is not occurring in the local vicinity of the City of Stockton and the Cal Water service area. Furthermore, the established sustainability criteria in the Eastern San Joaquin Subbasin GSP are being met as evidenced by the fact that: (1) all of the groundwater level representative monitoring well locations had groundwater levels greater than their established minimum thresholds, (2) all of the groundwater quality representative monitoring sites had Total Dissolved Solids (TDS) concentrations less than the established minimum thresholds and measurable objectives, (3) land subsidence is not occurring, and (4) seawater intrusion is not considered an issue.

The following table summarizes the production amount for the Stockton District for the last 5 years.

Table 5-1 – Production Amounts for the Stockton District for the Last 5 Years

Year	Purchased, Acre-Feet	Wells, Acre-Feet	Wheeled, Acre-Feet	Total, Acre-Feet
2017	20,326	2,920	-242	23,005
2018	21,870	1,521	-213	23,178
2019	22,466	924	-186	23,205
2020	23,074	1,587	-155	24,506
2021	21,293	2,666	-185	23,774

Source: Table 4-3 provided by Cal Water via email dated 9/16/2022

5.3 Water Shortage Plans

Cal Water has prepared a Water Shortage Contingency Plan (WSCP) in the 2020 Urban Water Management Plan (Appendix H). The WSCP serves as a standalone document to be engaged in the case of a water shortage event, such as a drought or supply interruption, and defines specific policies and actions that will be implemented at various shortage level scenarios. The primary objective of the WSCP is to ensure that Cal Water has in place the necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and

interruptions. Consistent with CWC §10632, the WSCP includes six levels to address shortage conditions ranging from up to 10 percent to greater than 50 percent shortage, identifies a suite of demand mitigation measures for Cal Water to implement at each level, and identifies procedures for the Stockton District to annually assess whether or not a water shortage is likely to occur in the coming year, among other things.

A summary of the key elements of the WSCP including water shortage levels and demand-reduction actions is shown below. Additional details are provided in the WSCP.

Shortage Level 1 – Up to 10%

1. Limit landscape irrigation to specific times
2. Customers must repair leaks, breaks, and malfunctions in a timely manner
3. Restrict or prohibit runoff from landscape irrigation
4. Prohibit application of potable water to outdoor landscapes within 48 hours of measurable rainfall
5. Prohibit use of potable water for washing hard surfaces
6. Lodging establishments must offer opt out of linen service
7. Require shut-off nozzles on hoses for vehicle washing with potable water
8. Restaurants may only serve water upon request
9. No watering of landscape of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission, and the Department of Housing and Community Development, or other state agency
10. Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water

Shortage Level 2 – Up to 20%

1. Continue with Stage 1 restrictions and prohibitions except where superseded by more stringent actions.
2. Prohibit the use of non-recirculating systems in all new conveyer car wash and commercial laundry systems
3. Prohibit the use of single pass cooling systems in new connections
4. No watering of landscape of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development
5. Landscape - Limit landscape irrigation to 1-3 days/week

Shortage Level 3 – Up to 30%

1. Continue with Stage 2 restrictions and prohibitions except where superseded by more stringent actions.
2. Landscape - Prohibit irrigation of ornamental turf on public street medians with potable water
3. Prohibit Filling Ornamental Lakes or Ponds

4. Prohibit use of potable water for construction and dust control
5. Prohibit use of potable water for street washing

Shortage Level 4 – Up to 40%

1. Continue with Stage 3 restrictions and prohibitions except where superseded by more stringent actions.
2. Prohibit vehicle washing except with recirculated water or low-volume systems
3. Prohibit use of water for recreational purposes such as water parks and the filling of pools

Shortage Level 5 – Up to 50%

1. Continue with Stage 4 restrictions and prohibitions except where superseded by more stringent actions.
2. Require net zero demand Increase on new water service connections
3. Prohibit single-pass cooling systems

Shortage Level 6 – Greater than 50%

1. Continue with Stage 5 restrictions and prohibitions except where superseded by more stringent actions.
2. Moratorium on new water service connections
3. Prohibit all landscape irrigation

5.4 Interconnections

To increase system reliability, Cal Water has established interconnections with neighboring water agencies that may be activated in the event of an isolated interruption of water supply, and would serve to facilitate mutual aid. Cal Water has a total of seven emergency interties. Five of these interties are with the City of Stockton and two interties are with SEWD.

5.5 Cal Water Dry Year Reliability Analysis

The available supplies and water demands for Cal Water's service area were analyzed to assess the District's ability to satisfy demands during three hydrologic scenarios: a normal water year, single dry water year, and multiple-dry years. A normal hydrologic year represents the water supplies available under normal conditions; this could be an averaged range of years or a single representative year. A single dry year represents the lowest available water supply. A five-consecutive year drought represents the driest five-year period in the historical record.

The Cal Water production data record for the District begins in the year 1980; therefore, the following year type analysis uses the historical period from 1980 to 2019. A normal hydrologic year occurred in 1987 when precipitation was approximately 0.3 percent above the historic average for the period from 1980 to 2019. The driest year occurred in 2013 when the rainfall was approximately 68 percent below average (5.28 inches). The multiple dry water years used to represent a five-consecutive year drought are 2011 through 2015. This period represents the driest

five-year period on record for the historical period from 1980 to 2019, with an average precipitation of 11.17 inches per year.

The tables in this section present the supply-demand balance for each of the hydrologic scenarios for the 20-year planning period (2025 to 2045). It is expected that Cal Water will be able to meet 100 percent of its dry year demand under every scenario.

A projected supply and demand comparison during normal year scenarios is shown in the following table for the years 2025 through 2045. The projected supply meet demand for all projected years.

Table 5-2 - Normal Year Supply and Demand Comparison - Purchased & Groundwater

	2025	2030	2035	2040	2045
Supply Totals	23,733	23,588	23,548	23,480	23,517
Demand Totals	23,733	23,588	23,548	23,480	23,517
Difference (surplus)	0	0	0	0	0

Source: California Water Service Stockton District 2020 UWMP (Table 7-2)

A projected supply and demand comparison during single-dry year scenarios is based on Table 7-3 of the Cal Water 2020 UWMP, and is shown in the following table for the years 2025 through 2045. The projected supply meets demand for all projected years.

Table 5-3 - Single-Dry Year Supply and Demand Comparison - Purchased & Groundwater

	2025	2030	2035	2040	2045
Supply Totals	24,377	24,230	24,191	24,123	24,164
Demand Totals	24,377	24,230	24,191	24,123	24,164
Difference (surplus)	0	0	0	0	0

Source: California Water Service Stockton District 2020 UWMP (Table 7-3)

A projected supply and demand comparison during multiple-dry year scenarios is based on Table 7-4 of the Cal Water 2020 UWMP, and is shown in the following table for the years 2025 through 2045. The projected supplies meet demand for all years through 2045.

Table 5-4 – Multiple Dry Year Supply and Demand Comparison - Purchased & Groundwater

		2025	2030	2035	2040	2045
First Year	Supply Totals	24,776	24,627	24,589	24,521	24,564
	Demand Totals	24,776	24,627	24,589	24,521	24,564
	Difference (surplus)	0	0	0	0	0
Second Year	Supply Totals	24,776	24,627	24,589	24,521	24,564
	Demand Totals	24,776	24,627	24,589	24,521	24,564
	Difference (surplus)	0	0	0	0	0
Third Year	Supply Totals	24,776	24,627	24,589	24,521	24,564
	Demand Totals	24,776	24,627	24,589	24,521	24,564
	Difference (surplus)	0	0	0	0	0
Fourth Year	Supply Totals	24,776	24,627	24,589	24,521	24,564
	Demand Totals	24,776	24,627	24,589	24,521	24,564
	Difference (surplus)	0	0	0	0	0
Fifth Year	Supply Totals	24,776	24,627	24,589	24,521	24,564
	Demand Totals	24,776	24,627	24,589	24,521	24,564
	Difference (surplus)	0	0	0	0	0

Source: California Water Service Stockton District 2020 UWMP (Table 7-4)

6. CONCLUSION

Cal Water receives its water supplies from purchased water from the Stockton East Water District (SEWD) and groundwater extracted from the underlying Eastern San Joaquin Subbasin (ESJS). Cal Water has a total of 41 wells located within its service area boundaries. Currently 25 of the wells are active, while the remainder are inactive or on standby.

An Environmental Impact Report (EIR), to be certified in accordance with the California Environmental Quality Act (CEQA), is being prepared for the St. Joseph's Medical Center Expansion Project (the Project), which includes an assessment of utility services and includes this Water Supply Assessment (WSA) pursuant to Senate Bill 610. The WSA will also be used by Cal Water as part of its ongoing planning efforts to optimize its water resource program.

The WSA includes a discussion of the Senate Bill 610 legislation, an overview of the Project, and analysis of water demands for the Cal Water existing service area and the Project. It also considers the potential additional demands on Cal Water's system from current development projects to be constructed during the UWMP 25-year planning horizon. The WSA also includes an analysis of reliability of Cal Water's water supplies, and concludes with a sufficiency analysis of water supply during normal, single-dry, and multiple dry years for the next 20-plus years.

The Project, located in Stockton, California, is anticipated to be built over five phases and will include the following: removal of existing buildings and other site preparation work; the construction of a new Acute Care Hospital Tower ; a new multi-level parking structure; a new Central Utility Plant; a Plant Maintenance building; and other support facilities on the Medical Center campus to support existing services as well as the expansion. The Project's total average water demand (existing and future conditions) is estimated at 244.3-gpm, which will increase the current water demands on Cal Water's potable water system.

Cal Water will meet its future water demands, including the demands for the Project, from existing supply sources. The WSA analysis of water demand and supply projections for Cal Water, including the Project, demonstrates that estimates of current and planned District water sources are sufficient to satisfy Cal Water's demand now and through Year 2045.

7. REFERENCES

1. California Water Service, 2020 Urban Water Management Plan, Stockton District, June 2021

2. St. Joseph's Medical Center of Stockton Hospital Expansion Project, Master Development Plan, October 2021

3. Cal Water Stockton District Water System Facility Maps, Plat Sheet STK 30-29, STK 29-28, STK 29-29, STK 30-28, January 2021

4. Capital Engineering Consultants, Inc. Dignity Health – St. Joseph Future Development (Water Demand), February 3, 2022, Rev. 9/20/2022

5. SJMC – Stockton Utilities Data (SJMC Stockton Utilities Data.xlsx provided via email from the Applicant on 11/16/2021)

APPENDIX A

Dignity Health - Saint Joseph Future Development (Capital Engineering Consultants)

CAPITAL
ENGINEERING CONSULTANTS, INC.

DIGNITY HEALTH – SAINT JOSEPH FUTURE DEVELOPMENT

The following report submitted is relating to the provided program named, "Dignity Health Saint Joseph Medical Center Campus Master Development Plan, dated April 22, 2022".

Project Information

New Patient Tower = 281,000 - 331,000 SQ. FT.
New Parking Structure = Up to 800,000 SQ. FT.
New Central Utility Plant = 25,000 – 30,000 SQ. FT.
New Fuel Tank Yard = 2,500 – 3,500 SQ. FT.
New Generator Building = 2,000 – 3,500 SQ. FT.
New Plant Maintenance Building = 15,000 – 18,000 SQ. FT.
Phase 5 Expansion – Acute Care 5-Story Tower = Up to 150,000 SQ. FT (Assume 30,000 SQ. FT / Flr.)

Utility Demands do not include loads for Existing Buildings to be removed or demolished scope.

Preliminary Site Utility Summary

The data provided is based on Site Master Plan documents noted above and typical usages. The provided site utilities will need to be verified when floor plans are developed.

- Building A - New Patient Tower
  - Domestic Water = 300 GPM; **6-inch main**
  - Sanitary Sewer = 1,474 DFU = **(1) 8" SS main, (2) 6" SS mains**
- Building B – New Parking Structure
  - Domestic Water = 50 GPM; **2-1/2-inch main**
  - Sanitary Sewer = 7 DFU = **4" SS main**
- Building C – New Central Utility Plant
  - Water = 200 GPM; **4-inch main**
  - Sanitary Sewer = 68 DFU = **4" SS main**
- Building E – New Generator Building
  - Water = 40 GPM; **2-inch main**
  - Sanitary Sewer = 11 DFU = **4" SS main**
- Building F – New Plant Maintenance Building
  - Water = 65 GPM; **2-1/2-inch main**
  - Sanitary Sewer = 38 DFU = **4" SS main**
- New Modular Buildings – Cemetery / Harding
  - Water = 54.5 GPM; **2-1/2-inch main**
  - Sanitary Sewer = 43 DFU = **4" SS main**
- New Modular Buildings – California / Harding
  - Water = 54.5 GPM; **2-1/2-inch main**
  - Sanitary Sewer = 43 DFU = **4" SS main**

- **Phase 5 Expansion – 5-Story Tower**
  - Domestic Water = 180 GPM; **4-inch main**
  - Sanitary Sewer = 668 DFU = **(1) 8" SS main, (2) 6" SS mains**

Preliminary Utilities Demand

The projected water usage estimate of water demand is based on the design criteria below. The projected demands are likely to be reduced in recognition of the commitment to implement water conservation measures and maximizing water efficiency within building during the design development.

Water Demand

Building A - New Patient Tower

Estimated Water Demand based on typical Gallons per day, per bed Standard.

New Patient Tower Hours of Operation: 24/7/365
Total Inpatient Beds: 144

- 350 gallons per bed, per day (GPD) = 50,400 GPD
- 50,400 GPD x 30 days = 1,512,000 Gals./Mo.
- 1,512,000 Gals./Mo. x 12 Mos. = 18,144,000 GPY

Emergency Department Hours of Operation: 24/7/365
Total Exam / Bays: 70 + Support Spaces

- 144 gallons per Exam Sink per day (GPD) x 70 Bays = 10,800 GPD
- 10,800 GPD x 365 = 3,679,200 GPY

Estimated Domestic Water Demand = 21,823,000 GPY

Building B – New Parking Structure

New Parking Structure, Hours of Operation: 24/7/365
Approximate Number of Full Time Employees: 2

- Assume (1) One Restroom / Office
- Assume (2) FTE @ 2 8hr shifts
- 4 Uses / Day / FTE x (2) FTE = 8 Uses / Day x (2) Shifts = 16 uses / Day
- 1.28 GPF x 20.48 GPD x 365 = 7,475 GPY
- 0.5 gpm / Lavatory / 1 min use.* 16 Uses / Day = 8 GPD
- 8 GPD x 365 = 2,920 GPY
- 7,475 + 2,920 = 10,395 GPY

Parking Structure Washdown: Once per Month / 12 Times / Yr.

- Using .02 Gal. / Sq. Ft.
- 800,000 Sq. Ft. Area x .02 Gals. / SF = 16,000 Gals. / Month
- 16,000 Gals. / Month x 12 Months = 192,000 Gals. / Yr.

Estimated Domestic Water Demand = 10,395 GPY + 192,000 GPY = 202,395 GPY
(Water demand for proposed Helipad Holding Tank(s) not addressed at this time as square foot area of Helipad(s) have not been defined).

Building C – New Central Utility Plant

New Central Utility Plant, Hours of Operation: 24/7/365
Approximate Number of Full Time Employees: 9

- Assume (2) Two Restrooms w/ shower / CUP Office
- Assume (5) Five Wash Sinks
- Assume (3) FTE @ (3) 8hr shifts
- 4 Uses / Day / FTE x (3) FTE = 12 Uses / Day x (3) Shifts = 36 uses / Day
- Water Closet @ 1.28 GPF x 36 = 46.08 GPD x 365 = 16,820 GPY
- (2) Lavatory @ 0.5 gpm / 1 min use x 36 Uses / Day = 36 GPD
- 36 GPD x 365 = 13,140 GPY
- 6 GPH / Sink /10 uses / Day = 60 GPD x 365 = 21,900 GPY
- 1.5 GPM / 5 min. Shower / 2 uses each shift / Day = 7.5 gals. x 2 = 15 gals x 3 shifts = 45 GPD x 365 = 16,425 GPY
- 16,820 + 13,140 + 21,900 + 16,425 = 68,285 GPY

Estimated Domestic Water Demand for Fixtures = 68,285 GPY

Cooling Towers Water Use, Per Ainsworth – 2,530 Tons (Peak)
Condenser Water GPM - 2 gpm / ton = 5060 gpm/ ton x Cooling Range (10°F)
5,060 x 10 x 0.001 = 50.6 gpm Evaporation Rate
50.6 gpm Evaporation Rate x 60 Mins. = 3,036 GPH Peak

Estimated Cooling Tower Demand based on monthly peak / off peak average = 275,669 GPY

Estimated Domestic Water Demand for Fixtures = 68,285 GPY

Estimated Total Water Demand – Central Utility Plant = 343,954 GPY

Building D – New Fuel Tank Yard

- Assume Open yard with no water requirements.

Building E – New Generator Building

New Generator Building, Hours of Operation: 24/7/365
Approximate Number of Full Time Employees: 1

- Assume (1) One Restrooms / Office
- Assume (1) One Wash Sinks
- Assume (1) FTE @ (2) 8hr shifts
- 4 Uses / Day / FTE x (1) FTE = 4 Uses / Day x (2) Shifts = 8 uses / Day
- Water Closet @ 1.28 GPF x 8 = 10.24 GPD x 365 = 3,738 GPY
- (1) Lavatory @ 0.5 gpm / 1 min use x 8 Uses / Day = 4 GPD
- 4 GPD x 365 = 1,460 GPY
- 6 GPH / Sink / 5 uses / Day = 30 GPD x 365 = 10,950 GPY
- 3,738 + 1,460 + 10,950 = 16,148 GPY

Estimated Domestic Water Demand for Fixtures = 16,148 GPY

Building F – New Plant Maintenance Building

New Plant Maintenance Building, Hours of Operation: 24/7/365
Approximate Number of Full Time Employees: 9

- Assume (2) Two Restrooms
- Assume (5) Five Wash Sinks
- Assume (3) FTE @ (3) 8hr shifts
- 4 Uses / Day / FTE x (3) FTE = 12 Uses / Day x (3) Shifts = 36 uses / Day
- Water Closet @ 1.28 GPF x 36 = 46.08 GPD x 365 = 16,820 GPY
- (2) Lavatory @ 0.5 gpm / 1 min use x 36 Uses / Day = 36 GPD
- 36 GPD x 365 = 13,140 GPY
- 6 GPH / Sink /10 uses / Day = 60 GPD x 365 = 21,900 GPY
- 16,820 + 13,140 + 21,900 = 51,860 GPY

Estimated Domestic Water Demand for Fixtures = 51,860 GPY

Approximate Site Water for Irrigation:

Assume 10% of Developed Site = 10 acres * 10% = 1 acre = 43,560 SQFT
Watering to be scheduled for every 3rd day per week = **2** times per week
Approximately 26 weeks per year watering

Lawn Sprinklers: 10% of water demand (4,360 SQFT)

- 100 gallons per day per 60 SQFT for Sprinklers
- 4,360 ÷ 60 = 72.67 72.67 * 100 = 7,267 GPD
- 7,267 GPD * 2 Days / Wk. = 14,534 Gals / Wk.
- 14,534 Gals / Wk. * 26 Wks. / Yr. = 377,867 GPY

Drip Irrigation: 90% of water demand (39,200 SQFT)

- 3 gallons per day per 60 SQFT for Drip System
- 39,200 ÷ 60 = 653 SQ.FT. 653 * 3 Gals = 1,960 GPD
- 1,960 GPD * 2 Days / Wk. = 3,920 Gals / Wk.
- 3,920 Gals / Wk. * 26 Wks. = 101,920 GPY

Estimated Water Demand = 479,787 GPY

Total Estimated New Building Water Demand = 22,917,144 GPY

Estimated Peak Demand for Plumbing Fixtures, Mechanical Equipment and Medical Processes related to support services for the **New Patient Tower**

- Approximate Water Demand =
  - Kitchen = 199 WSFU; 90 GPM
  - Central Sterile = 104 WSFU; 68 GPM
    Total Estimated Peak Demand = 158 GPM
  - 158 GPM x 60 mins. = 9,480 GPH
  - Assume 40% usage / hr. = 9,480 x 0.40. = 3,792 GPH
  - 3,792 x 24 Hrs. = 91,008 GPD x 30 Days = 2,730,240 Gal / Mo.
  - 2,730,240 x 12 = 32,762,880 GPY

Phase 5 Expansion – 5-Story Tower

Assumed breakdown for each floor:

- ED (50%), Lab (25%), imaging (25%), 1st Level
- Surgery (5 ORs) (60%), pre / post (25%), central sterile (15%), 2nd Level
- Pharmacy (15%), supply services (85%), 3rd Level
- Beds (20 – 25 beds), 4th Level
- Beds (20 – 25 beds), 5th Level

Estimated Water Demand based on typical Gallons per day, per bed Standard (Assumed Bed count of 25 on each patient floor with separate patient rooms with toilet on top two floors. Program not yet available)

New Tower - Hours of Operation: 24/7/365

- Inpatient Beds: 50
- Assumed Pre-Op / PACU beds: 16
- 66 Beds x 350 gallons per bed, per day (GPD) = 23,100 GPD
- 23,100 GPD x 30 days = 693,000 Gals./Mo.
- 693,000 Gals./Mo. x 12 Mos. = 8,316,000 GPY

Emergency Department Hours of Operation: 24/7/365

Total Exam / Bays: 24 + Support Spaces

- 144 gallons per Exam Sink per day (GPD) x 24 Bays = 3,456 GPD
- 3,456 GPD x 365 = 1,261,440 GPY

Estimated Peak Demand for Plumbing Fixtures, Mechanical Equipment and Medical Processes related to support services for the **Phase 5 Expansion:**

- Approximate Water Demand =
  - Central Sterile = 104 WSFU; 68 GPM
    Total Estimated Peak Demand = 68 GPM
  - 68 GPM x 60 mins. = 4,080 GPH
  - Assume 40% usage / hr. = 4,080 x 0.40. = 1,632 GPH
  - 1,632 x 24 Hrs. 39,168 GPD x 30 Days = 1,175,040 Gal / Mo.
  - 1,175,040 x 12 = 14,100,480 GPY

Estimated Domestic Water Demand = 23,677,920 GPY

Site Totals – Including Support Services for New Patient Tower, New Building Water Demand & Phase 5 Expansion:

22,917,144 + 32,762,880 + 23,677,920 = 79,357,944 GPY

Total Water Demand for Pipe Sizing = 1,724 FU - NPT + 20 FU - PS + 22 FU - CUP + 8 FU-GB + 22 FU-PMB + 775 - Ph 5 = 2,571 FU = **390 GPM**

- Based on the estimated total water demand, the proposed site would require a minimum **6-inch water main.**

- **The following two areas are not included in the totals for the site Domestic Water loads as these are for temporary transition use (Make Ready) during the phased construction and are to be removed at completion of construction.**

New Modular Building / Trailers (Cemetery / Harding Lot)

- (8) Double wide trailers, (5) single trailers, (3) Modular Buildings ~ Approx. 1,792 SF each, 28,672 SF Total SF

- Assume (1) Single trailer to house Men's / Women's Toilets, Jan. Closet
- (4) WC each side, (8) WC Total, (8) Lavatories, (2) HB, (1) Service Sink
- WC-40 WFU, LAV-8 WFU, HB – 3.5 WFU, SS-3 WFU = 54.5 WFU = 2-1/2" DCW
- 28,672 / 1,000 = 28.67 * 200 GPD (Office Use) = 5,734 GPD
- 5,734 GPD ÷ 24 = 239 GPH
- 239 GPH ÷ 60 = 3.98 GPM ÷ 448.8 = 0.009 CFS

New Modular Building / Trailers (California / Harding Lot)

- (6) single trailers, (3) Modular Buildings ~ Approx. 1,792 SF each, 16,128 SF Total SF
- Assume (1) Single trailer to house Men's / Women's Toilets, Jan. Closet
- (4) WC each side, (8) WC Total, (8) Lavatories, (2) FD, (1) Service Sink
- WC-40 WFU, LAV-8 WFU, HB – 3.5 WFU, SS-3 WFU = 54.5 WFU = 2-1/2" DCW
- 16,128 ÷ 1,000 = 16.13 * 200 GPD (Office Use) = 3,225 GPD
- 3,225 GPD ÷ 24 = 134 GPH
- 134 GPH ÷ 60 = 2.25 GPM ÷ 448.8 = 0.005 CFS

Sanitary Sewer

The sanitary sewer service to the St. Joseph campus site will be collected in a series of points around each building on site.

Estimated Sanitary Sewer Demand based on approximate Plumbing Fixtures, Mechanical Equipment and Medical Processes.

Building A - New Patient Tower

- Total Inpatient Beds: 144
- 144 x 500 Gals/Bed/Day (Avg) = 72,000 GPD Avg. Discharge / Day
- 72,000 GPD x 2.5 (Peak Flow) = 180,000 GPD Peak
- 180,000 GPD ÷ 24 Hrs. = 7,500 GPH
- 7,500 GPH ÷ 60 Mins.= 125 GPM
- 125 GPM ÷ 448.8 (CFS) = Flowrate 0.28 CFS

Building B – New Parking Structure

Domestic Use:

- New Parking Garage = 800,000 SQFT
- 20 GPM / 1,000 Sq. Ft. = 16,000 GPD
- 16,000 GPD ÷ 24 Hrs. = 667 GPH
- 667 GPH ÷ 60 = 11.1 GPM
- 11.1 GPM ÷ 448.8 = 0.025 CFS

Washdown:

- 0.02 GPM / SF x 800,000 SF = 16,000 Gals.
- 16,000 Gals Used for Washdown / Once / Month
- 16,000 GPD ÷ 24 Hrs. = 667 GPH
- 667 GPH ÷ 60 Mins. = 11.12 GPM
- 11.12 GPM ÷ 448.8 = 0.025 CFS
- 0.025 CFS+ 0.025 CFS = 0.05 CFS

Building C – New Central Utility Plant

- New Central Utility Plant = 30,000 SQ. FT.
- 250 GPD / 1,000 Sq. Ft. = 7,500,000 / 1,000 = 7,500 GPD
- 7,500 GPD X 2.5 (Peak Flow) = 18,750 GPD
- 18,750 GPD ÷ 24 = 782 GPH
- 782 GPH ÷ 60 = 13.03 GPM ÷ 448.8 = 0.03 CFS

- Cooling Towers – Average Discharge / Yr. = 96,500 Gals
- Peak discharge / Day = 13,800 GPD
- 13,800 GPD ÷ 24 = 575 GPH
- 575 GPH ÷ 60 = 9.58 GPM ÷ 448.8 = 0.02 CFS

Building D – New Fuel Tank Yard

- Assume Open yard with no sanitary sewer requirements.

Building E – New Generator Building

- New Generator Building = 3,500 SQ. FT.
- 100 GPD / 1,000 Sq. Ft. = 3,500 / 1,000 = 3.5
- 3.5 x 100 = 350 GPD
- 350 GPD X 2 (Peak Flow) = 700 GPD
- 700 GPD ÷ 24 = 29.17 GPH
- 29.17 GPH ÷ 60 = 0.48 GPM ÷ 448.8 = 0.001 CFS*
  *Insignificant load

Building F – New Plant Maintenance Building

- New Plant Maintenance Building = 18,000 SQ. FT
- 250 GPD / 1,000 Sq. Ft. = 250 GPD x 18,000 / 1,000 = 18.00
- 18.00 x 250 = 4,500 GPD
- 4,500 GPD X 2.5 (Peak Flow) = 11,250 GPD
- 11,250 GPD ÷ 24 = 468.75 GPH
- 468.75 GPH ÷ 60 = 7.8 GPM ÷ 448.8 = 0.017 CFS

Phase 5 Expansion – 5-Story Tower

- Total Inpatient Beds: 66
- 66 x 500 Gals/Bed/Day (Avg) = 33,000 GPD Avg. Discharge / Day
- 33,000 GPD x 2.5 (Peak Flow) = 82,500 GPD Peak
- 82,500 GPD ÷ 24 Hrs. = 3,438 GPH
- 3,438 GPH ÷ 60 Mins.= 57.3 GPM
- 57.3 GPM ÷ 448.8 (CFS) = Flowrate 0.13 CFS

Site Sanitary Load:
7,500 + 667 + 667 + 782 + 575 + 469 + 3,438 GPH = 14,098 GPH
14,098 GPH ÷ 60 Mins. = 234.97 GPM ÷ 448.8 = **0.52 CFS**

The proposed Sewer Demand would require a minimum 8" sanitary sewer main.

- **The following two areas are not included in the totals for the site sanitary loads as these are for temporary transition use (Make Ready) during the phased construction and are to be removed at completion of construction.**

New Modular Building / Trailers (Cemetery / Harding Lot)

- (8) Double wide trailers, (5) single trailers, (3) Modular Buildings ~ Approx. 1,792 SF each, 28,672 SF Total SF
- Assume (1) Single trailer to house Men's / Women's Toilets, Jan. Closet
- (4) WC each side, (8) WC Total, (8) Lavatories, (2) FD, (1) Service Sink
- WC-32 DFU, LAV-8 DFU, FD-0 DFU, SS-3 DFU = 43 DFU = 4" SS
- 28,672 / 1,000 = 28.67 * 200 GPD (Office Use) = 5,734 GPD
- 5,734 GPD ÷ 24 = 239 GPH
- 239 GPH ÷ 60 = 3.98 GPM ÷ 448.8 = 0.009 CFS

New Modular Building / Trailers (California / Harding Lot)

- (6) single trailers, (3) Modular Buildings ~ Approx. 1,792 SF each, 16,128 SF Total SF
- Assume (1) Single trailer to house Men's / Women's Toilets, Jan. Closet
- (4) WC each side, (8) WC Total, (8) Lavatories, (2) FD, (1) Service Sink
- WC-32 DFU, LAV-8 DFU, FD-0 DFU, SS-3 DFU = 43 DFU = 4" SS
- 16,128 ÷ 1,000 = 16.13 * 200 GPD (Office Use) = 3,225 GPD
- 3,225 GPD ÷ 24 = 134 GPH
- 134 GPH ÷ 60 = 2.25 GPM ÷ 448.8 = 0.005 CFS

DIGNITY HEALTH – SAINT JOSEPH FUTURE DEVELOPMENT

The following report submitted is relating to the provided program named, "Dignity Health Saint Joseph Medical Center Campus Master Development Plan, dated April 22, 2022".

Project Information

New Patient Tower = 281,000 - 331,000 SQ. FT.
New Parking Structure = Up to 800,000 SQ. FT.
New Central Utility Plant = 25,000 – 30,000 SQ. FT.
New Fuel Tank Yard = 2,500 – 3,500 SQ. FT.
New Generator Building = 2,000 – 3,500 SQ. FT.
New Plant Maintenance Building = 15,000 – 18,000 SQ. FT.
Phase 5 Expansion – Acute Care 5-Story Tower = Up to 150,000 SQ. FT (Assume 30,000 SQ. FT / Flr.)

Utility Demands do not include loads for Existing Buildings to be removed or demolished scope.

Preliminary Site Utility Summary

The data provided is based on Site Master Plan documents noted above and typical usages. The provided site utilities will need to be verified when floor plans are developed.

- Building A - New Patient Tower
  - Domestic Water = 300 GPM; **6-inch main**
  - Sanitary Sewer = 1,474 DFU = **(1) 8" SS main, (2) 6" SS mains**
- Building B – New Parking Structure
  - Domestic Water = 50 GPM; **2-1/2-inch main**
  - Sanitary Sewer = 7 DFU = **4" SS main**
- Building C – New Central Utility Plant
  - Water = 200 GPM; **4-inch main**
  - Sanitary Sewer = 68 DFU = **4" SS main**
- Building E – New Generator Building
  - Water = 40 GPM; **2-inch main**
  - Sanitary Sewer = 11 DFU = **4" SS main**
- Building F – New Plant Maintenance Building
  - Water = 65 GPM; **2-1/2-inch main**
  - Sanitary Sewer = 38 DFU = **4" SS main**
- New Modular Buildings – Cemetery / Harding
  - Water = 54.5 GPM; **2-1/2-inch main**
  - Sanitary Sewer = 43 DFU = **4" SS main**
- New Modular Buildings – California / Harding
  - Water = 54.5 GPM; **2-1/2-inch main**
  - Sanitary Sewer = 43 DFU = **4" SS main**

- **Phase 5 Expansion – 5-Story Tower**
  - Domestic Water = 180 GPM; **4-inch main**
  - Sanitary Sewer = 668 DFU = **(1) 8" SS main, (2) 6" SS mains**

Preliminary Utilities Demand

The projected water usage estimate of water demand is based on the design criteria below. The projected demands are likely to be reduced in recognition of the commitment to implement water conservation measures and maximizing water efficiency within building during the design development.

Water Demand

Building A - New Patient Tower

Estimated Water Demand based on typical Gallons per day, per bed Standard.

New Patient Tower Hours of Operation: 24/7/365
Total Inpatient Beds: 144

- 350 gallons per bed, per day (GPD) = 50,400 GPD
- 50,400 GPD x 30 days = 1,512,000 Gals./Mo.
- 1,512,000 Gals./Mo. x 12 Mos. = 18,144,000 GPY

Emergency Department Hours of Operation: 24/7/365
Total Exam / Bays: 70 + Support Spaces

- 144 gallons per Exam Sink per day (GPD) x 70 Bays = 10,800 GPD
- 10,800 GPD x 365 = 3,679,200 GPY

Estimated Domestic Water Demand = 21,823,000 GPY

Building B – New Parking Structure

New Parking Structure, Hours of Operation: 24/7/365
Approximate Number of Full Time Employees: 2

- Assume (1) One Restroom / Office
- Assume (2) FTE @ 2 8hr shifts
- 4 Uses / Day / FTE x (2) FTE = 8 Uses / Day x (2) Shifts = 16 uses / Day
- 1.28 GPF x 20.48 GPD x 365 = 7,475 GPY
- 0.5 gpm / Lavatory / 1 min use.* 16 Uses / Day = 8 GPD
- 8 GPD x 365 = 2,920 GPY
- 7,475 + 2,920 = 10,395 GPY

Parking Structure Washdown: Once per Month / 12 Times / Yr.

- Using .02 Gal. / Sq. Ft.
- 800,000 Sq. Ft. Area x .02 Gals. / SF = 16,000 Gals. / Month
- 16,000 Gals. / Month x 12 Months = 192,000 Gals. / Yr.

Estimated Domestic Water Demand = 10,395 GPY + 192,000 GPY = 202,395 GPY
(Water demand for proposed Helipad Holding Tank(s) not addressed at this time as square foot area of Helipad(s) have not been defined).

Building C – New Central Utility Plant

New Central Utility Plant, Hours of Operation: 24/7/365
Approximate Number of Full Time Employees: 9

- Assume (2) Two Restrooms w/ shower / CUP Office
- Assume (5) Five Wash Sinks
- Assume (3) FTE @ (3) 8hr shifts
- 4 Uses / Day / FTE x (3) FTE = 12 Uses / Day x (3) Shifts = 36 uses / Day
- Water Closet @ 1.28 GPF x 36 = 46.08 GPD x 365 = 16,820 GPY
- (2) Lavatory @ 0.5 gpm / 1 min use x 36 Uses / Day = 36 GPD
- 36 GPD x 365 = 13,140 GPY
- 6 GPH / Sink /10 uses / Day = 60 GPD x 365 = 21,900 GPY
- 1.5 GPM / 5 min. Shower / 2 uses each shift / Day = 7.5 gals. x 2 = 15 gals x 3 shifts = 45 GPD x 365 = 16,425 GPY
- 16,820 + 13,140 + 21,900 + 16,425 = 68,285 GPY

Estimated Domestic Water Demand for Fixtures = 68,285 GPY

Cooling Towers Water Use, Per Ainsworth – 2,530 Tons (Peak)
Condenser Water GPM - 2 gpm / ton = 5060 gpm/ ton x Cooling Range (10°F)
5,060 x 10 x 0.001 = 50.6 gpm Evaporation Rate
50.6 gpm Evaporation Rate x 60 Mins. = 3,036 GPH Peak

Estimated Cooling Tower Demand based on monthly peak / off peak average = 275,669 GPY

Estimated Domestic Water Demand for Fixtures = 68,285 GPY

Estimated Total Water Demand – Central Utility Plant = 343,954 GPY

Building D – New Fuel Tank Yard

- Assume Open yard with no water requirements.

Building E – New Generator Building

New Generator Building, Hours of Operation: 24/7/365
Approximate Number of Full Time Employees: 1

- Assume (1) One Restrooms / Office
- Assume (1) One Wash Sinks
- Assume (1) FTE @ (2) 8hr shifts
- 4 Uses / Day / FTE x (1) FTE = 4 Uses / Day x (2) Shifts = 8 uses / Day
- Water Closet @ 1.28 GPF x 8 = 10.24 GPD x 365 = 3,738 GPY
- (1) Lavatory @ 0.5 gpm / 1 min use x 8 Uses / Day = 4 GPD
- 4 GPD x 365 = 1,460 GPY
- 6 GPH / Sink / 5 uses / Day = 30 GPD x 365 = 10,950 GPY
- 3,738 + 1,460 + 10,950 = 16,148 GPY

Estimated Domestic Water Demand for Fixtures = 16,148 GPY

Building F – New Plant Maintenance Building

New Plant Maintenance Building, Hours of Operation: 24/7/365
Approximate Number of Full Time Employees: 9

- Assume (2) Two Restrooms
- Assume (5) Five Wash Sinks
- Assume (3) FTE @ (3) 8hr shifts
- 4 Uses / Day / FTE x (3) FTE = 12 Uses / Day x (3) Shifts = 36 uses / Day
- Water Closet @ 1.28 GPF x 36 = 46.08 GPD x 365 = 16,820 GPY
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- 6 GPH / Sink /10 uses / Day = 60 GPD x 365 = 21,900 GPY
- 16,820 + 13,140 + 21,900 = 51,860 GPY

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Approximate Site Water for Irrigation:

Assume 10% of Developed Site = 10 acres * 10% = 1 acre = 43,560 SQFT
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- 14,534 Gals / Wk. * 26 Wks. / Yr. = 377,867 GPY

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- 3 gallons per day per 60 SQFT for Drip System
- 39,200 ÷ 60 = 653 SQ.FT. 653 * 3 Gals = 1,960 GPD
- 1,960 GPD * 2 Days / Wk. = 3,920 Gals / Wk.
- 3,920 Gals / Wk. * 26 Wks. = 101,920 GPY

Estimated Water Demand = 479,787 GPY

Total Estimated New Building Water Demand = 22,917,144 GPY

Estimated Peak Demand for Plumbing Fixtures, Mechanical Equipment and Medical Processes related to support services for the **New Patient Tower**

- Approximate Water Demand =
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    Total Estimated Peak Demand = 158 GPM
  - 158 GPM x 60 mins. = 9,480 GPH
  - Assume 40% usage / hr. = 9,480 x 0.40. = 3,792 GPH
  - 3,792 x 24 Hrs. = 91,008 GPD x 30 Days = 2,730,240 Gal / Mo.
  - 2,730,240 x 12 = 32,762,880 GPY

Phase 5 Expansion – 5-Story Tower

Assumed breakdown for each floor:

- ED (50%), Lab (25%), imaging (25%), 1st Level
- Surgery (5 ORs) (60%), pre / post (25%), central sterile (15%), 2nd Level
- Pharmacy (15%), supply services (85%), 3rd Level
- Beds (20 – 25 beds), 4th Level
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Estimated Water Demand based on typical Gallons per day, per bed Standard (Assumed Bed count of 25 on each patient floor with separate patient rooms with toilet on top two floors. Program not yet available)

New Tower - Hours of Operation: 24/7/365

- Inpatient Beds: 50
- Assumed Pre-Op / PACU beds: 16
- 66 Beds x 350 gallons per bed, per day (GPD) = 23,100 GPD
- 23,100 GPD x 30 days = 693,000 Gals./Mo.
- 693,000 Gals./Mo. x 12 Mos. = 8,316,000 GPY

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- 3,456 GPD x 365 = 1,261,440 GPY

Estimated Peak Demand for Plumbing Fixtures, Mechanical Equipment and Medical Processes related to support services for the **Phase 5 Expansion:**

- Approximate Water Demand =
  - Central Sterile = 104 WSFU; 68 GPM
    Total Estimated Peak Demand = 68 GPM
  - 68 GPM x 60 mins. = 4,080 GPH
  - Assume 40% usage / hr. = 4,080 x 0.40. = 1,632 GPH
  - 1,632 x 24 Hrs. 39,168 GPD x 30 Days = 1,175,040 Gal / Mo.
  - 1,175,040 x 12 = 14,100,480 GPY

Estimated Domestic Water Demand = 23,677,920 GPY

Site Totals – Including Support Services for New Patient Tower, New Building Water Demand & Phase 5 Expansion:

22,917,144 + 32,762,880 + 23,677,920 = 79,357,944 GPY

Total Water Demand for Pipe Sizing = 1,724 FU - NPT + 20 FU - PS + 22 FU - CUP + 8 FU-GB + 22 FU-PMB + 775 - Ph 5 = 2,571 FU = **390 GPM**

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- WC-40 WFU, LAV-8 WFU, HB – 3.5 WFU, SS-3 WFU = 54.5 WFU = 2-1/2" DCW
- 28,672 / 1,000 = 28.67 * 200 GPD (Office Use) = 5,734 GPD
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New Modular Building / Trailers (California / Harding Lot)

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- (4) WC each side, (8) WC Total, (8) Lavatories, (2) FD, (1) Service Sink
- WC-40 WFU, LAV-8 WFU, HB – 3.5 WFU, SS-3 WFU = 54.5 WFU = 2-1/2" DCW
- 16,128 ÷ 1,000 = 16.13 * 200 GPD (Office Use) = 3,225 GPD
- 3,225 GPD ÷ 24 = 134 GPH
- 134 GPH ÷ 60 = 2.25 GPM ÷ 448.8 = 0.005 CFS

Sanitary Sewer

The sanitary sewer service to the campus site will be collected in a series of points around each building on site.

Estimated Sanitary Sewer Demand based on approximate Plumbing Fixtures, Mechanical Equipment and Medical Processes.

Building A - New Patient Tower

- Total Inpatient Beds: 144
- 144 x 500 Gals/Bed/Day (Avg) = 72,000 GPD Avg. Discharge / Day
- 72,000 GPD x 2.5 (Peak Flow) = 180,000 GPD Peak
- 180,000 GPD ÷ 24 Hrs. = 7,500 GPH
- 7,500 GPH ÷ 60 Mins.= 125 GPM
- 125 GPM ÷ 448.8 (CFS) = Flowrate 0.28 CFS

Building B – New Parking Structure

Domestic Use:

- New Parking Garage = 800,000 SQFT
- 20 GPM / 1,000 Sq. Ft. = 16,000 GPD
- 16,000 GPD ÷ 24 Hrs. = 667 GPH
- 667 GPH ÷ 60 = 11.1 GPM
- 11.1 GPM ÷ 448.8 = 0.025 CFS

Washdown:

- 0.02 GPM / SF x 800,000 SF = 16,000 Gals.
- 16,000 Gals Used for Washdown / Once / Month
- 16,000 GPD ÷ 24 Hrs. = 667 GPH
- 667 GPH ÷ 60 Mins. = 11.12 GPM
- 11.12 GPM ÷ 448.8 = 0.025 CFS
- 0.025 CFS+ 0.025 CFS = 0.05 CFS

Building C – New Central Utility Plant

- New Central Utility Plant = 30,000 SQ. FT.
- 250 GPD / 1,000 Sq. Ft. = 7,500,000 / 1,000 = 7,500 GPD
- 7,500 GPD X 2.5 (Peak Flow) = 18,750 GPD
- 18,750 GPD ÷ 24 = 782 GPH
- 782 GPH ÷ 60 = 13.03 GPM ÷ 448.8 = 0.03 CFS

- Cooling Towers – Average Discharge / Yr. = 96,500 Gals
- Peak discharge / Day = 13,800 GPD
- 13,800 GPD ÷ 24 = 575 GPH
- 575 GPH ÷ 60 = 9.58 GPM ÷ 448.8 = 0.02 CFS

Building D – New Fuel Tank Yard

- Assume Open yard with no sanitary sewer requirements.

Building E – New Generator Building

- New Generator Building = 3,500 SQ. FT.
- 100 GPD / 1,000 Sq. Ft. = 3,500 / 1,000 = 3.5
- 3.5 x 100 = 350 GPD
- 350 GPD X 2 (Peak Flow) = 700 GPD
- 700 GPD ÷ 24 = 29.17 GPH
- 29.17 GPH ÷ 60 = 0.48 GPM ÷ 448.8 = 0.001 CFS*
  *Insignificant load

Building F – New Plant Maintenance Building

- New Plant Maintenance Building = 18,000 SQ. FT
- 250 GPD / 1,000 Sq. Ft. = 250 GPD x 18,000 / 1,000 = 18.00
- 18.00 x 250 = 4,500 GPD
- 4,500 GPD X 2.5 (Peak Flow) = 11,250 GPD
- 11,250 GPD ÷ 24 = 468.75 GPH
- 468.75 GPH ÷ 60 = 7.8 GPM ÷ 448.8 = 0.017 CFS

Phase 5 Expansion – 5-Story Tower

- Total Inpatient Beds: 50
- 66 x 500 Gals/Bed/Day (Avg) = 25,000 GPD Avg. Discharge / Day
- 25,000 GPD x 2.5 (Peak Flow) = 62,500 GPD Peak
- 62,500 GPD ÷ 24 Hrs. = 2,604 GPH
- 2,604 GPH ÷ 60 Mins.= 43.40 GPM
- 43.40 GPM ÷ 448.8 (CFS) = Flowrate 0.09 CFS

Site Sanitary Load:
7,500 + 667 + 667 + 782 + 575 + 469 + 2,604 GPH = 13,264 GPH
13,264 GPH ÷ 60 Mins. = 221.06 GPM ÷ 448.8 = **0.49 CFS**

The proposed Sewer Demand would require a minimum 8" sanitary sewer main.

- **The following two areas are not included in the totals for the site sanitary loads as these are for temporary transition use (Make Ready) during the phased construction and are to be removed at completion of construction.**

New Modular Building / Trailers (Cemetery / Harding Lot)

- (8) Double wide trailers, (5) single trailers, (3) Modular Buildings ~ Approx. 1,792 SF each, 28,672 SF Total SF
- Assume (1) Single trailer to house Men's / Women's Toilets, Jan. Closet
- (4) WC each side, (8) WC Total, (8) Lavatories, (2) FD, (1) Service Sink
- WC-32 DFU, LAV-8 DFU, FD-0 DFU, SS-3 DFU = 43 DFU = 4" SS
- 28,672 / 1,000 = 28.67 * 200 GPD (Office Use) = 5,734 GPD
- 5,734 GPD ÷ 24 = 239 GPH
- 239 GPH ÷ 60 = 3.98 GPM ÷ 448.8 = 0.009 CFS

New Modular Building / Trailers (California / Harding Lot)

- (6) single trailers, (3) Modular Buildings ~ Approx. 1,792 SF each, 16,128 SF Total SF
- Assume (1) Single trailer to house Men's / Women's Toilets, Jan. Closet
- (4) WC each side, (8) WC Total, (8) Lavatories, (2) FD, (1) Service Sink
- WC-32 DFU, LAV-8 DFU, FD-0 DFU, SS-3 DFU = 43 DFU = 4" SS
- 16,128 ÷ 1,000 = 16.13 * 200 GPD (Office Use) = 3,225 GPD
- 3,225 GPD ÷ 24 = 134 GPH
- 134 GPH ÷ 60 = 2.25 GPM ÷ 448.8 = 0.005 CFS

Appendix I

Transportation Technical Memorandum

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TRANSPORTATION TECHNICAL MEMORANDUM

To:	St. Joseph's Medical Center of Stockton Hospital Expansion
From:	Sabita Tewani, AICP, PTP, Transportation Planner
	Mladen Popovic, AICP, Transportation Planner
Subject:	VMT and Access Analysis for the St. Joseph's Medical Center of Stockton Hospital Expansion Project
Date:	December 9, 2022
cc:	Dennis Pascua, Dudek
	Christine Kronenberg, Dudek
Attachments:	Figures 1–4
	A: VMT Analysis Technical Memorandum, TJKM
	B: Vehicular Queuing Data and SimTraffic Worksheets
	C: Signal Warrant Worksheets
	D: TIMS Collision Data

The St. Joseph's Medical Center of Stockton Hospital Expansion project (proposed project) includes expansion of acute care medical services and a unified concept for future growth at the St. Joseph's Medical Center located in the City of Stockton (City). This analysis was conducted per the recently adopted California Environmental Quality Act (CEQA) guidelines where compliance with Senate Bill (SB) 743, requiring an assessment of vehicle miles traveled (VMT). The following CEQA analysis has been prepared consistent per the City's Transportation Impact Analysis Guidelines (Interim) (effective January 1, 2022 to December 31, 2022), and reports VMT results from the 2018 Regional Transportation Plan (RTP) model from the San Joaquin Council of Governments (SJCOG) (also known as the Three County Model or TCM). In addition, operational traffic data was analyzed to provide an analysis of project access and on-site circulation per the CEQA Checklist.

1.0 Project Description and Location

The St. Joseph's Medical Center of Stockton Hospital Expansion project (proposed project) is proposing to construct in four phases, an approximately 331,000 square foot (SF) acute care hospital building; a new 9-tier parking structure to accommodate up to 1,980 parking stalls; expansion of the existing Central Utility Plant of approximately 35,000 SF (or a new free-standing central utility plant – to be determined); on-site fuel storage; and, an expansion of the existing Generator building to accommodate more emergency generators. In addition, a possible future expansion may include approximately 150,000 SF of additional hospital space. Approximately 75,068 SF of existing outdated and underutilized hospital space would be demolished along with one unoccupied single-family residence.

Figure 1 illustrates the project's location. The proposed project is located at 1800 N. California Street, approximately 1.3 miles north of State Route (SR) 4, 2.3 miles west of SR-99, and 2.6 miles east of Interstate (I) 5. The proposed project incorporates the existing main Medical Center campus, which consists of approximately 18.7 acres and is generally bounded by E. Cleveland Street to the north, E. Harding Way to the south, N. California Street to the west, and Cemetery Lane to the east in the City.

With the construction of the parking structure, the main access of the hospital would be along four proposed driveways on N. California Street. The main entrance to the parking structure would be accessed from N. California Street for visitors and patients and Cleveland Street for staff. Ambulances would utilize Cemetery Lane for ingress and egress to the Emergency Room. Figure 2 illustrates the site plan and driveway locations for the proposed project.

The proposed project is consistent with the City's General Plan Land Use designations, which are Administrative Professional, Commercial, and Medium-Density Residential and the underlying zoning. No changes to the General Plan land use designation or zoning are contemplated by the proposed project.

2.0 Vehicle Miles Traveled Analysis

2.1 Background

On September 27, 2013, SB 743 was signed into law, which created a process that changed the way that transportation impacts are analyzed under CEQA. SB 743 required OPR to amend the CEQA Guidelines to provide an alternative to level of service (LOS) for evaluating transportation impacts. Under the new transportation guidelines, LOS, or vehicle delay, is no longer considered an environmental impact under CEQA. OPR recommended evaluating VMT as the most appropriate measure of determining transportation impacts for land use projects and land use plans consistent with the goals of SB 743 to reduce the state's greenhouse gas emissions. The updates to the CEQA Guidelines required under SB 743 were approved on December 28, 2018.

The Updated CEQA Guidelines state that "*…generally, vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts…*" and define VMT as "*…the amount and distance of automobile travel attributable to a project…*." It should be noted that "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. Other relevant considerations may include the effects of the project on transit and non-motorized travel.

Per City Guidelines, the project generated VMT looks at the total number and distance each trip travels divided by the population that generated those trips (i.e., employees, visitors, etc., as appropriate). The most common VMT per capita metrics for this type of project include the following:

- Home-based work VMT per employee
- Total VMT per service population (service population consists of residents plus employees and students)

The City Guidelines provide screening criteria for identifying the types of projects that are expected to not result in a significant VMT impact, where a detailed CEQA analysis would not be required to evaluate the project VMT. Figure 3 shows project's location on the daily home-based work VMT per employee screening map from the City Guidelines. As shown on Figure 3, the location of the proposed Medical Center expansion development falls just outside of a screened-out low VMT area, and therefore triggers the requirement to prepare a detailed VMT analysis

under CEQA. The project's detailed VMT analysis was conducted using the SJCOG travel demand model and is discussed in detail below.

Based on guidance from OPR and discussion with the City regarding significance thresholds, the following VMT threshold has been used for the proposed project:

Project Impact

- Office/Work related land use: 15% below the regionwide average for home-based work VMT per employee.

Cumulative Impact

- The citywide total VMT per service population is compared between the "no project" and "plus project" scenarios.

2.2 Approach and Methodology

To analyze a project's VMT analysis the process typically includes first using screening criteria, identifying the significance threshold, selecting the VMT metric and, lastly, determining requirements for modeling and assessment. Based on the City's guidelines, project screening criteria were applied to the proposed project to determine if the project can be screened-out from further VMT analysis and its impacts can be presumed to be less than significant.

2.3 VMT Project Screening

Per the City's Guidelines, if a project meets any one of the following criteria it would not require a detailed VMT analysis:

- Transit Priority Areas (TPA)[1]: Projects located within ½ mile walkshed around major transit stops[2] (i.e., Downtown ACE Station and Amtrak Station) or within ¼ mile walkshed around stops on high quality transit corridors[3](i.e., Hammer Lane and Pacific Avenue) in Stockton.
  - The project is not located within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor in the City, therefore, it would not meet the transit proximity screening criterion.

1 TPA screening will only apply if the project meets any of the following criteria:
- The project has a Floor Area Ratio (FAR) of 0.75 or more;
- The total square footage is 500,000 square feet or less;
- The proposed parking does not exceed minimum required by the Zoning Code or applicable plan;
- The Project is consistent with the City's General Plan, applicable Specific Plan, or applicable Sustainable Communities Strategy (as determined by the lead agency, with input from SJCOG);
- Existing on-site affordable residential units are maintained or increased; and,
- Less-than-significant levels of VMT are projected through project-specific or location-specific information.

2 "Major transit stop" is defined in Public Resources Code 21064.3 as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

3 High-quality transit corridor" is defined in Public Resources Code 21155 as a corridor with fixed-route bus service with service intervals no longer than 15 minutes during peak commute hours.

- **Affordable Housing:** 100% restricted affordable residential projects in infill locations (i.e., development within unused and underutilized lands within existing development patterns) and near transit (i.e., is within half a mile of a transit stop).
  - The project is not proposing affordable housing units, and therefore would not meet this screening criterion.

- **Small Projects:** Projects defined as generating 110 or fewer average daily vehicle trips, absent substantial evidence indicating that a project would generate a potentially significant level of VMT.
  - As shown in Table 4.11-1 Project Trip Generation below, the project would generate 3,513 daily trips and therefore would not meet the small project screening criterion. The proposed project includes a 144-bed facility; however, the Future Expansion (Phase 5) could potentially add another 50 beds. Therefore, 194 bed equivalent trip generation and employee estimate was used in the project's transportation analyses

- **Locally Serving Public Facility**: Locally serving public facilities that encompasses government, civic, cultural, health, and infrastructure uses and activity which contribute to and support community needs. Locally serving public facilities include police stations, fire stations, passive parks (parks designed for use in an informal way and typically less developed), branch libraries, community centers, public utilities, and neighborhood public schools. This exemption would not apply to charter schools, private schools, colleges/universities, hospitals, or other quasi-public uses that are privately operated.
  - The proposed project is a private hospital expansion and therefore would not meet this screening criterion.

- **Neighborhood-Serving Retail Project:** Neighborhood-serving retail projects that are less than 50,000 square feet, which serve the immediate neighborhoods and may have a similar use within three miles.
  - The project is not proposing neighborhood-serving retail, therefore would not meet this screening criteria.

- **Low VMT Area:** The project is in a traffic analysis zone (TAZ) that generates VMT at a rate at least 15 percent lower than the most recently established baseline VMT level (as shown in Figure 2 of City's guidelines).
  - The proposed project is not located within a low VMT area, and therefore would not meet this screening criterion.

- **Greater Downtown Planning Area:** The project is located within the Greater Downtown planning area, as defined in the General Plan, and shown in Figure 2 of City's guidelines and is consistent with the General Plan. This is a targeted infill area of the City that generally contains low VMT generating land uses.
  - The proposed project is not located in the Greater Downtown Planning Area and would not meet this screening criterion.

Table 1. Project Trip Generation

Land Use	ITE Code	Size/Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
Hospital	610	per beds	22.32	1.29	0.50	1.79	0.56	1.13	1.69
Hospital	610	per TSF	10.77	0.55	0.27	0.82	0.30	0.56	0.86
Single-Family Detached Housing	210	per DU	9.43	0.18	0.52	0.70	0.59	0.35	0.94
Trip Generation									
Proposed Project									
Phase 1-4 (additional 144 care beds)	610	144 beds	3,214	186	72	258	80	163	243
Future Expansion Phase 5 (additional 50 care beds)	610	50 beds	1,116	64	25	89	28	56	84
		subtotal	4,330	250	97	347	108	219	327
Existing Buildings to be Demolished									
Buildings to be demolished (minus McCloud Building[2])	75.068	TSF	-808	-41	-20	-61	-23	-42	-65
Single-family residence	1	DU	-9	0	-1	-1	-1	0	-1
		Subtotal	*-817*	*-41*	*-21*	*-62*	*-24*	*-42*	*-66*
		NET Total	**3,513**	**209**	**76**	**285**	**84**	**177**	**261**

Source: Trip Generation, 11th Edition, Institute of Transportation Engineers, 2021
Notes: TSF = thousand square feet; DU = dwelling unit
[1] Trip rates from Trip Generation, 11th Edition, Institute of Transportation Engineers, 2021.
[2] Total to be demolished is 90,068 SF. McCloud Building at 15,000 SF currently used as storage space and is assumed to not generate any traffic so is not included.

The proposed project does not meet the screening criteria identified above; therefore, further assessment of project's VMT impact under the SJCOG's RTP (regional) model base year conditions (year 2018, which is the most accurate representation of existing 2022 baseline conditions without further modifying the model, and other than the Covid pandemic, there have been no significant changes in travel patterns on the adjacent streets and in the transit networks since 2018) and cumulative conditions (year 2040) is provided below using available significance thresholds and guidance from the City.

2.4 Project VMT Analysis

The proposed project would primarily be considered a work-related project and would not screen out of conducting a detailed analysis per the City's screening criteria. Therefore, the home-based work VMT per employee metric has been used in the VMT analysis for the base year and VMT per service population for the cumulative year analysis. The study area for the project's VMT analysis is the region (i.e., San Joaquin County), per OPR's requirement of comparing the project's VMT with the regional baseline VMT.

The proposed project's VMT analysis was prepared using the current 2018 RTP and the SJCOG travel demand model (Three County Model) which is a trip-based model. In addition, the SJCOG travel demand model was adjusted for consistency with the City's General Plan travel demand model as required by the City. Attachment A contains the technical VMT modeling memorandum prepared by TJKM. The land use input file for the regional 2018 RTP model within the City was reviewed in order to get an accurate base year estimate for the project's VMT analysis.

The proposed project would add an additional 365 new employees. Per standard modeling practice, employment estimates are input into the model to estimate employment VMT. The proposed project is located in TAZ #2184 of the SJCOG model, as shown on Figure 4. Therefore, the project's TAZ was modified to include an added 365 medical employees for the proposed medical center expansion. Consistent with standard modeling practice, the updated land use file for the SJCOG model was used for a base year model run to extract VMT for citywide and regional average home-based work VMT per employee. Additionally, in the base year SJCOG model run, 365 medical employees were included in category of the land use input file for a "with project" model run to accurately estimate the project's home-based work (HBW) VMT.

The HBW VMT per employee is an efficiency metric which is the ratio of total HBW employee VMT and number of employees. Both region-wide average home-based work (HBW) per OPR guidelines and city-wide average HBW VMT per City's guidelines are shown in Table 2.

Table 2. Home Based VMT per Employee

Jurisdiction	Base Year Average Daily Home-Based Work VMT per Employee for Project TAZ	Jurisdictional Average (Baseline)	15% Below Jurisdictional Average (Threshold)	Base Year Plus Project Average Daily Home-Based Work VMT per Employee for Project TAZ	% below Baseline[1]
Region (County)	6.23	13.65	11.61	6.11	55.2%
City	6.23	9.58	8.14	6.11	36.2%

Source: Attachment A
Note: VMT = Vehicle miles traveled
[1] Percentage calculated as Baseline-Base Year plus project ÷ Baseline = Project VMT % below Baseline.

The HBW VMT per employee for the base year without project is 6.23 in the TAZ and 13.65 (baseline) in the region. The HBW VMT per employee for the base year without the project is 6.11 in the TAZ and 9.58 (baseline) in the City. As shown in Table 2, the HBW VMT per employee under with project scenario, decreases (from 6.23 to 6.11) compared to the no project (baseline) scenario.

The threshold for work-based projects is that the project HBW VMT should be 15% below average regional HBW VMT per employee. The project's HBW VMT per employee of 6.11 is less than the threshold of 15% below jurisdictional regional average of 11.61 HBW VMT. Therefore, the proposed project would not exceed the City's VMT threshold and would have a less-than-significant impact.

However, since the proposed project would add over 100 new employees, per San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) Rule 9410, an Employer Based Trip Reduction program may be required to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of oxides of nitrogen (NOx), volatile organic compounds (VOC) and particulate matter (PM). The strategies to reduce VMT can include employee shuttles, staggered work hours, telecommute options, transit subsidies, and carpool/vanpool programs.

2.5 Cumulative Impacts

OPR's Technical Advisory provides guidance to practitioners regarding VMT analysis under cumulative conditions. Specifically, for projects analyzed using a VMT efficiency metric (such as was performed in this study), the following statement is made: "A project that falls below an efficiency-based threshold that is aligned with the long-term environmental goals and relevant plans would have no cumulative impacts distinct from the project impact. Accordingly, a finding of less-than-significant project impact would imply a less than significant cumulative impact, and vice versa." The City's General Plan specifies that development projects within the existing (2017) City limits shall demonstrate that cumulative VMT within the City including the project would be equal to or less than the established Citywide cumulative limit of total daily VMT.

Where a lead agency concludes that the cumulative effects of a project, taken together with the impacts of other closely related past, present, and reasonably foreseeable future projects are significant, the lead agency then must determine whether the project's incremental contribution to such significant cumulative impact is "cumulatively considerable" (and thus significant in and of itself).

The cumulative analysis considers the year 2042 conditions. The year 2042 conditions include development per City's General Plan and land use forecasts and therefore includes probable future projects. The cumulative study area used to assess potential cumulative transportation impacts per CEQA i.e., VMT analysis includes the city. As shown in Table 3. the Year 2042 No project VMT per service population (i.e., 17.90) is higher than the baseline VMT per service population (i.e., 15.16) for the Citywide average. Therefore, the probable future development per City's General Plan would increase VMT when compared to the existing conditions. However, the regional VMT per service population would decrease from 21.24 to 19.69 between existing and Year 2042 conditions, thereby indicating more efficiency in regional travel when compared to the City.

Per the City's Guidelines, cumulative impacts should be evaluated by comparing the citywide total VMT per service population is between the "no project" and "plus project" scenarios for cumulative conditions. Therefore, the SJCOG travel demand model run was conducted for year 2042 conditions (with and without project) using the metric of

service population. Cumulative impacts were calculated where project-added traffic resulted in a degradation in measures of effectiveness.

As shown in Table 3, the VMT per Service Population of the project's TAZ, region and the City under no project conditions (i.e., 17.90) is slightly higher compared to the VMT per Service Population under plus project conditions (i.e., 17.76). This implies that the proposed project would not increase the City or TAZ wide VMT per service population and therefore, would not result in a cumulatively significant impact and the impact would be less than significant.

Table 3. VMT per Service Population

Jurisdiction	Year 2018 No Project VMT per Service Population	Year 2042 No Project VMT per Service Population	Year 2042 Plus Project VMT per Service Population
Project TAZ	7.44	10.16	10.23
Region (County)	21.24	19.69	19.55
City	15.16	17.90	17.76

Source: Attachment A
Note: VMT = Vehicle miles traveled

2.6 VMT Impact Determination

Based on the analysis of the base year and cumulative year conditions, the following determination can be made for the project's VMT impact, as shown in Table 4.

Table 4. VMT Summary for the Proposed Project

Year of Analysis	VMT Metric	VMT Value with Project	VMT Threshold	Impact Determination
Base Year	Home based work VMT per Employee	6.11	11.61	Less than Significant
Cumulative Year	VMT per Service Population	17.76	17.90	Less than Significant

Source: Attachment A
Note: VMT = Vehicle miles traveled

As shown in Table 4, the home-based VMT per employee under with project conditions would not exceed the regionwide home-based VMT per employee threshold (i.e., 15% below the regionwide home-based work VMT per employee). Therefore, the proposed project would not result in a significant direct VMT impact.

As shown in Table 4, the cumulative conditions VMT per service population under with project conditions would not exceed the regionwide VMT per service population under cumulative without project conditions. Therefore, the proposed project would not result in a significant cumulative VMT impact.

2.7 Mitigation Measures

As discussed above, because the project would not result in a significant impact to VMT, therefore no mitigation measures would be required.

However, since the proposed project would add over 100 new employees, per San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) Rule 9410, an Employer Based Trip Reduction program may be required to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of oxides of nitrogen (NOx), volatile organic compounds (VOC) and particulate matter (PM). The strategies to reduce VMT can include employee shuttles, staggered work hours, telecommute options, transit subsidies, and carpool/vanpool programs.

3.0 Queuing Analysis

The proposed project would modify existing vehicular and pedestrian access to the campus and would involve the construction of several new publicly accessible driveways and internal circulation lots leading to various parking lots, a new entrance to the Acute Care Hospital Tower building, new Emergency Department entrance and access, and a new ambulance entrance. The project would also include pedestrian enhancements to improve pedestrian safety from off-site leased facilities at the intersection of E. Harding Way and Cemetery Lane by signalizing the intersection.

The following provides additional descriptions of the new project driveways and direct access points for the proposed project, the Emergency Department, and the new parking structure. Vehicular queues are discussed for Buildout Year 2042 plus Project conditions and represents the addition of project traffic to the horizon year traffic volumes of the traffic model utilized. The analysis evaluates whether the project would result in hazards due to design features created by the project (i.e., new project access points/driveways on to public streets).

A queuing analysis was prepared using SimTraffic 11 software at the project's proposed new project access intersections to determine whether proposed storage pockets lengths would be exceeded. The following new project driveways were analyzed for queuing impacts:

1. New parking structure access/E. Cleveland Street Driveway
2. N. California Street/E. Wyandotte Street Driveway
3. N. California Street/Hawthorne Street Driveway
4. N. California Street/McCloud Avenue Driveway
5. N. California Street/Chestnut Street Driveway

Per the Highway Capacity Manual 6th Edition, the 95th percentile queue is defined as "the queue length that has only a 5-percent probability of being exceeded during the analysis time period." All intersections were evaluated based on the Buildout Year 2042 plus Project scenario. Detailed vehicular queuing worksheets are included in Attachment B.

As shown in Table 5, none of the calculated 95th percentile (design) queues are forecast to exceed storage capacities within the existing turn pockets. Therefore, the project would not cause a substantial direct or cumulative effect to vehicular queueing.

Table 5. Intersection and Driveway Queueing Summary

Intersection/Driveway	Movement	Vehicle Storage Length[1]	Buildout Year 2042 plus Project[2]		Exceeds Vehicle Storage Length?		Improvement Warranted?
			AM	PM	AM	PM	
New parking structure access/ E. Cleveland Street Driveway	NBLR[3]	200	44	55	No	No	No
N. California Street/ E. Wyandotte Street Driveway	WBLT[3]	100	61	58	No	No	No
	WBR[3]	100	64	64	No	No	No
	SBL[4]	200	35	21	No	No	No
N. California Street/ Hawthorne Street Driveway	WBLTR[3]	100	39	52	No	No	No
	SBL[4]	225	27	18	No	No	No
N. California Street/ McCloud Avenue Driveway	NBTR[4]	225	151	167	No	No	No
	SBL[4]	230	39	36	No	No	No
N. California Street/ Chestnut Street Driveway	NBTR[4]	210	22	8	No	No	No

Notes: NBLR = northbound shared left-right-turn lane; WBLT = westbound shared left-through lane; WBR = westbound right-turn lane; WBLTR = westbound shared left-through-right turn lane; SBL = southbound left-turn lane; NBTR = northbound shared through-right turn lane.

1 Measured in feet
2 Based on 95th percentile (design) queue length in SimTraffic 11
3 Length is measured based on the estimated capacity of the site to queue vehicles
4 Length is measured to the nearest intersection

For each of the project's proposed new project access intersections, additional information is provided and detailed below.

E. Cleveland Street Driveway

The E. Cleveland Street driveway entrance would provide access to the new parking structure and is intended to predominantly serve as the main access for hospital staff, as shown in Figure 2-9 within the EIR. There would be approximately 200-feet of drive aisle between the driveway entrance on E. Cleveland Street and the entrance of the parking structure. This driveway location is proposed to be unsignalized with stop control on the northbound approach (from the parking structure). Per a 95th percentile queuing analysis conducted for the proposed project, vehicular queues would be less than 60-feet exiting the project driveway, and therefore there would be sufficient space for exiting vehicles to queue before turning onto E. Cleveland Street. Similarly, for vehicles entering the project driveway from E. Cleveland Street, vehicular queues would be low due to the relative low volumes forecast on this segment of E. Cleveland Street.

E. Wyandotte Street Driveway

The proposed new parking structure would be located on the east side of N. California Street, between E. Wyandotte Street and Hawthorne Street. The parking structure would be directly accessible from the intersection of N. California Street/E. Wyandotte Street which would serve as the main public entrance for the structure. This entrance/exit of the parking structure would comprise the east leg of the N. California Street/E. Wyandotte Street intersection, and a majority of vehicular queueing would occur within the parking structure itself. Outbound vehicular

queues are forecast to not exceed 70-feet, approximately four car lengths (based on 22-feet per vehicle). The exit to the parking structure would have two outbound lanes to expediate egress, and one inbound lane. Southbound inbound vehicles would be able to safely queue within the two-way left-turn (TWLTL) along N. California Street, and vehicular queues are forecast to not exceed 35-feet (approximately 1.5 car lengths) for the southbound left turn movement into the structure. Other access points in to, and out of, the structure are proposed off E. Cleveland Street (as noted above) and nearby the intersection of N. California Street/Hawthorne Street to the south.

Due to this driveway being the primary public vehicular access to/from the parking structure, and the lack of hospital patient facilities in this part of the campus, pedestrian crossing facilities are not proposed across N. California Street at the E. Wyandotte Street Driveway. The existing traffic signal at the intersection of McCloud Avenue/ N. California Street, two blocks south of this driveway, would accommodate pedestrian traffic destined to cross N. California Street to provide direct access to the new Acute Care Hospital Tower and Emergency Department.

E. Hawthorne Street Driveway

The E. Hawthorne Street Driveway would comprise the east leg of the existing N. California Street/E. Hawthorne Street intersection and would provide access to both the new parking structure and the new emergency department surface parking lot. Southbound vehicles would be able to enter the E. Hawthorne Street Driveway from N. California Street via the existing TWLTL. The vehicular queues forecast to exit the driveway would not exceed 52-feet (approximately three car lengths), and queues in the TWLTL entering the driveway are forecast to not exceed 27-feet (approximately 1.5 car lengths). Upon entering the driveway, vehicles would have the option to either enter the new parking structure or park within the Emergency Department surface parking lot. Signage would be posted at the entrance to direct vehicles to their destination and "Keep Clear" pavement markings would be installed in front of the structure entrance.

Similar to the E. Wyandotte Driveway, this driveway would also serve public vehicular access to/from the parking structure, as well as a surface parking lot. Due to the lack of hospital patient facilities adjacent to this driveway, pedestrian crossing facilities are not proposed across N. California Street at the E. Hawthorne Street Driveway. The existing traffic signal at the intersection of McCloud Avenue/N. California Street, one block south of this driveway, would accommodate pedestrian traffic destined to cross N. California Street to provide direct access to the new Acute Care Hospital Tower and Emergency Department.

McCloud Avenue Driveway

McCloud Avenue is currently an existing signalized intersection along N. California Street and would remain signalized with pedestrian crossing facilities (i.e., marked crosswalks and pedestrian signal phases). Although the proposed project would close off a majority of the roadway east of N. California Street due to the construction of the new Acute Care Hospital Tower, the east leg of McCloud Avenue would be reconfigured to be a one-way inbound access driveway for hospital traffic entering the loading area of the new Acute Care Hospital building. Outbound vehicles at this location would be required to travel on the internal one-way, northbound drive aisle to the E. Hawthorne Street Driveway to access N. California Street.

Vehicular queues are forecast to not exceed 39-feet (approximately two car lengths) for southbound left turning traffic, and northbound through traffic queues are forecast to be no more than 167 feet and would not extend downstream into the next intersection (at Chestnut Street) approximately 210 feet away. Upon entering the McCloud Avenue driveway, vehicles would be able to directly access the new Emergency Department loading area or proceed northward towards the new parking structure and new Emergency Department surface parking lots via

the one-way northbound drive aisle. Outbound vehicles from this driveway would also proceed northward to the E. Hawthorne Street Driveway.

Since this driveway would provide the most direct access to the new Acute Care Hospital Tower and Emergency Department and would continue to be signalized with pedestrian crossing facilities, this driveway would serve pedestrians that would need to cross N. California Street via existing crosswalks at the signalized intersection.

Chestnut Street Driveway

The Chestnut Street Driveway would be the southernmost access point for vehicles to access the new Acute Care Hospital Tower, Emergency Department, and new parking structure (via the one-way northbound drive aisle). As part of the proposed project, an eastern leg of Chestnut Street would be constructed at the N. California Street/ Chestnut Street intersection. Similar to the McCloud Driveway, all traffic would be inbound only and would provide direct access to the walk-in entrance loading area for the Emergency Department, as well as access to the hospital tower. The internal circulation of the driveway would allow for traffic to move northward, one-way towards the new parking structure and surface parking lot, or the exit lane at the E. Hawthorne Street Driveway.

This driveway would serve public vehicular access to the Emergency Department, new Acute Care Hospital Tower, parking structure, and surface parking lot. Pedestrian crossing facilities are not proposed across N. California Street at the Chestnut Street Driveway due to existing traffic signals with pedestrian crossing facilities (i.e., marked crosswalks and pedestrian signal phases) at the intersections of McCloud Avenue, one block to the north; and, Walnut Street, one block south of this driveway. Those existing signalized pedestrian crossings would accommodate pedestrian traffic destined to cross N. California Street to access existing and proposed hospital facilities.

4.0 Conflict with the Roadway System

As per the City's TIA Guidelines, and after consultation and scoping with the City's Public Works Department, the intersections in the project's study area were evaluated and a level of service analysis was conducted. The Local Transportation Analysis (LTA) required for the proposed project, contains additional detail and analysis of each intersection. Below is a summary of the findings contained with the LTA as it pertains with any potential conflicts with the roadway system.

- Most of the unsignalized intersections in the project's study area (as determined by the City) would not require signalization as they would not satisfy peak hour signal warrants per the California Manual of Uniform Traffic Control Devices (CA MUTCD). The exception is the intersection of Cemetery Lane/E. Harding Way. This intersection would meet signal warrants in Buildout Year 2042 plus Project conditions in the PM peak hour. All signal warrant sheets are provided in Attachment C.
- The 95th percentile vehicle queues assessed at project driveways and discussed later in this section, do not exceed available storage, and would not periodically block or interfere with pedestrian, bicycle, or transit facilities.
- The project does not propose physical modification of any roadways in its vicinity in a manner inconsistent with the City's General Plan. The proposed project would not physically modify the operational roadway characteristics of any public roadways in the vicinity. The General Plan's Circulation Element roadway

classifications (Arterial, Collector, Local, etc.) and street cross-sections of any of the roadways within the study area would not be altered by the proposed project.

5.0 Collision Analysis

Collisions from the last 5 years of available data (2016–2021) were collected and analyzed using the Transportation Injury Mapping System (TIMS) which aggregates collision data directly from the California Statewide Integrated Traffic Records System (SWITRS). Along the N. California Street and E. Harding Way frontages of the Medical Center campus, approximately 50 collisions were recorded in the last 5 years, averaging 10 collisions per year. Within those 50 collisions, four fatalities occurred, all involving pedestrians crossing N. California Street, between E. Maple Street and E. Wyandotte Street. Of the remaining 46 collisions, none resulted in severe injuries, 12 resulted in visible injuries, and 34 resulted in complaints of pain injuries. Of the 50 collisions recorded, approximately 38 were broadside and rear end type collisions, with the remaining type of collisions consisting of head-on, sideswipe, overturned vehicles, or other. Attachment D contains the collision history data from TIMS.

With the construction of the City's California Street Separated Bikeway project which includes Class IV separated bike lanes (separated from vehicle through traffic via pavement markings and/or flexible delineators) and 4- to 2-lane road diet along N. California Street, along with the proposed project's driveways designed to be compliant with the bikeway project, fewer lanes of traffic would be expected to reduce the overall speed of vehicles on the roadway. Also, the separated bikeway would reduce the points of conflicts with bicyclists and pedestrians. Additionally, the proposed project would construct an up to 1,980 space parking garage on the project site which would reduce the need for hospital staff and visitors to cross N. California Street or E. Harding Way. With the proposed project, there would be a greater ability for vehicles to circulate the site internally between the new Acute Care Hospital Tower, Emergency Department and Parking Structure without driving on N. California Street.

The intersection of Cemetery Lane/E, Harding Way was also evaluated using available data in TIMS, and approximately two collisions were recorded in the last 5 years. There was a total of four injuries and no fatalities. Both collisions were broadside collisions involving vehicles turning from Cemetery Lane and from the driveway across the street, onto E. Harding Way. In order to provide another point of egress and ingress to the proposed project site and accommodate the increase in traffic along Cemetery Lane, the intersection of Cemetery Lane/E. Harding Way was evaluated for a traffic signal. Traffic signal warrants show that the intersection of Cemetery Lane/E. Harding Way would meet signal warrants in the Buildout Year 2042 plus Project condition in the PM peak hour. Therefore, the proposed signalization of Cemetery Lane/E. Harding Way would better facilitate safe crossings of pedestrians on E. Harding Way. Overall, the proposed project would be expected to reduce the number of collisions in the area, as well as reduce the severity of those collisions.

6.0 Conclusion

Based on this CEQA analysis for the proposed project, the following conclusions are made:

- The St. Joseph's Medical Center of Stockton Hospital Expansion project is proposing to construct in four phases (with an additional future phase 5) which would result in addition of approximately 194 beds to the facility. The proposed project is consistent with the City's General Plan Land Use designations.

- The proposed project does not meet the VMT screening criteria; therefore, further assessment of project's VMT impact under base year conditions (year 2018) and cumulative conditions (year 2040) was conducted using the SJCOG travel demand model and the using available significance thresholds and guidance from the City.
- As shown in Table 4, the home-based VMT per employee under with project conditions would not exceed the regionwide home-based VMT per employee threshold (i.e., 15% below the regionwide home-based work VMT per employee). Therefore, the proposed project would not result in a significant direct VMT impact.
- As shown in Table 4, the cumulative conditions VMT per service population under with project conditions would not exceed the regionwide VMT per service population under cumulative without project conditions. Therefore, the proposed project would not result in a significant cumulative VMT impact.
- The project would not result in a significant impact to VMT, no mitigation measures would be required.
- As shown in Table 5, none of the calculated 95th percentile (design) queues are forecast to exceed storage capacities within the existing turn pockets. Therefore, the project would not cause a substantial direct or cumulative effect to vehicular queueing.

7.0 References

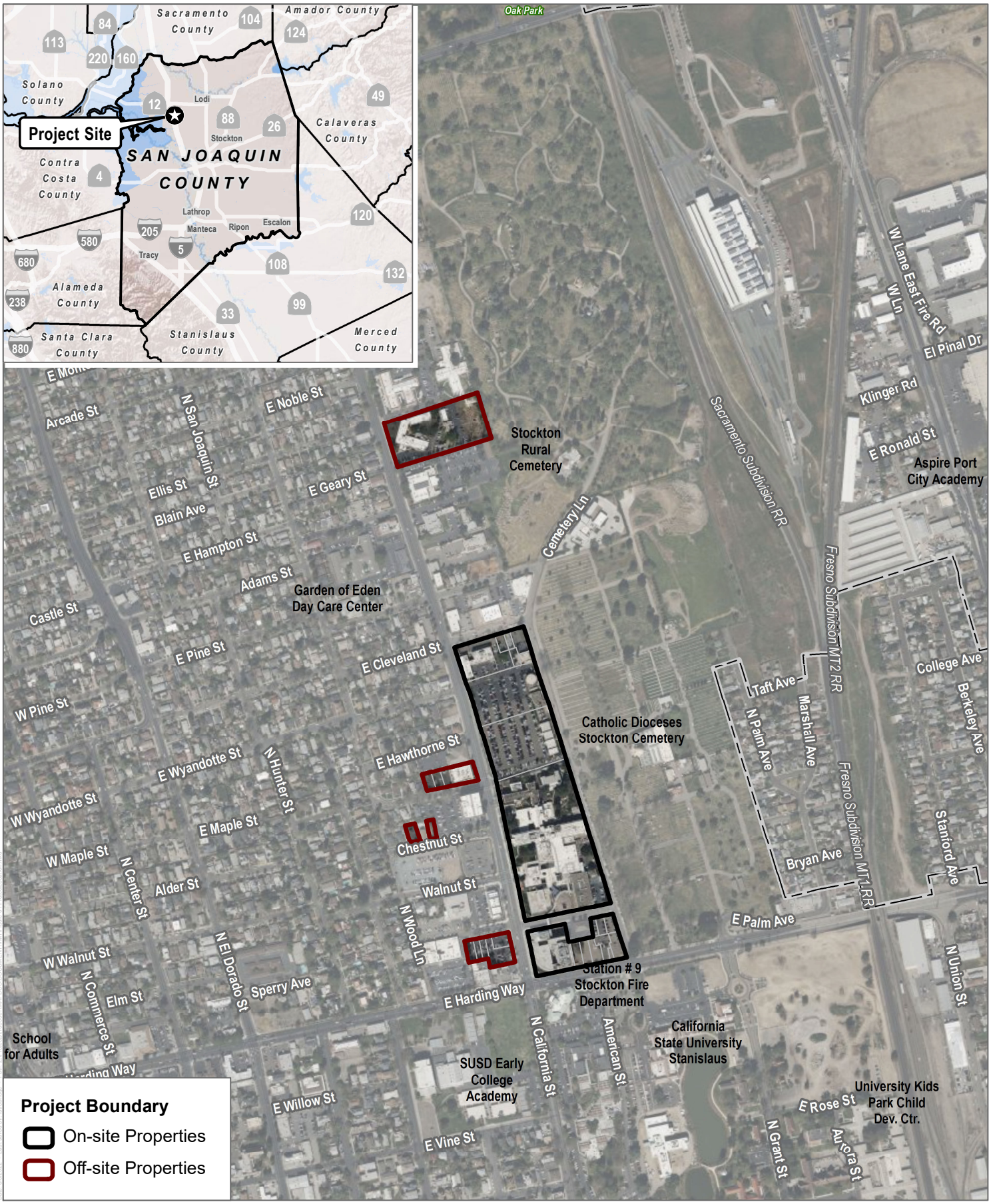
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SOURCE: Bing Imagery 2021; Open Street Map 2020; County of San Joaquin 2019

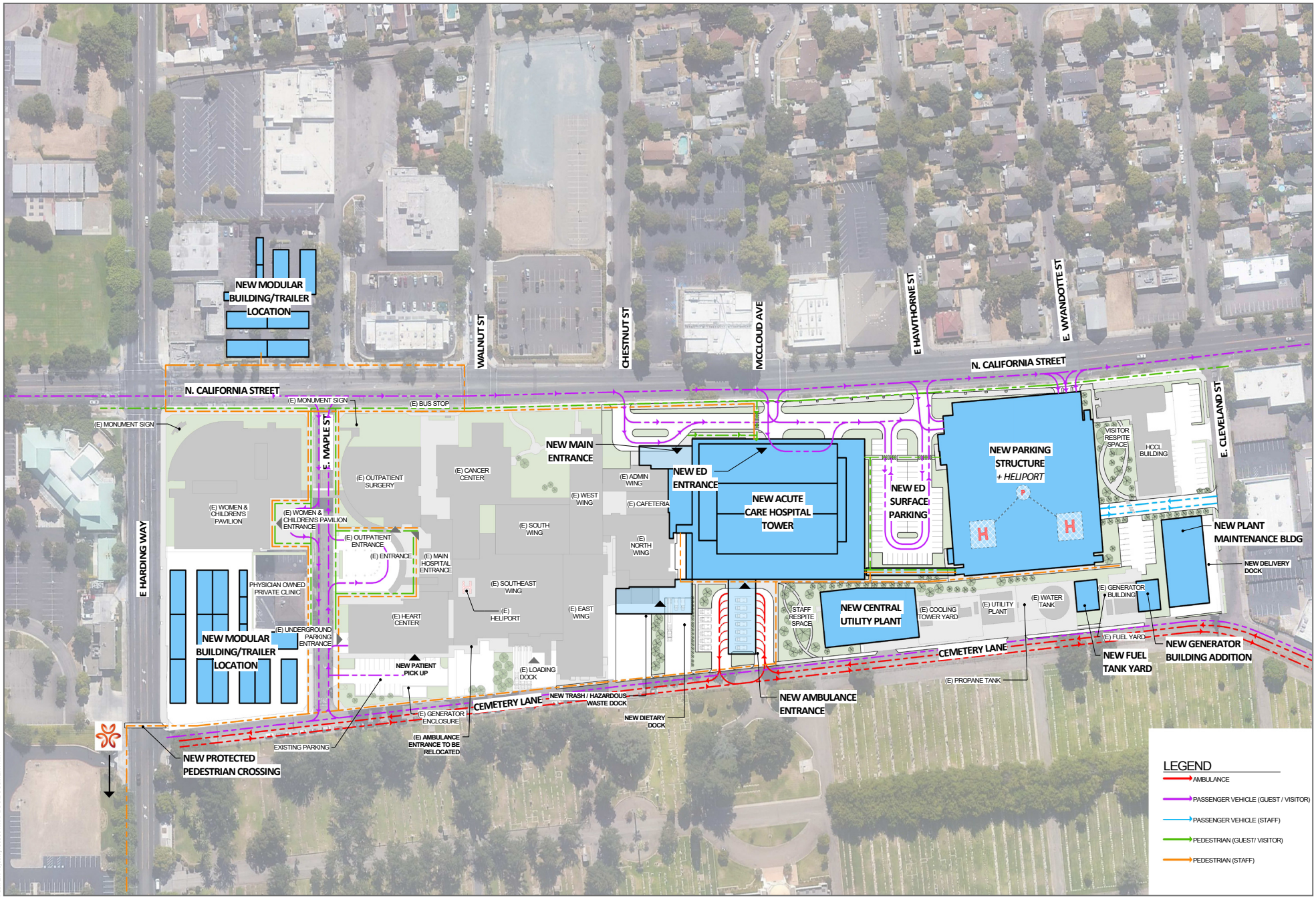
DUDEK

0 355 710 Feet

FIGURE 1

Project Location

Transportation Technical Memorandum for the St. Joseph's Medical Center of Stockton Hospital Expansion Project



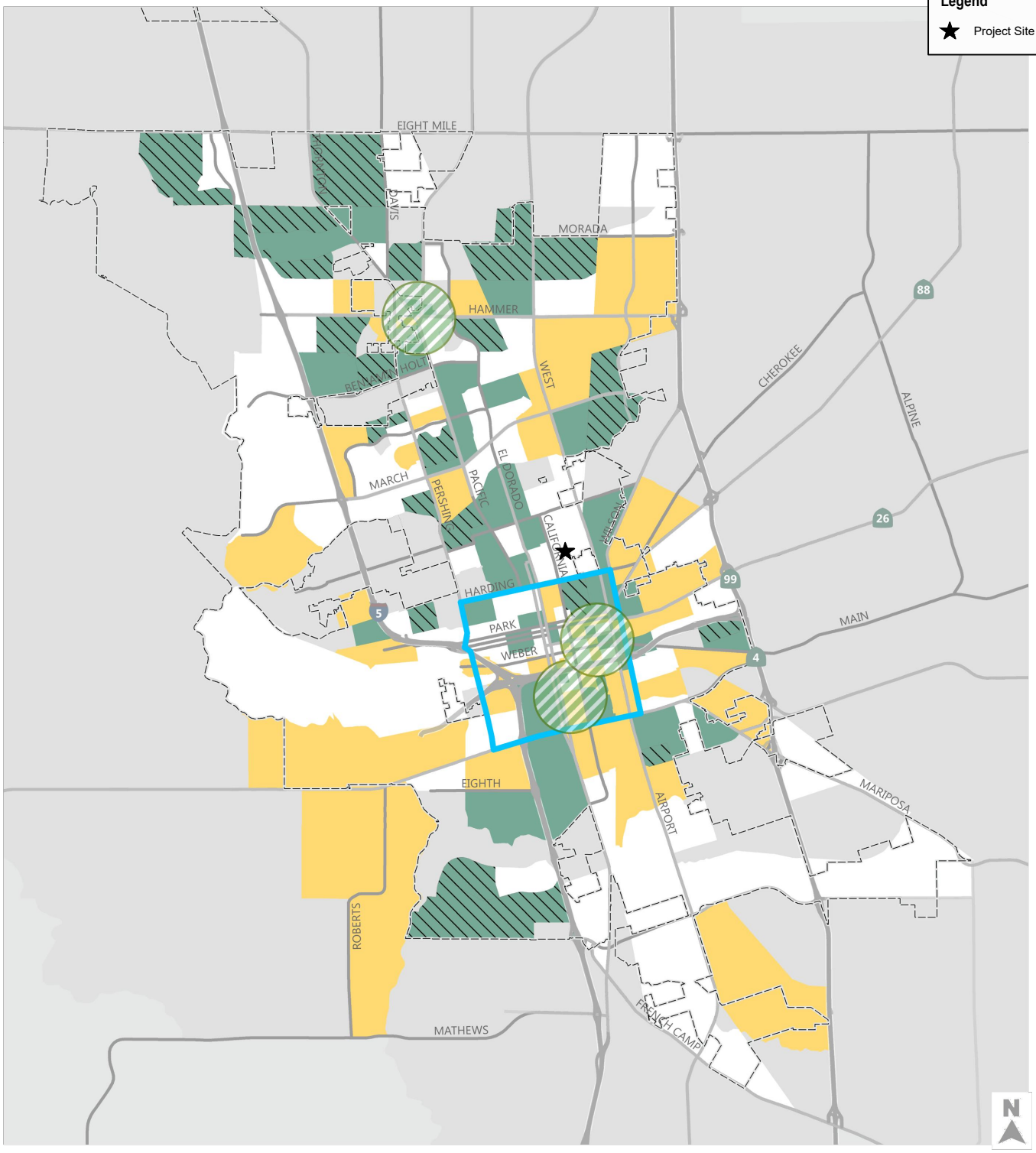
Source: Dignity Health, 2022

FIGURE 2

Site Plan and Access Driveways

Transportation Technical Memorandum for the St. Joseph's Medical Center of Stockton Hospital Expansion Project

DUDEK



No Value
VMT is Greater than -15% below City Average
VMT is 0 to -15% below City Average
VMT is Higher than City Average
City Limits
Transit Priority Area
Greater Downtown Planning Area
Additional investigation required

Figure 3

Stockton Model (2015)
Daily Home-Based-Work VMT per Employee
Comparison to City Average

SOURCE: City of Stockton TIA Guidelines 2021

DUDEK Not to Scale

Figure 3
Daily Home-Based-Work VMT per Employee - City of Stockton
Transportation Technical Memorandum for the St. Joseph's Medical Center of Stockton Hospital Expansion Project

Aug 05, 2022 - 3:04pm mpaporic P:\300\Environmental\13355 St. Joseph's Hospital\13355.02 - EIR - Dignity Health\DUDEK WORK PRODUCTS\DOCUMENTS\Dudek Tech Reports\Transportation\Graphics\Autocad Files\Subsepha_7.28.22.dwg Layout: Fig3_Screening

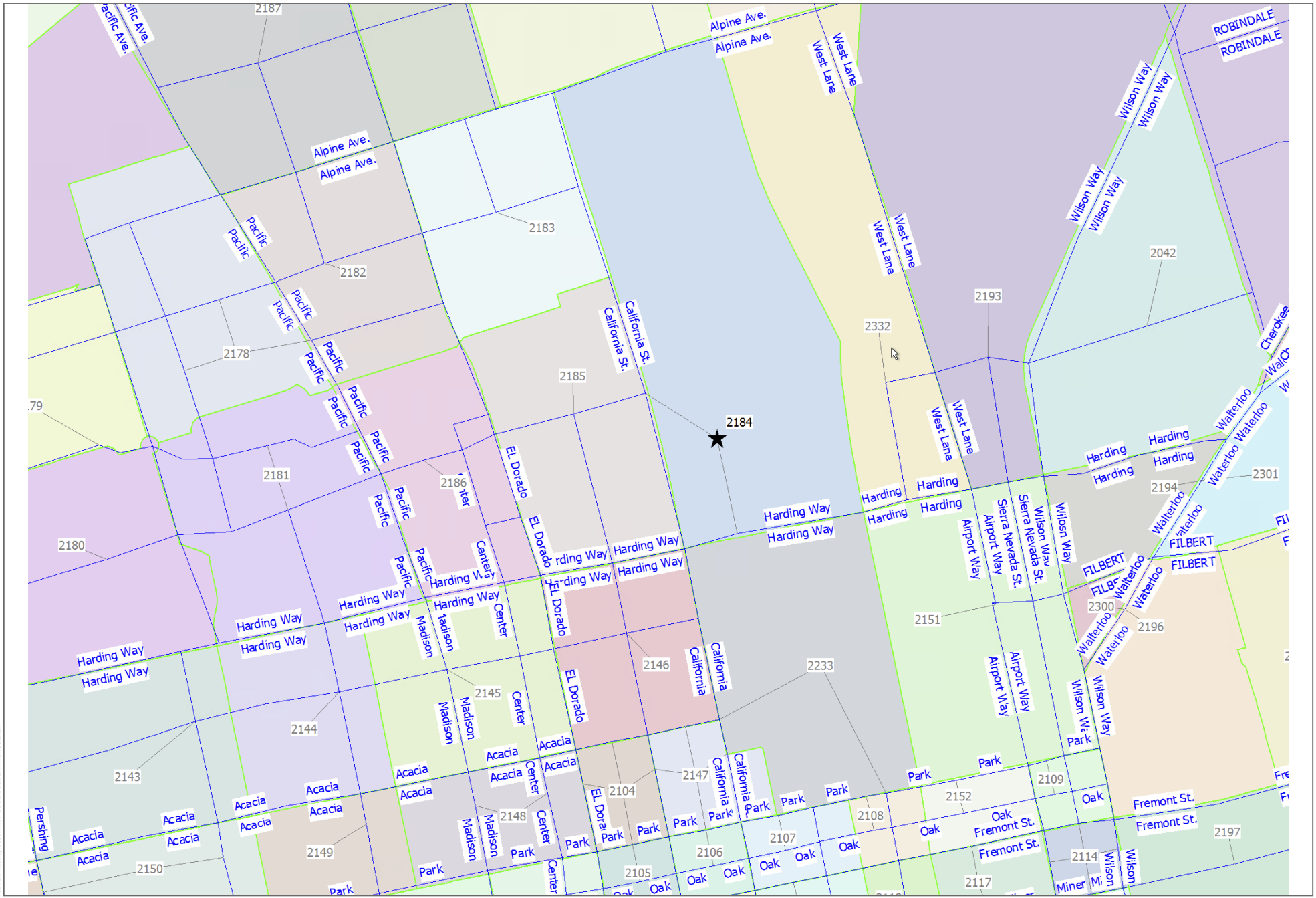


FIGURE 4

Project Traffic Analysis Zone (TAZ)

Attachment A

VMT Analysis Technical Memorandum, TJKM

TJKM VISION THAT MOVES YOUR COMMUNITY

TECHNICAL MEMORANDUM

Date:	December 8, 2022		
To:	Dennis Pascua, Dudek	*Project No.:*	011-105 St. Joseph Expansion VMT
From:	Arthur Chen & Vamsee Modugula, TJKM	*Jurisdiction:*	City of Stockton
Subject:	**St. Joseph Medical Center Expansion VMT Analysis**		

VEHICLE MILES TRAVELED (VMT)

Compliance with Senate Bill (SB) 743 will include replacement of Level of Service (LOS) with vehicle miles traveled (VMT) for purposes of assessing traffic impacts under the California Environmental Quality Act (CEQA) described in new Section 15064.3 of the CEQA Guidelines that will be applied statewide that began on July 1, 2020. Lead agencies will have discretion to choose the most appropriate methodology to evaluate a project's vehicles miles traveled, including whether to express the change in absolute terms, per capita, per household or any other measure. VMT refers to the amount and distance of automobile travel "attributable to a project". The City of Stockton adopted interim Transportation Impact Analysis (TIA) Guidelines for the 2022 year. The guidelines provide a general guide in assessing the potential transportation impacts of proposed projects under CEQA.

1. SCREENING CRITERIA

The City guidelines provide standards for identifying which types of projects should be expected to not result in a significant VMT impact, and a detailed CEQA analysis would not be required to evaluate the project VMT. The location of the proposed medical center expansion development falls just outside of a screened out area (Figure 3 from the City Guidelines), triggering a detailed CEQA analysis for VMT.

2. VMT FORECASTING

TJKM has prepared this VMT analysis for the St Joseph Medical Center expansion project, which consist of the addition of a 331,000 square feet acute care hospital building with 191 additional beds. 365 employees will be added for the medical center expansion. For VMT forecasting, the City of Stockton Interim Transportation Analysis Guidelines (December 2021, page 25) states that for a project to be VMT insignificant, the project has to generate 15% below the Citywide average for the home-based work VMT per employee statistic. One caveat is that the Office of Planning and Research (OPR) guidance recommends a regional average be used for the VMT benchmark for office/commercial projects. TJKM recommends the usage of a regional travel demand model in order to better capture regional effects of home-based work travel to a commercial project on its VMT.

For more accurate VMT forecasting of the project, TJKM obtained the 2018 Regional Transportation Plan (RTP) model from the San Joaquin Council of Governments (SJCOG). In addition, the City of Stockton (Stockton GP) travel demand model was also obtained. For consistency purposes, TJKM updated the land use input file for the regional 2018 RTP model within the City of Stockton area in order to get an accurate base year run for VMT analysis purposes. **Table 1** shows the updated land use totals for the City of Stockton in the 2018 regional RTP model.

Table 1 – Updated Land Use Totals for the SJCOG RTP Model

Stockton GP Model	**Total Population**	**Total Employment**
Stockton City	305,944	110,067
Stockton Sphere of Influence	50,206	11,811
Stockton Total	356,151	121,878
SJCOG Model	**Total Population**	**Total Employment**
Stockton	356,151	121,878
Difference between GP and SJCOG	**0**	**0**

The updated land use file for the SJCOG model was used for a base year model run to extract VMT statistics such as citywide and regional average home-based work VMT per employee for screening purposes. In addition to a base year SJCOG RTP model run, 365 employees were added into the EMPMED (Medical Employees) category of the land use input file for a "with project" model run to accurately capture the project's effect on home-based work VMT.

The St Joseph Medical Center Expansion project is located in TAZ #2184 of the SJCOG Model. Currently, TAZ #2184 has 451 medical employees coded in. The project will add 365 medical employees for a total of 1,079 employees. **Table 2** shows the land use changes for the base year plus project SJCOG model run.

Table 2 – Land Use Changes for Base Year Plus Project

TAZ	**Medical Employees**	**Total Employees**
#2184	+365	816

A base year model run and a base year plus project model run was conducted with the land use changes added. The VMT results are summarized in **Table 3 and Table 4**.

Table 3 – Home Based VMT per Employee Comparison (San Joaquin County Regional Average)

TAZ	**Base Year Average Daily Home-Based VMT per Employee (per SJCOG Model)**	**Regional Average (per SJCOG Model)**	**15% Below Regional Average (per SJCOG Model)**	**Base Year Plus Project Average Daily Home-Based VMT per Employee (per Model run)**
#2184	6.23	13.65	11.61	6.11

Table 4 – Home Based VMT per Employee Comparison (Stockton City Average)

TAZ	Base Year Average Daily Home-Based VMT per Employee (per SJCOG Model)	Stockton City Average (per SJCOG Model)	15% Below City Average (per SJCOG Model)	Base Year Plus Project Average Daily Home-Based VMT per Employee (per Model run)
#2184	6.23	9.58	8.14	6.11

TJKM analyzed the project's VMT using two different metrics; region-wide average per OPR guidelines and city-wide average per Stockton TIA guidelines. The existing base year Home-Based VMT per employee for TAZ #2184 is **6.23**. Adding in the medical center expansion of 365 medical employees lowers the Home-Based VMT per employee to **6.11**. The regional average for San Joaquin County for Home-Based VMT per employee is 13.65, so the significance criteria (15% under the regional average) is 11.61. Likewise, the city average for Home-Based VMT per employee is 9.58, and the significance criteria is 8.14.

The project's Home-Based VMT per employee value of **6.11** is lower than the 85% VMT threshold for both the region (11.61) and the city (8.14). In addition, the project lowers the home-based VMT per employee in the TAZ that it is located in. Thus, the proposed St. Joseph Medical Center expansion is expected to have a **less-than-significant** impact on VMT.

TJKM will be happy to respond to questions or comments regarding this Technical Memorandum. Model data outputs are located in **Appendix A.**

APPENDIX A – SJCOG TRAVEL DEMAND MODEL VMT OUTPUTS

Stockton General Plan Base (2018)							
TAZ	Employment	HBW VMT	VMT/Job	Population	HBALL_VMT	VMT/Capita	VMT/Service Population
#2184	451	2,808	6.23	489	4,187	8.57	7.44
Stockton City	118,374	1,133,944	9.58	350,735	5,975,673	17.04	15.16
San Joaquin County	220,402	3,009,471	13.65	634,874	15,156,208	23.87	21.24
Stockton City Threshold			8.14				
San Joaquin County Threshold			11.61				

Stockton General Plan With Project Base (2018)							
TAZ	Employment	HBW VMT	VMT/Job	Population	HBALL_VMT	VMT/Capita	VMT/Service Population
#2184	816	4,985	6.11	489	4,237	8.67	7.07
Stockton City	118,739	1,146,775	9.66	350,735	5,683,382	16.20	14.55
San Joaquin County	220,767	3,040,336	13.77	634,874	14,992,850	23.62	21.08
Stockton City Threshold			8.21				
San Joaquin County Threshold			11.71				

Stockton Forecast Year No Project (2042)							
TAZ	Employment	HBW VMT	VMT/Job	Population	HBALL_VMT	VMT/Capita	VMT/Service Population
#2184	3,446	35,976	10.44	489	4,022	8.23	10.16
Stockton City	163,758	2,147,570	13.11	368,635	7,384,139	20.03	17.90
San Joaquin County	314,724	5,312,390	16.88	849,075	17,598,081	20.73	19.69
Stockton City Threshold			8.87				
San Joaquin County Threshold			14.35				

Stockton Forecast Year Cumulative (2042)							
TAZ	Employment	HBW VMT	VMT/Job	Population	HBALL_VMT	VMT/Capita	VMT/Service Population
#2184	3,811	40,030	10.50	489	3,958	8.10	10.23
Stockton City	164,123	2,140,616	13.04	368,635	7,320,823	19.86	17.76
San Joaquin County	315,089	5,300,207	16.82	849,075	17,462,068	20.57	19.55
Stockton City Threshold			8.83				
San Joaquin County Threshold			14.30				

Attachment B

Vehicular Queuing Data and SimTraffic Worksheets

Intersection: 2: California Street & Wyandotte Street

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	63	72	81	17	16	34	178
Average Queue (ft)	25	24	36	1	1	18	17
95th Queue (ft)	55	61	64	10	7	35	85
Link Distance (ft)	497	376			202		242
Upstream Blk Time (%)							0
Queuing Penalty (veh)							0
Storage Bay Dist (ft)			100	1		1	
Storage Blk Time (%)		1	0	0	0	5	0
Queuing Penalty (veh)		1	0	0	0	42	0

Intersection: 3: California Street & Hawthorne Street

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	L	TR
Maximum Queue (ft)	48	39	31	30	52
Average Queue (ft)	20	13	9	7	2
95th Queue (ft)	47	39	31	27	19
Link Distance (ft)	529	288			202
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			50	1	
Storage Blk Time (%)			0	1	0
Queuing Penalty (veh)			0	6	0

Intersection: 4: California Street & McCloud Avenue

Movement	EB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR
Maximum Queue (ft)	34	31	207	56	212
Average Queue (ft)	9	5	49	14	52
95th Queue (ft)	31	24	151	39	158
Link Distance (ft)	399		206		228
Upstream Blk Time (%)			0		0
Queuing Penalty (veh)			1		0
Storage Bay Dist (ft)		50		50	
Storage Blk Time (%)		0	4	0	5
Queuing Penalty (veh)		0	0	2	2

Intersection: 5: California Street & Chestnut Street

Movement	EB	NB	NB	SB
Directions Served	LTR	L	TR	TR
Maximum Queue (ft)	38	50	40	136
Average Queue (ft)	7	15	2	21
95th Queue (ft)	29	44	22	87
Link Distance (ft)	516		173	206
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)		50		
Storage Blk Time (%)		1	0	2
Queuing Penalty (veh)		5	0	0

Intersection: 71: Project Dwy & Cleveland Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	25	40
Average Queue (ft)	2	20
95th Queue (ft)	14	44
Link Distance (ft)	186	206
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 60

Intersection: 2: California Street & Wyandotte Street

Movement	EB	WB	WB	NB	SB	SB
Directions Served	LTR	LT	R	L	L	TR
Maximum Queue (ft)	53	69	82	29	24	9
Average Queue (ft)	20	28	40	5	5	0
95th Queue (ft)	47	58	64	23	21	7
Link Distance (ft)	497	376				242
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			100	1	1	
Storage Blk Time (%)			0	0	1	
Queuing Penalty (veh)			0	2	5	

Intersection: 3: California Street & Hawthorne Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	36	58	30	30
Average Queue (ft)	9	23	1	3
95th Queue (ft)	32	52	10	18
Link Distance (ft)	529	288		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			50	1
Storage Blk Time (%)			0	0
Queuing Penalty (veh)			0	1

Intersection: 4: California Street & McCloud Avenue

Movement	EB	NB	NB	SB	SB
Directions Served	LTR	L	TR	L	TR
Maximum Queue (ft)	74	12	202	52	171
Average Queue (ft)	27	0	68	10	56
95th Queue (ft)	54	6	167	36	134
Link Distance (ft)	399		206		228
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			2		
Storage Bay Dist (ft)		50		50	
Storage Blk Time (%)			6	0	5
Queuing Penalty (veh)			0	1	1

Intersection: 5: California Street & Chestnut Street

Movement	EB	NB	NB	SB
Directions Served	LTR	L	TR	TR
Maximum Queue (ft)	80	30	12	54
Average Queue (ft)	36	3	1	4
95th Queue (ft)	63	17	8	26
Link Distance (ft)	516		173	206
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		50		
Storage Blk Time (%)		0	0	0
Queuing Penalty (veh)		0	0	0

Intersection: 71: Project Dwy & Cleveland Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	6	62
Average Queue (ft)	0	32
95th Queue (ft)	4	55
Link Distance (ft)	186	206
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

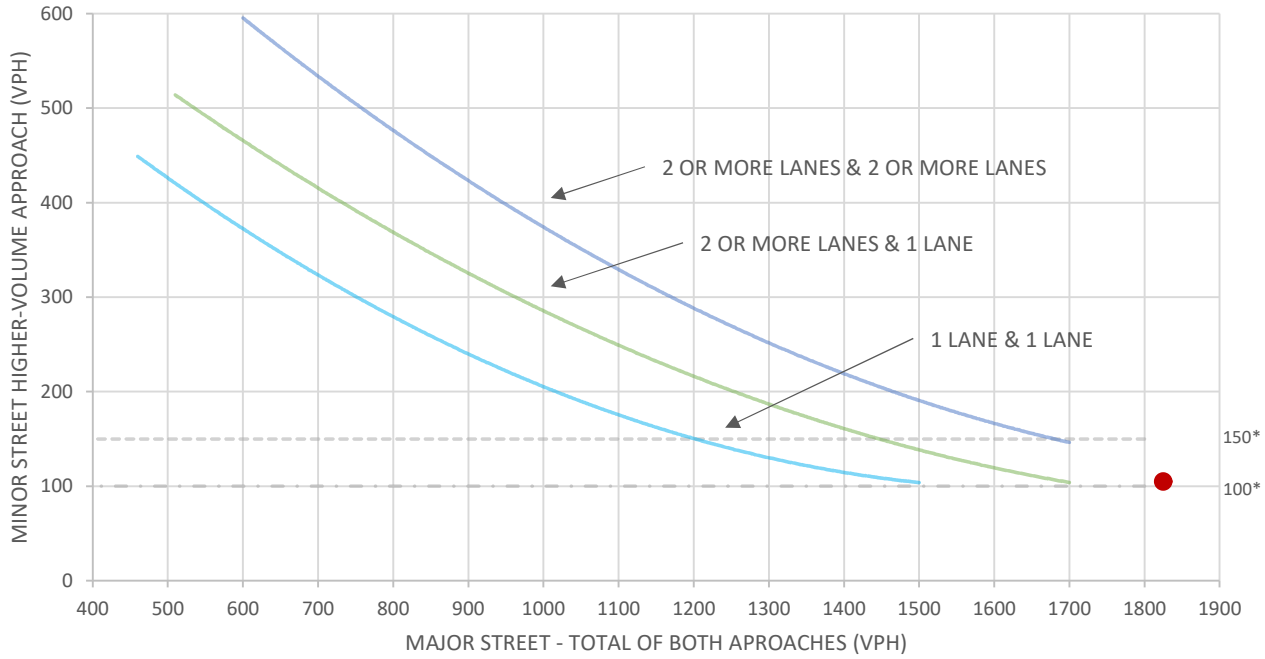
Zone wide Queuing Penalty: 12

Attachment C

Signal Warrant Worksheets

				N-S	E-W
Project	St. Joseph's Medical Center	**Intersection #**	11		
Scenario	Forecast 2042 + Project	**Major Street**	Harding Way	☐	☑
Peak Hour	PM	**Minor Street**	Cemetery Lane	☑	☐

Figure 4C-3. Warrant 3, Peak Hour



Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2014.

*Note: 150 vph applies as the lower threshold volumes for a minor-street approach with two or more lanes and a 100 vph applies as the lower threshold volumes for a minor-street approach with one lane.

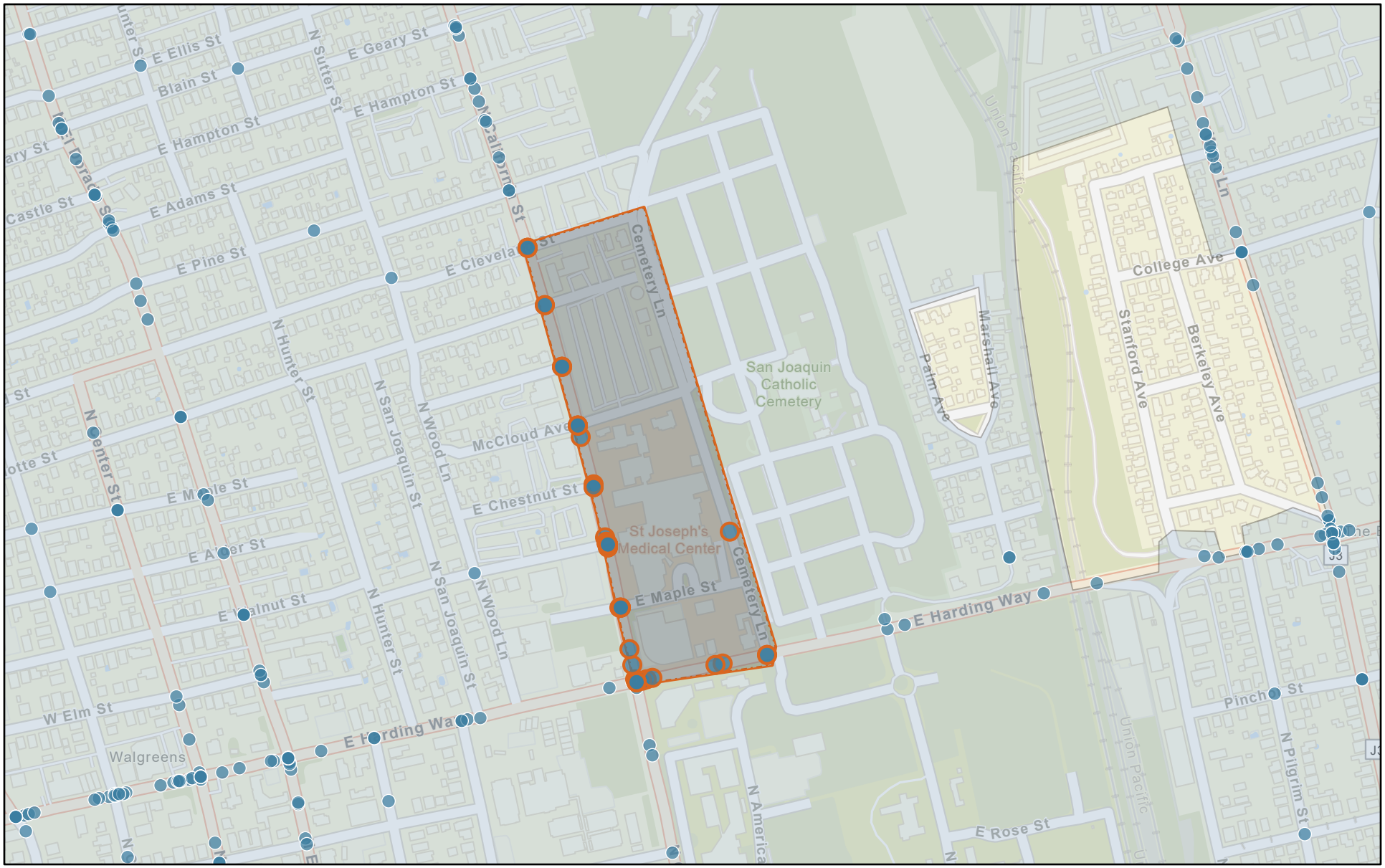
	Major Street	**Minor Street**	**Warrant Met?**
	Harding Way	Cemetery Lane	
Number of Approach Lanes	2	1	**Yes**
Traffic Volume (VPH)*	1,825	105	

*Note:
Traffic volume for the Major Street approach is the total volume of both approaches.
Traffic volume for the Minor Street is the highest volume approach.

Attachment D

Collision History Data

SWITRS GIS Map



8/12/2022

SWITRS

Crashes

Crashes (Selected)

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

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BerkeleySafeTREC

<a class="navbar-brand hidden-xs" href="/">Transportation

Crash Information

County	San Joaquin
City	Stockton
Date & Time (M/D/Y)	02/13/2017 18:08
Location (Intersection)	Harding Wy & Cemetery Ln
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	37.9687499, -121.2866499

Type of Crash	D - Broadside
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	09 - Automobile Right of Way
Weather	A - Clear
Alcohol Involved	No

Pedestrian Accident	No	**Bicycle Accident**	No
Motorcycle Accident	No	**Truck Accident**	No

Map View



Street View



Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	South	E - Making Left Turn
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	West	B - Proceeding Straight

Victims: 2

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	1 - Driver	F - Female	52	7 - Possible Injury
2	2 - Passenger	F - Female	52	0 - No Injury

BerkeleySafeTREC

<a class="navbar-brand hidden-xs" href="/">Transportation

Crash Information

County	San Joaquin
City	Stockton
Date & Time (M/D/Y)	05/17/2018 06:51
Location (Intersection)	Harding Wy & Cemetery Ln
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	37.96875, -121.2866516

Type of Crash	D - Broadside
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	09 - Automobile Right of Way
Weather	A - Clear
Alcohol Involved	No

Pedestrian Accident	No	**Bicycle Accident**	No
Motorcycle Accident	No	**Truck Accident**	No

Map View



Street View



Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	North	E - Making Left Turn
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	West	B - Proceeding Straight

Victims: 7

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	1 - Driver	M - Male	47	7 - Possible Injury
2	2 - Passenger	F - Female	5	7 - Possible Injury
2	2 - Passenger	M - Male	30	0 - No Injury

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	2 - Passenger	F - Female	1	0 - No Injury
2	2 - Passenger	M - Male	5	0 - No Injury
2	2 - Passenger	F - Female	2	7 - Possible Injury
2	2 - Passenger	F - Female	14	0 - No Injury

CASE_ID	ACCIDENT_YEAR	PROC_DATE	JURIS	COLLISION_DATE	COLLISION_TIME	DAY_OF_WEEK	PRIMARY_RD	SECONDARY_RD	DISTANCE	DIRECTION	INTERSECTION	TOW_AWAY	COLLISION_SEVERITY	NUMBER_KILLED
7208599	2016	3/25/2016	3905	2/15/2016	2150	1	CALIFORNIA ST	HARDING WY	9	N	N	Y	4	0
8010192	2016	4/11/2016	3905	3/14/2016	1431	1	HARDING WY	CALIFORNIA ST	0		Y	Y	3	0
8023777	2016	4/26/2016	3905	3/25/2016	1034	5	WALNUT ST	CALIFORNIA ST	0		Y	Y	4	0
8023813	2016	4/26/2016	3905	3/29/2016	1949	2	CALIFORNIA ST	WYANDOTTE ST	0		Y	Y	3	0
8023649	2016	4/25/2016	3905	4/16/2016	922	6	CALIFORNIA ST	MAPLE ST	0		Y	N	4	0
8028976	2016	5/25/2016	3905	5/10/2016	1407	2	CALIFORNIA ST	CHESTNUT ST	0		Y	N	4	0
8088048	2016	7/28/2016	3905	7/18/2016	1352	1	CLEVELAND ST	CALIFORNIA ST	0		Y	N	3	0
8154988	2016	10/31/2016	3905	10/5/2016	755	3	CALIFORNIA ST	MCCLOUD AV	0		Y	Y	4	0
8303261	2016	2/3/2017	3905	12/23/2016	813	5	CALIFORNIA ST	CHESTNUT ST	11	N	N	Y	4	0
7199959	2017	4/8/2019	3905	1/10/2017	603	2	CALIFORNIA ST	WALNUT ST	0		Y	N	1	1
8320720	2017	3/13/2017	3905	2/13/2017	1808	1	HARDING WY	CEMETERY LN	0		Y	Y	4	0
8353423	2017	4/28/2017	3905	3/10/2017	2245	5	CALIFORNIA ST	HAWTHORNE ST	0		Y	Y	3	0
8431051	2017	8/17/2017	3905	7/15/2017	811	6	CEMETERY LN	MAPLE ST	225	N	N	Y	4	0
8478276	2017	11/1/2017	3905	8/18/2017	1005	5	WALNUT ST	CALIFORNIA ST	0		Y	N	4	0
8477009	2017	11/7/2017	3905	9/13/2017	1527	3	CALIFORNIA ST	HARDING WY	0		Y	Y	4	0
8477772	2017	11/7/2017	3905	9/19/2017	1337	2	CALIFORNIA ST	MCCLOUD AV	0		Y	Y	3	0
8473170	2017	11/30/2017	3905	10/11/2017	1525	3	HARDING WY	CALIFORNIA ST	49	E	N	Y	3	0
8545338	2017	2/9/2018	3905	11/17/2017	620	5	CALIFORNIA ST	CHESTNUT ST	0		Y	N	4	0
8520438	2017	12/27/2017	3905	12/5/2017	1838	2	HARDING WY	CALIFORNIA ST	30	E	N	Y	4	0
8545464	2017	2/15/2018	3905	12/15/2017	1058	5	CALIFORNIA ST	WALNUT ST	0		Y	N	3	0
8545519	2018	2/9/2018	3905	1/3/2018	1415	3	CALIFORNIA ST	HARDING WY	75	N	N	Y	4	0
8546800	2018	2/13/2018	3905	1/6/2018	12	6	HARDING WY	CALIFORNIA ST	0		Y	Y	4	0
8550660	2018	2/10/2018	3905	1/24/2018	1741	3	WALNUT ST	CALIFORNIA ST	0		Y	N	4	0
8619009	2018	5/18/2018	3905	4/16/2018	834	1	CALIFORNIA ST	WALNUT ST	14	S	N	Y	4	0
8640050	2018	6/26/2018	3905	5/17/2018	651	4	HARDING WY	CEMETERY LN	0		Y	Y	4	0
8640018	2018	6/26/2018	3905	5/23/2018	1608	3	CALIFORNIA ST	WALNUT ST	10	N	N	N	4	0
8676061	2018	10/3/2018	3905	7/13/2018	1324	5	CALIFORNIA ST	WALNUT ST	8	N	N	N	4	0
8674999	2018	10/3/2018	3905	7/19/2018	1110	4	CALIFORNIA ST	MCCLOUD AV	0		Y	Y	3	0
8703576	2018	10/10/2018	3905	8/19/2018	1554	7	MAPLE ST	CALIFORNIA ST	0		Y	N	3	0
8769895	2018	1/11/2019	3905	11/16/2018	846	5	CALIFORNIA ST	WALNUT ST	0		Y	Y	3	0
8761093	2018	1/14/2019	3905	11/26/2018	1241	1	CALIFORNIA ST	MCCLOUD AV	55	S	N	Y	4	0
8648682	2018	3/6/2019	3905	12/20/2018	1930	4	CALIFORNIA ST	WALNUT ST	11	S	N	N	1	1
8761048	2018	1/30/2019	3905	12/30/2018	1726	7	CALIFORNIA ST	WALNUT ST	31	N	N	Y	4	0
8844099	2019	4/18/2019	3905	3/11/2019	735	1	HARDING WY	CALIFORNIA ST	0		Y	N	4	0
8866585	2019	5/28/2019	3905	4/8/2019	1730	1	CALIFORNIA ST	MAPLE ST	0		Y	N	4	0
8866515	2019	5/28/2019	3905	4/23/2019	732	2	HARDING WY	CALIFORNIA ST	75	E	N	N	4	0
8864911	2019	5/31/2019	3905	5/10/2019	1613	5	CALIFORNIA ST	HARDING WY	140	N	N	N	4	0
8939675	2019	3/13/2020	3905	7/4/2019	2055	4	CALIFORNIA ST	MAPLE ST	0		Y	N	1	1
8923255	2019	8/23/2019	3905	7/27/2019	759	6	CALIFORNIA ST	HAWTHORNE ST	0		Y	Y	4	0
8985908	2019	1/22/2020	3905	9/30/2019	1147	1	HARDING WY	CALIFORNIA ST	0		Y	N	4	0
8986351	2019	12/2/2019	3905	10/21/2019	24	1	CALIFORNIA ST	CLEVELAND ST	0		Y	Y	4	0
9029624	2019	2/12/2020	3905	12/18/2019	1125	3	CALIFORNIA ST	WALNUT ST	0		Y		4	0
9194974	2020	1/21/2021	3905	11/12/2020	1636	4	HARDING WY	CALIFORNIA ST	0		Y	N	4	0
9203653	2020	2/19/2021	3905	12/4/2020	1344	5	CALIFORNIA ST	WALNUT ST	0		Y	N	4	0
9266103	2021	6/3/2021	3905	3/22/2021	5	1	HARDING WY	CALIFORNIA ST	0		Y	Y	4	0
9266184	2021	6/8/2021	3905	4/5/2021	1311	1	CALIFORNIA ST	MCCLOUD AV	0		Y	Y	3	0
9266154	2021	6/10/2021	3905	4/17/2021	1101	6	CALIFORNIA ST	CLEVELAND ST	0		Y	Y	4	0
9266408	2021	6/9/2021	3905	5/2/2021	1528	7	HARDING WY	CEMETERY LN	195	W	N	Y	3	0
9344395	2021	10/9/2021	3905	8/24/2021	1520	2	HARDING WY	CALIFORNIA ST	350	E	N		4	0
81751790	2021	4/20/2022	3905	11/6/2021	1900	6	CALIFORNIA ST	WYANDOTTE ST	0		Y	N	1	1

NUMBER_INJURED	PARTY_COUNT	HIT_AND_RUN	TYPE_OF_COLLISION	MVIW	PED_ACTION	ROAD_SURFACE	ROAD_COND_1	ROAD_COND_2	LIGHTING	CONTROL_DEVICE	CHP_ROAD_TYPE	PEDESTRIAN_ACCIDENT
1	2	N	D	C	A	A	H	-	C	A	0	
1	2	N	D	C	A	A	H	-	A	A	0	
1	2	N	D	C	A	A	H	-	A	A	0	
1	2	N	D	C	A	A	H	-	C	A	0	
3	2	N	C	C	A	A	H	-	A	D	0	
1	2	N	H	G	A	A	H	-	A	A	0	
1	2	N	H	G	A	A	H	-	A	A	0	
2	2	N	D	C	A	A	H	-	A	A	0	
1	2	N	C	E	A	B	H	-	A	D	0	
0	2	N	G	B	B	B	H	-	C	A	0	Y
1	2	M	D	C	A	A	H	-	B	A	0	
2	2	F	D	C	A	A	H	-	C	D	0	
1	2	N	D	C	A	A	H	-	A	D	0	
2	3	F	C	C	A	A	H	-	A	A	0	
1	2	F	D	C	A	A	H	-	A	A	0	
2	2	N	D	C	A	A	H	-	A	A	0	
2	2	N	A	C	A	A	H	-	A	A	0	
1	2	F	G	B	B	A	H	-	A	A	0	Y
2	2	N	C	C	A	A	H	-	C	A	0	
1	2	M	G	B	E	A	H	-	A	A	0	Y
1	2	N	D	C	A	A	H	-	A	D	0	
1	2	N	C	C	A	B	H	-	C	A	0	
1	2	N	D	C	A	B	H	-	C	A	0	
1	1	N	E	I	A	A	H	-	A	D	0	
3	2	N	D	C	A	A	H	-	B	D	0	
1	2	N	D	B	B	A	H	-	A	A	0	Y
1	2	F	D	B	B	A	H	-	A	A	0	Y
3	2	N	D	C	A	A	H	-	A	A	0	
2	2	N	D	C	A	A	H	-	A	A	0	
3	2	N	D	C	A	A	H	-	A	A	0	
3	3	N	C	C	A	A	H	-	A	A	0	
0	2	F	G	B	B	A	H	-	C	A	0	Y
1	2	N	C	C	A	A	H	-	C	A	0	
1	2	F	C	C	A	A	H	-	A	A	0	
1	2	N	H	G	A	A	H	-	A	A	0	
1	3	N	C	C	A	A	H	-	A	A	0	
2	2	N	C	C	A	A	H	-	A	A	0	
0	2	F	G	B	D	A	H	-	C	D	0	Y
3	2	N	D	C	A	A	H	-	A	A	0	
2	2	N	D	C	A	A	H	-	A	B	0	
1	2	N	D	C	A	A	H	-	C	A	0	
1	2	N	D	C	A	B	H	-	A	A	0	
1	2	N	D	G	A	A	H	-	A	A	0	
1	2	N	D	C	A	A	H	-	A	A	0	
1	2	N	D	C	A	A	H	-	C	A	0	
3	2	N	D	C	A	A	H	-	A	A	0	
2	2	N	D	C	A	A	H	-	A	A	0	
3	2	N	B	C	A	A	H	-	A	D	0	
1	2	N	C	C	A	A	H	-	A	D	0	
0	3	F	G	B	D	A	H	-	C	A	0	Y

BICYCLE_ACCIDENT	MOTORCYCLE_ACCIDENT	NOT_PRIVATE_PROPERTY	ALCOHOL_INVOLVED	STWD_VEHTYPE_AT_FAULT	CHP_VEHTYPE_AT_FAULT	COUNT_SEVERE_INJ	COUNT_VISIBLE_INJ	COUNT_COMPLAINT_PAIN
		Y		D	22	0	0	1
		Y		-	-	0	1	0
		Y		A	7	0	0	1
	Y	Y		A	1	0	1	0
		Y		A	1	0	0	3
Y		Y		L	4	0	0	1
Y		Y		L	4	0	1	0
		Y		A	1	0	0	2
		Y		A	1	0	0	1
		Y		-	-	0	0	0
		Y		A	1	0	0	1
		Y		A	1	0	1	1
		Y		A	1	0	0	1
		Y		A	1	0	0	2
		Y		A	1	0	0	1
		Y		A	7	0	1	1
		Y	Y	A	1	0	1	1
		Y		A	7	0	0	1
		Y		A	1	0	0	2
		Y		D	22	0	1	0
		Y		D	22	0	0	1
		Y		D	22	0	0	1
		Y		A	1	0	0	1
		Y		A	1	0	0	1
		Y		A	1	0	0	3
		Y		A	8	0	0	1
		Y		A	1	0	0	1
		Y		A	1	0	1	2
		Y		A	7	0	1	1
		Y		A	1	0	1	2
		Y		A	7	0	0	3
		Y		A	7	0	0	0
		Y	Y	A	1	0	0	1
		Y		-	99	0	0	1
Y		Y		L	4	0	0	1
		Y		A	1	0	0	1
		Y		A	1	0	0	2
		Y		N	60	0	0	0
		Y		A	1	0	0	3
		Y		A	1	0	0	2
		Y		A	1	0	0	1
		Y		A	1	0	0	1
Y		Y		A	1	0	0	1
		Y		A	1	0	0	1
		Y		A	7	0	0	1
		Y		A	1	0	2	1
		Y		A	7	0	0	2
		Y		A	7	0	1	2
		Y		A	1	0	0	1
		Y		A	7	0	0	0

COUNT_PED_KILLED	COUNT_PED_INJURED	COUNT_BICYCLIST_KILLED	COUNT_BICYCLIST_INJURED	COUNT_MC_KILLED	COUNT_MC_INJURED	LATITUDE	LONGITUDE	COUNTY	CITY	POINT_X	POINT_Y
0	0	0	0	0	0	37.9684	-121.28842	SAN JOAQUIN	STOCKTON	-121.2886266	37.96845416
0	0	0	0	0	0	37.9684	-121.28842	SAN JOAQUIN	STOCKTON	-121.2886199	37.96842989
0	0	0	0	0	0	37.97004	-121.28885	SAN JOAQUIN	STOCKTON	-121.2890499	37.97004996
0	0	0	0	0	1	37.97287	-121.28972	SAN JOAQUIN	STOCKTON	-121.2899799	37.97286996
0	0	0	0	0	0	37.96932	-121.28866	SAN JOAQUIN	STOCKTON	-121.2888599	37.96930995
0	0	0	1	0	0	37.97075	-121.28904	SAN JOAQUIN	STOCKTON	-121.28925	37.97072998
0	0	0	1	0	0	37.97356	-121.28998	SAN JOAQUIN	STOCKTON	-121.29024	37.97354991
0	0	0	0	0	0	37.97144	-121.28925	SAN JOAQUIN	STOCKTON	-121.2894899	37.97145994
0	0	0	0	0	0	37.97075	-121.28904	SAN JOAQUIN	STOCKTON	-121.2892596	37.97075924
1	0	0	0	0	0	37.97004	-121.28885	SAN JOAQUIN	STOCKTON	-121.2890499	37.97004996
0	0	0	0	0	0	37.96873	-121.28643	SAN JOAQUIN	STOCKTON	-121.2866499	37.96874994
0	0	0	0	0	0	37.97218	-121.28949	SAN JOAQUIN	STOCKTON	-121.2897199	37.97213993
0	0	0	0	0	0	37.96959	-121.28677	SAN JOAQUIN	STOCKTON	-121.287219	37.97020826
0	0	0	0	0	0	37.97004	-121.28885	SAN JOAQUIN	STOCKTON	-121.2890499	37.97004996
0	0	0	0	0	0	37.9684	-121.28842	SAN JOAQUIN	STOCKTON	-121.2886199	37.96842989
0	0	0	0	0	0	37.97144	-121.28925	SAN JOAQUIN	STOCKTON	-121.2894899	37.97145994
0	0	0	0	0	0	37.9684	-121.28842	SAN JOAQUIN	STOCKTON	-121.2884535	37.96845705
0	1	0	0	0	0	37.97075	-121.28904	SAN JOAQUIN	STOCKTON	-121.28925	37.97072998
0	0	0	0	0	0	37.9684	-121.28842	SAN JOAQUIN	STOCKTON	-121.288518	37.96844656
0	1	0	0	0	0	37.97004	-121.28885	SAN JOAQUIN	STOCKTON	-121.2890499	37.97004996
0	0	0	0	0	0	37.96839905	-121.2884216	SAN JOAQUIN	STOCKTON	-121.2886734	37.96863174
0	0	0	0	0	0	37.96839905	-121.2884216	SAN JOAQUIN	STOCKTON	-121.28862	37.96842957
0	0	0	0	0	0	37.97003937	-121.2888489	SAN JOAQUIN	STOCKTON	-121.2890472	37.97005081
0	0	0	0	0	0	37.97003937	-121.2888489	SAN JOAQUIN	STOCKTON	-121.2890396	37.97001266
0	0	0	0	0	0	37.96873093	-121.2864304	SAN JOAQUIN	STOCKTON	-121.2866516	37.96875
0	1	0	0	0	0	37.97003937	-121.2888489	SAN JOAQUIN	STOCKTON	-121.2890549	37.97007751
0	1	0	0	0	0	37.97003937	-121.2888489	SAN JOAQUIN	STOCKTON	-121.2890549	37.97006989
0	0	0	0	0	0	37.97143936	-121.2892532	SAN JOAQUIN	STOCKTON	-121.2894897	37.97145844
0	0	0	0	0	0	37.96931839	-121.2886581	SAN JOAQUIN	STOCKTON	-121.2888565	37.96931076
0	0	0	0	0	0	37.97003937	-121.2888489	SAN JOAQUIN	STOCKTON	-121.2890472	37.97005081
0	0	0	0	0	0	37.97143936	-121.2892532	SAN JOAQUIN	STOCKTON	-121.289444	37.97131348
1	0	0	0	0	0	37.97003937	-121.2888489	SAN JOAQUIN	STOCKTON	-121.2890396	37.97002029
0	0	0	0	0	0	37.97003937	-121.2888489	SAN JOAQUIN	STOCKTON	-121.2890778	37.97013474
0	0	0	0	0	0	37.96839905	-121.2884216	SAN JOAQUIN	STOCKTON	-121.28862	37.96842957
0	0	0	1	0	0	37.96931839	-121.2886581	SAN JOAQUIN	STOCKTON	-121.2888565	37.96931076
0	0	0	0	0	0	37.96839905	-121.2884216	SAN JOAQUIN	STOCKTON	-121.2883682	37.96847153
0	0	0	0	0	0	37.96839905	-121.2884216	SAN JOAQUIN	STOCKTON	-121.2887192	37.96880722
1	0	0	0	0	0	37.96931839	-121.2886581	SAN JOAQUIN	STOCKTON	-121.2888565	37.96931076
0	0	0	0	0	0	37.97217941	-121.2894897	SAN JOAQUIN	STOCKTON	-121.2897186	37.97214127
0	0	0	0	0	0	37.96839905	-121.2884216	SAN JOAQUIN	STOCKTON	-121.28862	37.96842957
0	0	0	0	0	0	37.97356033	-121.289978	SAN JOAQUIN	STOCKTON	-121.2902374	37.97354889
0	0	0	0	0	0	37.97003937	-121.2888489	SAN JOAQUIN	STOCKTON	-121.2890472	37.97005081
0	0	0	1	0	0	37.96839905	-121.2884216	SAN JOAQUIN	STOCKTON	-121.28862	37.96842957
0	0	0	0	0	0	37.97003937	-121.2888489	SAN JOAQUIN	STOCKTON	-121.2890472	37.97005081
0	0	0	0	0	0	37.98839951	-121.2884216	SAN JOAQUIN	STOCKTON	-121.28862	37.96842957
0	0	0	0	0	0	37.97143936	-121.2892532	SAN JOAQUIN	STOCKTON	-121.2894897	37.97145844
0	0	0	0	0	0	37.97354889	-121.289978	SAN JOAQUIN	STOCKTON	-121.2902374	37.97354889
0	0	0	0	0	0	37.96873093	-121.2864227	SAN JOAQUIN	STOCKTON	-121.2873154	37.96864319
0	0	0	0	0	0	37.96839905	-121.2884216	SAN JOAQUIN	STOCKTON	-121.2874298	37.96862411
1	0	0	0	0	0	37.97286987	-121.2897186	SAN JOAQUIN	STOCKTON	-121.289978	37.97286987

Appendix J
Health Risk Assessment

SJMC

Construction HRA

Project Construction Emissions

Year	Unmitigated DPM tons/year	Mitigated DPM tons/year
2024	0.1517	0.0300
2025	0.1000	0.0150
2026	0.0500	0.0100
2027	0.0699	0.0100
2028	0.0500	0.0150
2029	0.0000	0.0050
2030	0.0100	0.0050
2040	0.0200	0.0100
2041	0.0200	0.0100
2042	0.0000	0.0050
Total	**0.472**	**0.080**
Total Lbs	**943.200**	**160.000**
Lbs/year	**120.135**	**20.379**
Lbs/hour	**0.06**	**0.0097**

	Start	Adjusted Start	End	Days
Phase 1	6/1/2024		3/24/2025	211
Phase 2	7/13/2024	3/25/2025	11/4/2025	161
Phase 3	10/19/2025	11/5/2025	12/12/2028	810
Phase 4	11/27/2028	12/13/2028	7/31/2030	426
Phase 5	5/7/2040		1/23/2042	449
			Total Days	**2057**

Conversions:

1 ton =	2,000	lb
Construction =	8	hours/day
	2096	hours/year
	262	days/year
	12	months

Project Construction: 2057 days
7.85 years

AERMOD Assumptions

Source Name	Description	No. of Vol. Sources	Emission Rate g/s	Release Height m	Plume Height m	Plume Width m
PAREA1	Construction	40	1.00	5.00	10.00	9.00

Receptor Grid

Name	Grid Size	Spacing
UCART1	1 km x 1 km	20 m

Meteorological Data

Station Name	Years	Lat	Long	Elev (m)
Stockton Metropolitan Airport	2013-2017	33.98	-117.62	198

Population

County	Population
San Joaquin County	779,233

Source: https://www.census.gov/quickfacts/sanjoaquincountycalifornia

Other Model Assumption

Terrain Data	DEM 1
Lakes Version	10.2.0
AERMOD Version	19191

Unmitigated

Receptor	*RecID - 565*
Cancer	*51.72*
Chronic	0.020

Mitgated

Receptor	*RecID - 565*
Cancer	*8.77*
Chronic	0.003

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**
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**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.2.0
** Lakes Environmental Software Inc.
** Date: 3/27/2023
** File: C:\Lakes\AERMOD View\SJMC_Con_HRA\SJMC_Op_HRA.ADI
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**
**
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** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\SJMC_Op_HRA\SJMC_Op_HRA.isc
   MODELOPT DFAULT CONC
   AVERTIME 1 24 PERIOD
   URBANOPT 779233 San_Joaquin_County_Population
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL SJMC_Op_HRA.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ---------------------------------------------------------------
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE3
** DESCRSRC Con_Area-1
** PREFIX CON1
** Length of Side = 9.00
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 10.00
** SZINIT = 4.65
** Nodes = 17
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** 650289.257, 4203959.871, 5.59, 5.00, 4.19
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** 650332.720, 4204079.533, 5.59, 5.00, 4.19
** 650345.702, 4204083.484, 5.59, 5.00, 4.19
** 650331.026, 4204144.444, 5.55, 5.00, 4.19
** 650345.137, 4204148.395, 5.56, 5.00, 4.19
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   LOCATION CON10447     VOLUME   650215.051 4204182.909 5.39
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   LOCATION CON10449     VOLUME   650219.797 4204165.546 5.41
   LOCATION CON10450     VOLUME   650222.170 4204156.864 5.42
   LOCATION CON10451     VOLUME   650224.543 4204148.183 5.44
   LOCATION CON10452     VOLUME   650226.916 4204139.501 5.45
   LOCATION CON10453     VOLUME   650229.289 4204130.820 5.46
   LOCATION CON10454     VOLUME   650231.662 4204122.138 5.47
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   LOCATION CON10457     VOLUME   650238.782 4204096.094 5.49
   LOCATION CON10458     VOLUME   650241.155 4204087.412 5.50
   LOCATION CON10459     VOLUME   650243.528 4204078.731 5.50
   LOCATION CON10460     VOLUME   650245.901 4204070.049 5.51
   LOCATION CON10461     VOLUME   650248.274 4204061.368 5.52
   LOCATION CON10462     VOLUME   650250.647 4204052.686 5.52
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LOCATION CON10487     VOLUME   650259.169 4204068.632 5.53
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LOCATION CON10498     VOLUME   650232.773 4204164.049 5.43
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LOCATION CON10533     VOLUME   650301.573 4203971.674 5.61
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LOCATION CON10577     VOLUME   650291.585 4204131.325 5.52
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LOCATION CON10582     VOLUME   650302.820 4204087.751 5.55
LOCATION CON10583     VOLUME   650305.067 4204079.036 5.56
LOCATION CON10584     VOLUME   650307.314 4204070.321 5.56
LOCATION CON10585     VOLUME   650309.562 4204061.606 5.57
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LOCATION CON10595     VOLUME   650332.033 4203974.456 5.65
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LOCATION CON10629     VOLUME   650297.561 4204225.940 5.43
LOCATION CON10630     VOLUME   650299.662 4204217.189 5.44
LOCATION CON10631     VOLUME   650301.764 4204208.438 5.46
LOCATION CON10632     VOLUME   650303.866 4204199.686 5.47
LOCATION CON10633     VOLUME   650305.967 4204190.935 5.48
LOCATION CON10634     VOLUME   650308.069 4204182.184 5.49
LOCATION CON10635     VOLUME   650310.170 4204173.433 5.50
LOCATION CON10636     VOLUME   650312.272 4204164.682 5.51
LOCATION CON10637     VOLUME   650314.373 4204155.930 5.52
LOCATION CON10638     VOLUME   650316.475 4204147.179 5.53
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   LOCATION CON10640     VOLUME   650320.678 4204129.677 5.54
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   LOCATION CON10642     VOLUME   650324.881 4204112.174 5.57
   LOCATION CON10643     VOLUME   650326.983 4204103.423 5.58
   LOCATION CON10644     VOLUME   650329.084 4204094.672 5.59
   LOCATION CON10645     VOLUME   650331.186 4204085.921 5.59
   LOCATION CON10646     VOLUME   650335.045 4204080.240 5.59
   LOCATION CON10647     VOLUME   650343.655 4204082.861 5.60
   LOCATION CON10648     VOLUME   650344.096 4204090.154 5.60
   LOCATION CON10649     VOLUME   650341.990 4204098.904 5.60
   LOCATION CON10650     VOLUME   650339.883 4204107.654 5.59
   LOCATION CON10651     VOLUME   650337.777 4204116.404 5.58
   LOCATION CON10652     VOLUME   650335.670 4204125.154 5.57
   LOCATION CON10653     VOLUME   650333.564 4204133.904 5.56
   LOCATION CON10654     VOLUME   650331.457 4204142.654 5.55
   LOCATION CON10655     VOLUME   650337.920 4204146.374 5.55
** End of LINE VOLUME Source ID = SLINE3
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE4
** DESCRSRC Con_Area-2
** PREFIX CON2
** Length of Side = 9.00
** Configuration = Adjacent
** Emission Rate = 1.0
** Vertical Dimension = 10.00
** SZINIT = 4.65
** Nodes = 5
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** 650290.218, 4204256.186, 5.39, 5.00, 4.19
** 650281.758, 4204286.488, 5.35, 5.00, 4.19
** 650292.679, 4204289.410, 5.35, 5.00, 4.19
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   LOCATION CON20658     VOLUME   650279.348 4204260.845 5.37
   LOCATION CON20659     VOLUME   650282.929 4204253.973 5.38
   LOCATION CON20660     VOLUME   650289.846 4204257.517 5.38
   LOCATION CON20661     VOLUME   650287.426 4204266.186 5.37
   LOCATION CON20662     VOLUME   650285.006 4204274.854 5.36
   LOCATION CON20663     VOLUME   650282.586 4204283.523 5.35
   LOCATION CON20664     VOLUME   650287.479 4204288.019 5.34
** End of LINE VOLUME Source ID = SLINE4
** Source Parameters **
** LINE VOLUME Source ID = SLINE3
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   SRCPARAM CON20658     0.1111111111      5.00      4.19
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   SRCPARAM CON20660     0.1111111111      5.00      4.19
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   SRCPARAM CON20661     0.1111111111      5.00      4.19
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   SRCPARAM CON20662     0.1111111111      5.00      4.19
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   SRCPARAM CON20664     0.1111111111      5.00      4.19
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** ----------------------------------------------------------------
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   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED SJMC_Op_HRA.rou
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
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\13355.02 - EIR - Dignity Health\DUDEK WORK PRODUCTS\DOCUMENTS
\Dudek Tech Reports\AQ\HRAs\Met Data\Stockton_2013-2017.SFC"
   PROFFILE "P:\300.Environmental\13355 St. Joseph's Hospital
\13355.02 - EIR - Dignity Health\DUDEK WORK PRODUCTS\DOCUMENTS
\Dudek Tech Reports\AQ\HRAs\Met Data\Stockton_2013-2017.PFL"
   SURFDATA 23237 2013
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   UAIRDATA 23230 2013 OAKLAND/WSO_AP
   PROFBASE 6.71 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
   RECTABLE 24 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST SJMC_Op_HRA.AD\01H1GALL.PLT 31
   PLOTFILE 24 ALL 1ST SJMC_Op_HRA.AD\24H1GALL.PLT 32
   PLOTFILE PERIOD ALL SJMC_Op_HRA.AD\PE00GALL.PLT 33
   SUMMFILE SJMC_Op_HRA.sum
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     553       MEOPEN: THRESH_1MIN 1-min ASOS wind speed
threshold used          0.50
 ME W187     553       MEOPEN: ADJ_U* Option for Stable Low Winds
used in AERMET

 **********************************
 *** SETUP Finishes Successfully ***
 **********************************
```

```
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD View
\SJMC_Op_HRA\SJMC_Op_HRA.isc                    ***
03/27/23
 *** AERMET - VERSION  18081 ***   ***
***        14:16:01

PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                              ***     MODEL SETUP
OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration
Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for   220
Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =    779233.0 ;  Urban Roughness Length =
1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
        ADJ_U*   - Use ADJ_U* option for SBL in AERMET
        CCVR_Sub - Meteorological data includes CCVR
substitutions
        TEMP_Sub - Meteorological data includes TEMP
substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates  2 Short Term Average(s) of:   1-HR  24-HR
    and Calculates PERIOD Averages

 **This Run Includes:    220 Source(s);       1 Source Group(s);
```

```
and     835 Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:    220 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total
of     0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  18081

 **Output Options Selected:
          Model Outputs Tables of PERIOD Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by
Receptor (RECTABLE Keyword)
          Model Outputs External File(s) of High Values for
Plotting (PLOTFILE Keyword)
          Model Outputs Separate Summary File of High Ranked
Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:
c for Calm Hours

m for Missing Hours

b for Both Calm and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =
6.71 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units =
GRAMS/SEC                                ;  Emission Rate Unit
Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.7 MB of
RAM.

 **Input Runstream File:          aermod.inp
 **Output Print File:             aermod.out

 **Detailed Error/Message File:   SJMC_Op_HRA.err
 **File for Summary of Results:   SJMC_Op_HRA.sum
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER EMISSION RATE PART. CATS.	INIT. (GRAMS/SEC)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	SY (METERS)	SZ (METERS)	BASE RELEASE INIT.
CON10445	0	0.47393E-02			650210.3	4204200.3	5.4	5.00	4.19	4.65	YES
CON10446	0	0.47393E-02			650212.7	4204191.6	5.4	5.00	4.19	4.65	YES
CON10447	0	0.47393E-02			650215.1	4204182.9	5.4	5.00	4.19	4.65	YES
CON10448	0	0.47393E-02			650217.4	4204174.2	5.4	5.00	4.19	4.65	YES
CON10449	0	0.47393E-02			650219.8	4204165.5	5.4	5.00	4.19	4.65	YES
CON10450	0	0.47393E-02			650222.2	4204156.9	5.4	5.00	4.19	4.65	YES
CON10451	0	0.47393E-02			650224.5	4204148.2	5.4	5.00	4.19	4.65	YES
CON10452	0	0.47393E-02			650226.9	4204139.5	5.5	5.00	4.19	4.65	YES
CON10453	0	0.47393E-02			650229.3	4204130.8	5.5	5.00	4.19	4.65	YES
CON10454	0	0.47393E-02			650231.7	4204122.1	5.5	5.00	4.19	4.65	YES
CON10455	0	0.47393E-02			650234.0	4204113.5	5.5	5.00	4.19	4.65	YES
CON10456	0	0.47393E-02			650236.4	4204104.8	5.5	5.00	4.19	4.65	YES
CON10457	0	0.47393E-02			650238.8	4204096.1	5.5	5.00	4.19	4.65	YES
CON10458	0	0.47393E-02			650241.2	4204087.4	5.5	5.00	4.19	4.65	YES
CON10459	0	0.47393E-02			650243.5	4204078.7	5.5	5.00	4.19	4.65	YES

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 CON10460          0   0.47393E-02  650245.9 4204070.0     5.5
5.00     4.19     4.65     YES
 CON10461          0   0.47393E-02  650248.3 4204061.4     5.5
5.00     4.19     4.65     YES
 CON10462          0   0.47393E-02  650250.6 4204052.7     5.5
5.00     4.19     4.65     YES
 CON10463          0   0.47393E-02  650253.0 4204044.0     5.5
5.00     4.19     4.65     YES
 CON10464          0   0.47393E-02  650255.4 4204035.3     5.5
5.00     4.19     4.65     YES
 CON10465          0   0.47393E-02  650257.8 4204026.6     5.5
5.00     4.19     4.65     YES
 CON10466          0   0.47393E-02  650260.1 4204018.0     5.5
5.00     4.19     4.65     YES
 CON10467          0   0.47393E-02  650262.5 4204009.3     5.6
5.00     4.19     4.65     YES
 CON10468          0   0.47393E-02  650264.9 4204000.6     5.6
5.00     4.19     4.65     YES
 CON10469          0   0.47393E-02  650267.3 4203991.9     5.6
5.00     4.19     4.65     YES
 CON10470          0   0.47393E-02  650269.6 4203983.2     5.6
5.00     4.19     4.65     YES
 CON10471          0   0.47393E-02  650272.0 4203974.6     5.6
5.00     4.19     4.65     YES
 CON10472          0   0.47393E-02  650274.4 4203965.9     5.6
5.00     4.19     4.65     YES
 CON10473          0   0.47393E-02  650276.8 4203957.2     5.6
5.00     4.19     4.65     YES
 CON10474          0   0.47393E-02  650285.2 4203958.9     5.6
5.00     4.19     4.65     YES
 CON10475          0   0.47393E-02  650288.0 4203964.5     5.6
5.00     4.19     4.65     YES
 CON10476          0   0.47393E-02  650285.6 4203973.2     5.6
5.00     4.19     4.65     YES
 CON10477          0   0.47393E-02  650283.2 4203981.9     5.6
5.00     4.19     4.65     YES
 CON10478          0   0.47393E-02  650280.8 4203990.6     5.6
5.00     4.19     4.65     YES
 CON10479          0   0.47393E-02  650278.4 4203999.2     5.6
5.00     4.19     4.65     YES
 CON10480          0   0.47393E-02  650276.0 4204007.9     5.6
5.00     4.19     4.65     YES
 CON10481          0   0.47393E-02  650273.6 4204016.6     5.6
5.00     4.19     4.65     YES
 CON10482          0   0.47393E-02  650271.2 4204025.3     5.5
5.00     4.19     4.65     YES
 CON10483          0   0.47393E-02  650268.8 4204033.9     5.5
5.00     4.19     4.65     YES
 CON10484          0   0.47393E-02  650266.4 4204042.6     5.5
5.00     4.19     4.65     YES
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER EMISSION RATE PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	SY (METERS)	SZ (METERS)	URBAN SOURCE	BASE SCALAR VARY BY
CON10485	0	0.47393E-02	650264.0	4204051.3	5.5	5.00	4.19	4.65	YES	
CON10486	0	0.47393E-02	650261.6	4204060.0	5.5	5.00	4.19	4.65	YES	
CON10487	0	0.47393E-02	650259.2	4204068.6	5.5	5.00	4.19	4.65	YES	
CON10488	0	0.47393E-02	650256.8	4204077.3	5.5	5.00	4.19	4.65	YES	
CON10489	0	0.47393E-02	650254.4	4204086.0	5.5	5.00	4.19	4.65	YES	
CON10490	0	0.47393E-02	650252.0	4204094.7	5.5	5.00	4.19	4.65	YES	
CON10491	0	0.47393E-02	650249.6	4204103.3	5.5	5.00	4.19	4.65	YES	
CON10492	0	0.47393E-02	650247.2	4204112.0	5.5	5.00	4.19	4.65	YES	
CON10493	0	0.47393E-02	650244.8	4204120.7	5.5	5.00	4.19	4.65	YES	
CON10494	0	0.47393E-02	650242.4	4204129.4	5.5	5.00	4.19	4.65	YES	
CON10495	0	0.47393E-02	650240.0	4204138.0	5.5	5.00	4.19	4.65	YES	
CON10496	0	0.47393E-02	650237.6	4204146.7	5.5	5.00	4.19	4.65	YES	
CON10497	0	0.47393E-02	650235.2	4204155.4	5.4	5.00	4.19	4.65	YES	
CON10498	0	0.47393E-02	650232.8	4204164.0	5.4	5.00	4.19	4.65	YES	
CON10499	0	0.47393E-02	650230.4	4204172.7	5.4	5.00	4.19	4.65	YES	

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 CON10500          0   0.47393E-02  650228.0 4204181.4     5.4
5.00     4.19     4.65     YES
 CON10501          0   0.47393E-02  650225.6 4204190.1     5.4
5.00     4.19     4.65     YES
 CON10502          0   0.47393E-02  650223.2 4204198.7     5.4
5.00     4.19     4.65     YES
 CON10503          0   0.47393E-02  650220.8 4204207.4     5.4
5.00     4.19     4.65     YES
 CON10504          0   0.47393E-02  650227.6 4204211.3     5.4
5.00     4.19     4.65     YES
 CON10505          0   0.47393E-02  650236.1 4204214.2     5.4
5.00     4.19     4.65     YES
 CON10506          0   0.47393E-02  650238.9 4204206.5     5.4
5.00     4.19     4.65     YES
 CON10507          0   0.47393E-02  650241.2 4204197.8     5.4
5.00     4.19     4.65     YES
 CON10508          0   0.47393E-02  650243.5 4204189.1     5.4
5.00     4.19     4.65     YES
 CON10509          0   0.47393E-02  650245.9 4204180.4     5.4
5.00     4.19     4.65     YES
 CON10510          0   0.47393E-02  650248.2 4204171.7     5.4
5.00     4.19     4.65     YES
 CON10511          0   0.47393E-02  650250.5 4204163.0     5.5
5.00     4.19     4.65     YES
 CON10512          0   0.47393E-02  650252.8 4204154.3     5.5
5.00     4.19     4.65     YES
 CON10513          0   0.47393E-02  650255.1 4204145.6     5.5
5.00     4.19     4.65     YES
 CON10514          0   0.47393E-02  650257.5 4204136.9     5.5
5.00     4.19     4.65     YES
 CON10515          0   0.47393E-02  650259.8 4204128.2     5.5
5.00     4.19     4.65     YES
 CON10516          0   0.47393E-02  650262.1 4204119.5     5.5
5.00     4.19     4.65     YES
 CON10517          0   0.47393E-02  650264.4 4204110.8     5.5
5.00     4.19     4.65     YES
 CON10518          0   0.47393E-02  650266.8 4204102.1     5.5
5.00     4.19     4.65     YES
 CON10519          0   0.47393E-02  650269.1 4204093.4     5.5
5.00     4.19     4.65     YES
 CON10520          0   0.47393E-02  650271.4 4204084.7     5.5
5.00     4.19     4.65     YES
 CON10521          0   0.47393E-02  650273.7 4204076.0     5.5
5.00     4.19     4.65     YES
 CON10522          0   0.47393E-02  650276.0 4204067.3     5.5
5.00     4.19     4.65     YES
 CON10523          0   0.47393E-02  650278.4 4204058.6     5.5
5.00     4.19     4.65     YES
 CON10524          0   0.47393E-02  650280.7 4204049.9     5.5
5.00     4.19     4.65     YES
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	INIT. X (METERS)	INIT. Y (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)
CON10525	0	0.47393E-02	650283.0	4204041.2	5.6		5.00	4.19	4.65	YES
CON10526	0	0.47393E-02	650285.3	4204032.5	5.6		5.00	4.19	4.65	YES
CON10527	0	0.47393E-02	650287.6	4204023.8	5.6		5.00	4.19	4.65	YES
CON10528	0	0.47393E-02	650290.0	4204015.2	5.6		5.00	4.19	4.65	YES
CON10529	0	0.47393E-02	650292.3	4204006.5	5.6		5.00	4.19	4.65	YES
CON10530	0	0.47393E-02	650294.6	4203997.8	5.6		5.00	4.19	4.65	YES
CON10531	0	0.47393E-02	650296.9	4203989.1	5.6		5.00	4.19	4.65	YES
CON10532	0	0.47393E-02	650299.3	4203980.4	5.6		5.00	4.19	4.65	YES
CON10533	0	0.47393E-02	650301.6	4203971.7	5.6		5.00	4.19	4.65	YES
CON10534	0	0.47393E-02	650305.4	4203965.4	5.6		5.00	4.19	4.65	YES
CON10535	0	0.47393E-02	650314.1	4203967.5	5.6		5.00	4.19	4.65	YES
CON10536	0	0.47393E-02	650316.1	4203973.7	5.6		5.00	4.19	4.65	YES
CON10537	0	0.47393E-02	650313.8	4203982.4	5.6		5.00	4.19	4.65	YES
CON10538	0	0.47393E-02	650311.5	4203991.1	5.6		5.00	4.19	4.65	YES
CON10539	0	0.47393E-02	650309.2	4203999.8	5.6		5.00	4.19	4.65	YES

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 CON10540          0   0.47393E-02  650306.9 4204008.5     5.6
5.00     4.19     4.65     YES
 CON10541          0   0.47393E-02  650304.7 4204017.2     5.6
5.00     4.19     4.65     YES
 CON10542          0   0.47393E-02  650302.4 4204025.9     5.6
5.00     4.19     4.65     YES
 CON10543          0   0.47393E-02  650300.1 4204034.6     5.6
5.00     4.19     4.65     YES
 CON10544          0   0.47393E-02  650297.8 4204043.3     5.6
5.00     4.19     4.65     YES
 CON10545          0   0.47393E-02  650295.5 4204052.0     5.6
5.00     4.19     4.65     YES
 CON10546          0   0.47393E-02  650293.2 4204060.7     5.6
5.00     4.19     4.65     YES
 CON10547          0   0.47393E-02  650291.0 4204069.4     5.5
5.00     4.19     4.65     YES
 CON10548          0   0.47393E-02  650288.7 4204078.1     5.5
5.00     4.19     4.65     YES
 CON10549          0   0.47393E-02  650286.4 4204086.9     5.5
5.00     4.19     4.65     YES
 CON10550          0   0.47393E-02  650284.1 4204095.6     5.5
5.00     4.19     4.65     YES
 CON10551          0   0.47393E-02  650281.8 4204104.3     5.5
5.00     4.19     4.65     YES
 CON10552          0   0.47393E-02  650279.5 4204113.0     5.5
5.00     4.19     4.65     YES
 CON10553          0   0.47393E-02  650277.3 4204121.7     5.5
5.00     4.19     4.65     YES
 CON10554          0   0.47393E-02  650275.0 4204130.4     5.5
5.00     4.19     4.65     YES
 CON10555          0   0.47393E-02  650272.7 4204139.1     5.5
5.00     4.19     4.65     YES
 CON10556          0   0.47393E-02  650270.4 4204147.8     5.5
5.00     4.19     4.65     YES
 CON10557          0   0.47393E-02  650268.1 4204156.5     5.5
5.00     4.19     4.65     YES
 CON10558          0   0.47393E-02  650265.8 4204165.2     5.5
5.00     4.19     4.65     YES
 CON10559          0   0.47393E-02  650263.6 4204173.9     5.5
5.00     4.19     4.65     YES
 CON10560          0   0.47393E-02  650261.3 4204182.6     5.4
5.00     4.19     4.65     YES
 CON10561          0   0.47393E-02  650259.0 4204191.3     5.4
5.00     4.19     4.65     YES
 CON10562          0   0.47393E-02  650256.7 4204200.0     5.4
5.00     4.19     4.65     YES
 CON10563          0   0.47393E-02  650254.4 4204208.7     5.4
5.00     4.19     4.65     YES
 CON10564          0   0.47393E-02  650252.1 4204217.4     5.4
5.00     4.19     4.65     YES
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	SY (METERS)	SZ (METERS)	RELEASE INIT. SOURCE SCALAR VARY BY	BASE ELEV. INIT. URBAN EMISSION RATE
CON10565	0	0.47393E-02	650257.3	4204222.2	5.4	5.00	4.19	4.65	YES	
CON10566	0	0.47393E-02	650265.8	4204225.2	5.4	5.00	4.19	4.65	YES	
CON10567	0	0.47393E-02	650269.1	4204218.5	5.4	5.00	4.19	4.65	YES	
CON10568	0	0.47393E-02	650271.4	4204209.8	5.4	5.00	4.19	4.65	YES	
CON10569	0	0.47393E-02	650273.6	4204201.0	5.4	5.00	4.19	4.65	YES	
CON10570	0	0.47393E-02	650275.9	4204192.3	5.5	5.00	4.19	4.65	YES	
CON10571	0	0.47393E-02	650278.1	4204183.6	5.5	5.00	4.19	4.65	YES	
CON10572	0	0.47393E-02	650280.3	4204174.9	5.5	5.00	4.19	4.65	YES	
CON10573	0	0.47393E-02	650282.6	4204166.2	5.5	5.00	4.19	4.65	YES	
CON10574	0	0.47393E-02	650284.8	4204157.5	5.5	5.00	4.19	4.65	YES	
CON10575	0	0.47393E-02	650287.1	4204148.8	5.5	5.00	4.19	4.65	YES	
CON10576	0	0.47393E-02	650289.3	4204140.0	5.5	5.00	4.19	4.65	YES	
CON10577	0	0.47393E-02	650291.6	4204131.3	5.5	5.00	4.19	4.65	YES	
CON10578	0	0.47393E-02	650293.8	4204122.6	5.5	5.00	4.19	4.65	YES	
CON10579	0	0.47393E-02	650296.1	4204113.9	5.5	5.00	4.19	4.65	YES	

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 CON10580          0   0.47393E-02  650298.3 4204105.2     5.5
5.00     4.19     4.65     YES
 CON10581          0   0.47393E-02  650300.6 4204096.5     5.5
5.00     4.19     4.65     YES
 CON10582          0   0.47393E-02  650302.8 4204087.8     5.5
5.00     4.19     4.65     YES
 CON10583          0   0.47393E-02  650305.1 4204079.0     5.6
5.00     4.19     4.65     YES
 CON10584          0   0.47393E-02  650307.3 4204070.3     5.6
5.00     4.19     4.65     YES
 CON10585          0   0.47393E-02  650309.6 4204061.6     5.6
5.00     4.19     4.65     YES
 CON10586          0   0.47393E-02  650311.8 4204052.9     5.6
5.00     4.19     4.65     YES
 CON10587          0   0.47393E-02  650314.1 4204044.2     5.6
5.00     4.19     4.65     YES
 CON10588          0   0.47393E-02  650316.3 4204035.5     5.6
5.00     4.19     4.65     YES
 CON10589          0   0.47393E-02  650318.6 4204026.7     5.6
5.00     4.19     4.65     YES
 CON10590          0   0.47393E-02  650320.8 4204018.0     5.6
5.00     4.19     4.65     YES
 CON10591          0   0.47393E-02  650323.0 4204009.3     5.6
5.00     4.19     4.65     YES
 CON10592          0   0.47393E-02  650325.3 4204000.6     5.6
5.00     4.19     4.65     YES
 CON10593          0   0.47393E-02  650327.5 4203991.9     5.6
5.00     4.19     4.65     YES
 CON10594          0   0.47393E-02  650329.8 4203983.2     5.6
5.00     4.19     4.65     YES
 CON10595          0   0.47393E-02  650332.0 4203974.5     5.6
5.00     4.19     4.65     YES
 CON10596          0   0.47393E-02  650340.5 4203975.7     5.7
5.00     4.19     4.65     YES
 CON10597          0   0.47393E-02  650348.3 4203978.1     5.7
5.00     4.19     4.65     YES
 CON10598          0   0.47393E-02  650346.0 4203986.8     5.6
5.00     4.19     4.65     YES
 CON10599          0   0.47393E-02  650343.7 4203995.5     5.6
5.00     4.19     4.65     YES
 CON10600          0   0.47393E-02  650341.4 4204004.2     5.6
5.00     4.19     4.65     YES
 CON10601          0   0.47393E-02  650339.1 4204012.9     5.6
5.00     4.19     4.65     YES
 CON10602          0   0.47393E-02  650336.8 4204021.6     5.6
5.00     4.19     4.65     YES
 CON10603          0   0.47393E-02  650334.5 4204030.3     5.6
5.00     4.19     4.65     YES
 CON10604          0   0.47393E-02  650332.2 4204039.0     5.6
5.00     4.19     4.65     YES
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	SY (METERS)	BASE RELEASE INIT. (METERS)
CON10605	0	0.47393E-02	650329.9	4204047.7	5.6	5.00	4.19	4.65	YES		
CON10606	0	0.47393E-02	650327.6	4204056.4	5.6	5.00	4.19	4.65	YES		
CON10607	0	0.47393E-02	650325.3	4204065.1	5.6	5.00	4.19	4.65	YES		
CON10608	0	0.47393E-02	650323.0	4204073.8	5.6	5.00	4.19	4.65	YES		
CON10609	0	0.47393E-02	650320.7	4204082.5	5.6	5.00	4.19	4.65	YES		
CON10610	0	0.47393E-02	650318.4	4204091.2	5.6	5.00	4.19	4.65	YES		
CON10611	0	0.47393E-02	650316.1	4204099.9	5.6	5.00	4.19	4.65	YES		
CON10612	0	0.47393E-02	650313.8	4204108.6	5.6	5.00	4.19	4.65	YES		
CON10613	0	0.47393E-02	650311.5	4204117.4	5.5	5.00	4.19	4.65	YES		
CON10614	0	0.47393E-02	650309.2	4204126.1	5.5	5.00	4.19	4.65	YES		
CON10615	0	0.47393E-02	650306.9	4204134.8	5.5	5.00	4.19	4.65	YES		
CON10616	0	0.47393E-02	650304.6	4204143.5	5.5	5.00	4.19	4.65	YES		
CON10617	0	0.47393E-02	650302.3	4204152.2	5.5	5.00	4.19	4.65	YES		
CON10618	0	0.47393E-02	650300.0	4204160.9	5.5	5.00	4.19	4.65	YES		
CON10619	0	0.47393E-02	650297.7	4204169.6	5.5	5.00	4.19	4.65	YES		

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 CON10620          0   0.47393E-02  650295.4 4204178.3     5.5
5.00     4.19     4.65     YES
 CON10621          0   0.47393E-02  650293.1 4204187.0     5.5
5.00     4.19     4.65     YES
 CON10622          0   0.47393E-02  650290.8 4204195.7     5.5
5.00     4.19     4.65     YES
 CON10623          0   0.47393E-02  650288.5 4204204.4     5.5
5.00     4.19     4.65     YES
 CON10624          0   0.47393E-02  650286.2 4204213.1     5.4
5.00     4.19     4.65     YES
 CON10625          0   0.47393E-02  650283.9 4204221.8     5.4
5.00     4.19     4.65     YES
 CON10626          0   0.47393E-02  650281.6 4204230.5     5.4
5.00     4.19     4.65     YES
 CON10627          0   0.47393E-02  650288.8 4204234.5     5.4
5.00     4.19     4.65     YES
 CON10628          0   0.47393E-02  650295.5 4204234.7     5.4
5.00     4.19     4.65     YES
 CON10629          0   0.47393E-02  650297.6 4204225.9     5.4
5.00     4.19     4.65     YES
 CON10630          0   0.47393E-02  650299.7 4204217.2     5.4
5.00     4.19     4.65     YES
 CON10631          0   0.47393E-02  650301.8 4204208.4     5.5
5.00     4.19     4.65     YES
 CON10632          0   0.47393E-02  650303.9 4204199.7     5.5
5.00     4.19     4.65     YES
 CON10633          0   0.47393E-02  650306.0 4204190.9     5.5
5.00     4.19     4.65     YES
 CON10634          0   0.47393E-02  650308.1 4204182.2     5.5
5.00     4.19     4.65     YES
 CON10635          0   0.47393E-02  650310.2 4204173.4     5.5
5.00     4.19     4.65     YES
 CON10636          0   0.47393E-02  650312.3 4204164.7     5.5
5.00     4.19     4.65     YES
 CON10637          0   0.47393E-02  650314.4 4204155.9     5.5
5.00     4.19     4.65     YES
 CON10638          0   0.47393E-02  650316.5 4204147.2     5.5
5.00     4.19     4.65     YES
 CON10639          0   0.47393E-02  650318.6 4204138.4     5.5
5.00     4.19     4.65     YES
 CON10640          0   0.47393E-02  650320.7 4204129.7     5.5
5.00     4.19     4.65     YES
 CON10641          0   0.47393E-02  650322.8 4204120.9     5.6
5.00     4.19     4.65     YES
 CON10642          0   0.47393E-02  650324.9 4204112.2     5.6
5.00     4.19     4.65     YES
 CON10643          0   0.47393E-02  650327.0 4204103.4     5.6
5.00     4.19     4.65     YES
 CON10644          0   0.47393E-02  650329.1 4204094.7     5.6
5.00     4.19     4.65     YES
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
CON10645	0	0.47393E-02	650331.2	4204085.9	5.6	5.00	4.19	4.65	YES	
CON10646	0	0.47393E-02	650335.0	4204080.2	5.6	5.00	4.19	4.65	YES	
CON10647	0	0.47393E-02	650343.7	4204082.9	5.6	5.00	4.19	4.65	YES	
CON10648	0	0.47393E-02	650344.1	4204090.2	5.6	5.00	4.19	4.65	YES	
CON10649	0	0.47393E-02	650342.0	4204098.9	5.6	5.00	4.19	4.65	YES	
CON10650	0	0.47393E-02	650339.9	4204107.7	5.6	5.00	4.19	4.65	YES	
CON10651	0	0.47393E-02	650337.8	4204116.4	5.6	5.00	4.19	4.65	YES	
CON10652	0	0.47393E-02	650335.7	4204125.2	5.6	5.00	4.19	4.65	YES	
CON10653	0	0.47393E-02	650333.6	4204133.9	5.6	5.00	4.19	4.65	YES	
CON10654	0	0.47393E-02	650331.5	4204142.7	5.5	5.00	4.19	4.65	YES	
CON10655	0	0.47393E-02	650337.9	4204146.4	5.5	5.00	4.19	4.65	YES	
CON20656	0	0.11111E+00	650274.0	4204278.0	5.3	5.00	4.19	4.65	YES	
CON20657	0	0.11111E+00	650276.7	4204269.4	5.4	5.00	4.19	4.65	YES	
CON20658	0	0.11111E+00	650279.3	4204260.8	5.4	5.00	4.19	4.65	YES	
CON20659	0	0.11111E+00	650282.9	4204254.0	5.4	5.00	4.19	4.65	YES	

```
 CON20660         0   0.11111E+00  650289.8 4204257.5     5.4
5.00     4.19     4.65     YES
 CON20661         0   0.11111E+00  650287.4 4204266.2     5.4
5.00     4.19     4.65     YES
 CON20662         0   0.11111E+00  650285.0 4204274.9     5.4
5.00     4.19     4.65     YES
 CON20663         0   0.11111E+00  650282.6 4204283.5     5.3
5.00     4.19     4.65     YES
 CON20664         0   0.11111E+00  650287.5 4204288.0     5.3
5.00     4.19     4.65     YES
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	CON10445 , CON10446 , CON10447 , CON10448 , CON10449 , CON10450 , CON10451 , CON10452 ,
	CON10453 , CON10454 , CON10455 , CON10456 , CON10457 , CON10458 , CON10459 , CON10460 ,
	CON10461 , CON10462 , CON10463 , CON10464 , CON10465 , CON10466 , CON10467 , CON10468 ,
	CON10469 , CON10470 , CON10471 , CON10472 , CON10473 , CON10474 , CON10475 , CON10476 ,
	CON10477 , CON10478 , CON10479 , CON10480 , CON10481 , CON10482 , CON10483 , CON10484 ,
	CON10485 , CON10486 , CON10487 , CON10488 , CON10489 , CON10490 , CON10491 , CON10492 ,
	CON10493 , CON10494 , CON10495 , CON10496 , CON10497 , CON10498 , CON10499 , CON10500 ,
	CON10501 , CON10502 , CON10503 , CON10504 , CON10505 , CON10506 , CON10507 , CON10508 ,
	CON10509 , CON10510 , CON10511 ,

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CON10516    ,

             CON10517    , CON10518    , CON10519    ,
CON10520    , CON10521    , CON10522    , CON10523    ,
CON10524    ,

             CON10525    , CON10526    , CON10527    ,
CON10528    , CON10529    , CON10530    , CON10531    ,
CON10532    ,

             CON10533    , CON10534    , CON10535    ,
CON10536    , CON10537    , CON10538    , CON10539    ,
CON10540    ,

             CON10541    , CON10542    , CON10543    ,
CON10544    , CON10545    , CON10546    , CON10547    ,
CON10548    ,

             CON10549    , CON10550    , CON10551    ,
CON10552    , CON10553    , CON10554    , CON10555    ,
CON10556    ,

             CON10557    , CON10558    , CON10559    ,
CON10560    , CON10561    , CON10562    , CON10563    ,
CON10564    ,

             CON10565    , CON10566    , CON10567    ,
CON10568    , CON10569    , CON10570    , CON10571    ,
CON10572    ,

             CON10573    , CON10574    , CON10575    ,
CON10576    , CON10577    , CON10578    , CON10579    ,
CON10580    ,

             CON10581    , CON10582    , CON10583    ,
CON10584    , CON10585    , CON10586    , CON10587    ,
CON10588    ,

             CON10589    , CON10590    , CON10591    ,
CON10592    , CON10593    , CON10594    , CON10595    ,
CON10596    ,

             CON10597    , CON10598    , CON10599    ,
CON10600    , CON10601    , CON10602    , CON10603    ,
CON10604    ,
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
CON10605 , CON10606 , CON10607 , CON10608 , CON10609 , CON10610 , CON10611 , CON10612 ,	
CON10613 , CON10614 , CON10615 , CON10616 , CON10617 , CON10618 , CON10619 , CON10620 ,	
CON10621 , CON10622 , CON10623 , CON10624 , CON10625 , CON10626 , CON10627 , CON10628 ,	
CON10629 , CON10630 , CON10631 , CON10632 , CON10633 , CON10634 , CON10635 , CON10636 ,	
CON10637 , CON10638 , CON10639 , CON10640 , CON10641 , CON10642 , CON10643 , CON10644 ,	
CON10645 , CON10646 , CON10647 , CON10648 , CON10649 , CON10650 , CON10651 , CON10652 ,	
CON10653 , CON10654 , CON10655 , CON20656 , CON20657 , CON20658 , CON20659 , CON20660 ,	
CON20661 , CON20662 , CON20663 , CON20664 ,	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
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		CON10453 , CON10454 , CON10455 , CON10456 , CON10457 , CON10458 , CON10459 , CON10460 ,
		CON10461 , CON10462 , CON10463 , CON10464 , CON10465 , CON10466 , CON10467 , CON10468 ,
		CON10469 , CON10470 , CON10471 , CON10472 , CON10473 , CON10474 , CON10475 , CON10476 ,
		CON10477 , CON10478 , CON10479 , CON10480 , CON10481 , CON10482 , CON10483 , CON10484 ,
		CON10485 , CON10486 , CON10487 , CON10488 , CON10489 , CON10490 , CON10491 , CON10492 ,
		CON10493 , CON10494 , CON10495 , CON10496 , CON10497 , CON10498 , CON10499 , CON10500 ,
		CON10501 , CON10502 , CON10503 , CON10504 , CON10505 , CON10506 , CON10507 , CON10508 ,

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CON10512    , CON10513    , CON10514    , CON10515    ,
CON10516    ,

             CON10517    , CON10518    , CON10519    ,
CON10520    , CON10521    , CON10522    , CON10523    ,
CON10524    ,

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CON10528    , CON10529    , CON10530    , CON10531    ,
CON10532    ,

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CON10536    , CON10537    , CON10538    , CON10539    ,
CON10540    ,

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CON10544    , CON10545    , CON10546    , CON10547    ,
CON10548    ,

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CON10552    , CON10553    , CON10554    , CON10555    ,
CON10556    ,

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CON10560    , CON10561    , CON10562    , CON10563    ,
CON10564    ,

             CON10565    , CON10566    , CON10567    ,
CON10568    , CON10569    , CON10570    , CON10571    ,
CON10572    ,

             CON10573    , CON10574    , CON10575    ,
CON10576    , CON10577    , CON10578    , CON10579    ,
CON10580    ,

             CON10581    , CON10582    , CON10583    ,
CON10584    , CON10585    , CON10586    , CON10587    ,
CON10588    ,

             CON10589    , CON10590    , CON10591    ,
CON10592    , CON10593    , CON10594    , CON10595    ,
CON10596    ,

             CON10597    , CON10598    , CON10599    ,
CON10600    , CON10601    , CON10602    , CON10603    ,
CON10604    ,
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
		CON10605 , CON10606 , CON10607 , CON10608 , CON10609 , CON10610 , CON10611 , CON10612 ,
		CON10613 , CON10614 , CON10615 , CON10616 , CON10617 , CON10618 , CON10619 , CON10620 ,
		CON10621 , CON10622 , CON10623 , CON10624 , CON10625 , CON10626 , CON10627 , CON10628 ,
		CON10629 , CON10630 , CON10631 , CON10632 , CON10633 , CON10634 , CON10635 , CON10636 ,
		CON10637 , CON10638 , CON10639 , CON10640 , CON10641 , CON10642 , CON10643 , CON10644 ,
		CON10645 , CON10646 , CON10647 , CON10648 , CON10649 , CON10650 , CON10651 , CON10652 ,
		CON10653 , CON10654 , CON10655 , CON20656 , CON20657 , CON20658 , CON20659 , CON20660 ,
		CON20661 , CON20662 , CON20663 , CON20664 ,

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

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( 650223.9, 4203578.2,       5.4,       5.4,       0.0);
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     ( 650223.9, 4203598.2,       5.4,       5.4,       0.0);
( 650243.9, 4203598.2,       5.4,       5.4,       0.0);
     ( 650263.9, 4203598.2,       5.6,       5.6,       0.0);
( 650283.9, 4203598.2,       5.8,       5.8,       0.0);
     ( 650303.9, 4203598.2,       6.0,       6.0,       0.0);
( 650323.9, 4203598.2,       6.2,       6.2,       0.0);
```

```
     ( 650523.9, 4203598.2,       6.7,       6.7,       0.0);
( 650543.9, 4203598.2,       6.7,       6.7,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 650563.9, 4203598.2,       6.7,       6.7,       0.0);
( 650583.9, 4203598.2,       6.7,       6.7,       0.0);
     ( 650123.9, 4203618.2,       5.2,       5.2,       0.0);
( 650143.9, 4203618.2,       5.2,       5.2,       0.0);
     ( 650163.9, 4203618.2,       5.2,       5.2,       0.0);
( 650183.9, 4203618.2,       5.2,       5.2,       0.0);
     ( 650203.9, 4203618.2,       5.3,       5.3,       0.0);
( 650223.9, 4203618.2,       5.3,       5.3,       0.0);
     ( 650243.9, 4203618.2,       5.4,       5.4,       0.0);
( 650263.9, 4203618.2,       5.5,       5.5,       0.0);
     ( 650283.9, 4203618.2,       5.7,       5.7,       0.0);
( 650303.9, 4203618.2,       5.9,       5.9,       0.0);
     ( 650323.9, 4203618.2,       6.2,       6.2,       0.0);
( 650523.9, 4203618.2,       6.7,       6.7,       0.0);
     ( 650543.9, 4203618.2,       6.7,       6.7,       0.0);
( 650563.9, 4203618.2,       6.7,       6.7,       0.0);
     ( 650583.9, 4203618.2,       6.7,       6.7,       0.0);
( 650603.9, 4203618.2,       6.7,       6.7,       0.0);
     ( 650623.9, 4203618.2,       6.7,       6.7,       0.0);
( 650643.9, 4203618.2,       6.7,       6.7,       0.0);
     ( 649963.9, 4203638.2,       5.0,       5.0,       0.0);
( 649983.9, 4203638.2,       5.0,       5.0,       0.0);
     ( 650003.9, 4203638.2,       5.0,       5.0,       0.0);
( 650023.9, 4203638.2,       5.1,       5.1,       0.0);
     ( 650043.9, 4203638.2,       5.1,       5.1,       0.0);
( 650063.9, 4203638.2,       5.1,       5.1,       0.0);
     ( 650083.9, 4203638.2,       5.1,       5.1,       0.0);
( 650123.9, 4203638.2,       5.1,       5.1,       0.0);
     ( 650143.9, 4203638.2,       5.1,       5.1,       0.0);
( 650163.9, 4203638.2,       5.2,       5.2,       0.0);
     ( 650183.9, 4203638.2,       5.2,       5.2,       0.0);
( 650203.9, 4203638.2,       5.2,       5.2,       0.0);
     ( 650223.9, 4203638.2,       5.3,       5.3,       0.0);
( 650243.9, 4203638.2,       5.4,       5.4,       0.0);
     ( 650263.9, 4203638.2,       5.5,       5.5,       0.0);
( 650283.9, 4203638.2,       5.6,       5.6,       0.0);
```

```
     ( 650303.9, 4203638.2,       5.8,       5.8,       0.0);
( 650323.9, 4203638.2,       6.1,       6.1,       0.0);
     ( 650363.9, 4203638.2,       6.5,       6.5,       0.0);
( 650563.9, 4203638.2,       6.7,       6.7,       0.0);
     ( 650583.9, 4203638.2,       6.7,       6.7,       0.0);
( 650603.9, 4203638.2,       6.7,       6.7,       0.0);
     ( 650623.9, 4203638.2,       6.7,       6.7,       0.0);
( 650643.9, 4203638.2,       6.7,       6.7,       0.0);
     ( 650663.9, 4203638.2,       6.7,       6.7,       0.0);
( 650683.9, 4203638.2,       6.7,       6.7,       0.0);
     ( 649923.9, 4203658.2,       5.0,       5.0,       0.0);
( 649943.9, 4203658.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203658.2,       5.0,       5.0,       0.0);
( 649983.9, 4203658.2,       5.0,       5.0,       0.0);
     ( 650003.9, 4203658.2,       5.0,       5.0,       0.0);
( 650023.9, 4203658.2,       5.0,       5.0,       0.0);
     ( 650043.9, 4203658.2,       5.1,       5.1,       0.0);
( 650063.9, 4203658.2,       5.1,       5.1,       0.0);
     ( 650083.9, 4203658.2,       5.1,       5.1,       0.0);
( 650103.9, 4203658.2,       5.1,       5.1,       0.0);
     ( 650123.9, 4203658.2,       5.1,       5.1,       0.0);
( 650223.9, 4203658.2,       5.2,       5.2,       0.0);
     ( 650243.9, 4203658.2,       5.3,       5.3,       0.0);
( 650263.9, 4203658.2,       5.5,       5.5,       0.0);
     ( 650283.9, 4203658.2,       5.7,       5.7,       0.0);
( 650303.9, 4203658.2,       5.9,       5.9,       0.0);
     ( 650363.9, 4203658.2,       6.5,       6.5,       0.0);
( 650383.9, 4203658.2,       6.6,       6.6,       0.0);
     ( 650403.9, 4203658.2,       6.7,       6.7,       0.0);
( 650643.9, 4203658.2,       6.7,       6.7,       0.0);
     ( 650663.9, 4203658.2,       6.7,       6.7,       0.0);
( 650683.9, 4203658.2,       6.7,       6.7,       0.0);
     ( 649923.9, 4203678.2,       5.0,       5.0,       0.0);
( 649943.9, 4203678.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203678.2,       5.0,       5.0,       0.0);
( 649983.9, 4203678.2,       5.0,       5.0,       0.0);
     ( 650003.9, 4203678.2,       5.0,       5.0,       0.0);
( 650023.9, 4203678.2,       5.0,       5.0,       0.0);
     ( 650043.9, 4203678.2,       5.0,       5.0,       0.0);
( 650063.9, 4203678.2,       5.1,       5.1,       0.0);
     ( 650083.9, 4203678.2,       5.1,       5.1,       0.0);
( 650103.9, 4203678.2,       5.1,       5.1,       0.0);
     ( 650123.9, 4203678.2,       5.1,       5.1,       0.0);
( 650143.9, 4203678.2,       5.1,       5.1,       0.0);
     ( 650363.9, 4203678.2,       6.5,       6.5,       0.0);
( 650383.9, 4203678.2,       6.6,       6.6,       0.0);
     ( 650403.9, 4203678.2,       6.7,       6.7,       0.0);
( 649923.9, 4203698.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203698.2,       5.0,       5.0,       0.0);
( 649963.9, 4203698.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203698.2,       5.0,       5.0,       0.0);
( 650003.9, 4203698.2,       5.0,       5.0,       0.0);
```

```
     ( 650023.9, 4203698.2,       5.0,       5.0,       0.0);
( 650043.9, 4203698.2,       5.0,       5.0,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 650063.9, 4203698.2,       5.1,       5.1,       0.0);
( 650083.9, 4203698.2,       5.1,       5.1,       0.0);
     ( 650103.9, 4203698.2,       5.1,       5.1,       0.0);
( 650123.9, 4203698.2,       5.1,       5.1,       0.0);
     ( 650143.9, 4203698.2,       5.1,       5.1,       0.0);
( 649923.9, 4203718.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203718.2,       5.0,       5.0,       0.0);
( 649963.9, 4203718.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203718.2,       5.0,       5.0,       0.0);
( 650003.9, 4203718.2,       5.0,       5.0,       0.0);
     ( 650023.9, 4203718.2,       5.0,       5.0,       0.0);
( 650043.9, 4203718.2,       5.1,       5.1,       0.0);
     ( 650063.9, 4203718.2,       5.1,       5.1,       0.0);
( 650083.9, 4203718.2,       5.1,       5.1,       0.0);
     ( 650103.9, 4203718.2,       5.1,       5.1,       0.0);
( 650123.9, 4203718.2,       5.1,       5.1,       0.0);
     ( 650143.9, 4203718.2,       5.1,       5.1,       0.0);
( 649923.9, 4203738.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203738.2,       5.0,       5.0,       0.0);
( 649963.9, 4203738.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203738.2,       5.0,       5.0,       0.0);
( 650003.9, 4203738.2,       5.0,       5.0,       0.0);
     ( 650023.9, 4203738.2,       5.0,       5.0,       0.0);
( 650043.9, 4203738.2,       5.1,       5.1,       0.0);
     ( 650063.9, 4203738.2,       5.1,       5.1,       0.0);
( 650083.9, 4203738.2,       5.1,       5.1,       0.0);
     ( 650103.9, 4203738.2,       5.1,       5.1,       0.0);
( 650123.9, 4203738.2,       5.1,       5.1,       0.0);
     ( 650143.9, 4203738.2,       5.1,       5.1,       0.0);
( 650163.9, 4203738.2,       5.2,       5.2,       0.0);
     ( 650183.9, 4203738.2,       5.2,       5.2,       0.0);
( 650203.9, 4203738.2,       5.2,       5.2,       0.0);
     ( 649923.9, 4203758.2,       5.0,       5.0,       0.0);
( 649943.9, 4203758.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203758.2,       5.0,       5.0,       0.0);
( 649983.9, 4203758.2,       5.0,       5.0,       0.0);
```

```
     ( 650003.9, 4203758.2,       5.0,       5.0,       0.0);
( 650023.9, 4203758.2,       5.1,       5.1,       0.0);
     ( 650043.9, 4203758.2,       5.1,       5.1,       0.0);
( 650063.9, 4203758.2,       5.1,       5.1,       0.0);
     ( 650083.9, 4203758.2,       5.1,       5.1,       0.0);
( 650103.9, 4203758.2,       5.1,       5.1,       0.0);
     ( 650123.9, 4203758.2,       5.1,       5.1,       0.0);
( 650143.9, 4203758.2,       5.2,       5.2,       0.0);
     ( 650163.9, 4203758.2,       5.2,       5.2,       0.0);
( 650183.9, 4203758.2,       5.2,       5.2,       0.0);
     ( 650203.9, 4203758.2,       5.2,       5.2,       0.0);
( 649923.9, 4203778.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203778.2,       5.0,       5.0,       0.0);
( 649963.9, 4203778.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203778.2,       5.0,       5.0,       0.0);
( 650003.9, 4203778.2,       5.0,       5.0,       0.0);
     ( 650023.9, 4203778.2,       5.1,       5.1,       0.0);
( 650043.9, 4203778.2,       5.1,       5.1,       0.0);
     ( 650063.9, 4203778.2,       5.1,       5.1,       0.0);
( 650083.9, 4203778.2,       5.1,       5.1,       0.0);
     ( 650103.9, 4203778.2,       5.1,       5.1,       0.0);
( 650123.9, 4203778.2,       5.2,       5.2,       0.0);
     ( 649923.9, 4203798.2,       5.0,       5.0,       0.0);
( 649943.9, 4203798.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203798.2,       5.0,       5.0,       0.0);
( 649983.9, 4203798.2,       5.0,       5.0,       0.0);
     ( 650003.9, 4203798.2,       5.1,       5.1,       0.0);
( 650023.9, 4203798.2,       5.1,       5.1,       0.0);
     ( 650043.9, 4203798.2,       5.1,       5.1,       0.0);
( 650063.9, 4203798.2,       5.1,       5.1,       0.0);
     ( 650083.9, 4203798.2,       5.2,       5.2,       0.0);
( 650103.9, 4203798.2,       5.2,       5.2,       0.0);
     ( 650123.9, 4203798.2,       5.2,       5.2,       0.0);
( 649923.9, 4203818.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203818.2,       5.0,       5.0,       0.0);
( 649963.9, 4203818.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203818.2,       5.1,       5.1,       0.0);
( 650003.9, 4203818.2,       5.1,       5.1,       0.0);
     ( 650023.9, 4203818.2,       5.1,       5.1,       0.0);
( 650043.9, 4203818.2,       5.1,       5.1,       0.0);
     ( 650063.9, 4203818.2,       5.2,       5.2,       0.0);
( 650083.9, 4203818.2,       5.2,       5.2,       0.0);
     ( 650103.9, 4203818.2,       5.2,       5.2,       0.0);
( 650123.9, 4203818.2,       5.2,       5.2,       0.0);
     ( 650143.9, 4203818.2,       5.2,       5.2,       0.0);
( 650163.9, 4203818.2,       5.2,       5.2,       0.0);
     ( 650196.1, 4203810.7,       5.3,       5.3,       0.0);
( 650216.1, 4203810.7,       5.3,       5.3,       0.0);
     ( 649923.9, 4203838.2,       5.0,       5.0,       0.0);
( 649943.9, 4203838.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203838.2,       5.0,       5.0,       0.0);
( 649983.9, 4203838.2,       5.1,       5.1,       0.0);
```

```
     ( 650003.9, 4203838.2,       5.1,       5.1,       0.0);
( 650023.9, 4203838.2,       5.1,       5.1,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE
CARTESIAN RECEPTORS ***

(X-COORD, Y-COORD,
ZELEV, ZHILL, ZFLAG)

(METERS)

(650043.9, 4203838.2, 5.1, 5.1, 0.0);
(650063.9, 4203838.2, 5.2, 5.2, 0.0);
(650083.9, 4203838.2, 5.2, 5.2, 0.0);
(650196.1, 4203830.7, 5.3, 5.3, 0.0);
(650216.1, 4203830.7, 5.3, 5.3, 0.0);
(649923.9, 4203858.2, 5.0, 5.0, 0.0);
(649943.9, 4203858.2, 5.0, 5.0, 0.0);
(649963.9, 4203858.2, 5.0, 5.0, 0.0);
(649983.9, 4203858.2, 5.1, 5.1, 0.0);
(650003.9, 4203858.2, 5.1, 5.1, 0.0);
(650023.9, 4203858.2, 5.1, 5.1, 0.0);
(650043.9, 4203858.2, 5.2, 5.2, 0.0);
(650063.9, 4203858.2, 5.2, 5.2, 0.0);
(650083.9, 4203858.2, 5.2, 5.2, 0.0);
(649923.9, 4203878.2, 5.0, 5.0, 0.0);
(649943.9, 4203878.2, 5.0, 5.0, 0.0);
(649963.9, 4203878.2, 5.1, 5.1, 0.0);
(649983.9, 4203878.2, 5.1, 5.1, 0.0);
(650003.9, 4203878.2, 5.1, 5.1, 0.0);
(650023.9, 4203878.2, 5.1, 5.1, 0.0);
(650043.9, 4203878.2, 5.2, 5.2, 0.0);
(650063.9, 4203878.2, 5.2, 5.2, 0.0);
(650083.9, 4203878.2, 5.2, 5.2, 0.0);
(650743.9, 4203878.2, 6.4, 6.4, 0.0);
(650763.9, 4203878.2, 6.3, 6.3, 0.0);
(650783.9, 4203878.2, 6.3, 6.3, 0.0);
(650803.9, 4203878.2, 6.2, 6.2, 0.0);
(650823.9, 4203878.2, 6.2, 6.2, 0.0);
(650843.9, 4203878.2, 6.2, 6.2, 0.0);
(650863.9, 4203878.2, 6.1, 6.1, 0.0);
(649923.9, 4203898.2, 5.0, 5.0, 0.0);
(649943.9, 4203898.2, 5.0, 5.0, 0.0);
(649963.9, 4203898.2, 5.1, 5.1, 0.0);
(649983.9, 4203898.2, 5.1, 5.1, 0.0);
(650003.9, 4203898.2, 5.1, 5.1, 0.0);
(650023.9, 4203898.2, 5.1, 5.1, 0.0);

```
     ( 650043.9, 4203898.2,       5.2,       5.2,       0.0);
( 650063.9, 4203898.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4203898.2,       5.2,       5.2,       0.0);
( 650743.9, 4203898.2,       6.3,       6.3,       0.0);
     ( 650763.9, 4203898.2,       6.2,       6.2,       0.0);
( 650783.9, 4203898.2,       6.1,       6.1,       0.0);
     ( 650803.9, 4203898.2,       6.1,       6.1,       0.0);
( 650823.9, 4203898.2,       6.1,       6.1,       0.0);
     ( 650843.9, 4203898.2,       6.1,       6.1,       0.0);
( 650863.9, 4203898.2,       6.0,       6.0,       0.0);
     ( 649923.9, 4203918.2,       5.0,       5.0,       0.0);
( 649943.9, 4203918.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203918.2,       5.1,       5.1,       0.0);
( 649983.9, 4203918.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4203918.2,       5.1,       5.1,       0.0);
( 650023.9, 4203918.2,       5.2,       5.2,       0.0);
     ( 650043.9, 4203918.2,       5.2,       5.2,       0.0);
( 650063.9, 4203918.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4203918.2,       5.3,       5.3,       0.0);
( 650723.9, 4203918.2,       6.3,       6.3,       0.0);
     ( 650743.9, 4203918.2,       6.2,       6.2,       0.0);
( 650763.9, 4203918.2,       6.1,       6.1,       0.0);
     ( 650783.9, 4203918.2,       6.0,       6.0,       0.0);
( 650803.9, 4203918.2,       6.0,       6.0,       0.0);
     ( 650823.9, 4203918.2,       6.1,       6.1,       0.0);
( 650843.9, 4203918.2,       6.1,       6.1,       0.0);
     ( 650863.9, 4203918.2,       6.0,       6.0,       0.0);
( 649923.9, 4203938.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203938.2,       5.0,       5.0,       0.0);
( 649963.9, 4203938.2,       5.1,       5.1,       0.0);
     ( 649983.9, 4203938.2,       5.1,       5.1,       0.0);
( 650003.9, 4203938.2,       5.1,       5.1,       0.0);
     ( 650023.9, 4203938.2,       5.2,       5.2,       0.0);
( 650043.9, 4203938.2,       5.2,       5.2,       0.0);
     ( 650063.9, 4203938.2,       5.2,       5.2,       0.0);
( 650083.9, 4203938.2,       5.3,       5.3,       0.0);
     ( 650103.9, 4203938.2,       5.3,       5.3,       0.0);
( 650123.9, 4203938.2,       5.3,       5.3,       0.0);
     ( 650143.9, 4203938.2,       5.4,       5.4,       0.0);
( 650723.9, 4203938.2,       6.2,       6.2,       0.0);
     ( 650743.9, 4203938.2,       6.1,       6.1,       0.0);
( 650763.9, 4203938.2,       6.0,       6.0,       0.0);
     ( 650783.9, 4203938.2,       6.0,       6.0,       0.0);
( 650803.9, 4203938.2,       6.0,       6.0,       0.0);
     ( 650823.9, 4203938.2,       6.0,       6.0,       0.0);
( 650843.9, 4203938.2,       6.0,       6.0,       0.0);
     ( 649923.9, 4203958.2,       5.0,       5.0,       0.0);
( 649943.9, 4203958.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203958.2,       5.1,       5.1,       0.0);
( 649983.9, 4203958.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4203958.2,       5.1,       5.1,       0.0);
( 650023.9, 4203958.2,       5.2,       5.2,       0.0);
```

```
     ( 650043.9, 4203958.2,       5.2,       5.2,       0.0);
( 650063.9, 4203958.2,       5.2,       5.2,       0.0);
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 650083.9, 4203958.2,       5.3,       5.3,       0.0);
( 650103.9, 4203958.2,       5.3,       5.3,       0.0);
     ( 650123.9, 4203958.2,       5.4,       5.4,       0.0);
( 650143.9, 4203958.2,       5.4,       5.4,       0.0);
     ( 650723.9, 4203958.2,       6.1,       6.1,       0.0);
( 650743.9, 4203958.2,       6.0,       6.0,       0.0);
     ( 650763.9, 4203958.2,       5.9,       5.9,       0.0);
( 650783.9, 4203958.2,       5.9,       5.9,       0.0);
     ( 650803.9, 4203958.2,       5.9,       5.9,       0.0);
( 650823.9, 4203958.2,       6.0,       6.0,       0.0);
     ( 650843.9, 4203958.2,       6.0,       6.0,       0.0);
( 649923.9, 4203978.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203978.2,       5.0,       5.0,       0.0);
( 649963.9, 4203978.2,       5.1,       5.1,       0.0);
     ( 649983.9, 4203978.2,       5.1,       5.1,       0.0);
( 650003.9, 4203978.2,       5.1,       5.1,       0.0);
     ( 650023.9, 4203978.2,       5.2,       5.2,       0.0);
( 650043.9, 4203978.2,       5.2,       5.2,       0.0);
     ( 650063.9, 4203978.2,       5.3,       5.3,       0.0);
( 650083.9, 4203978.2,       5.3,       5.3,       0.0);
     ( 650103.9, 4203978.2,       5.3,       5.3,       0.0);
( 650123.9, 4203978.2,       5.4,       5.4,       0.0);
     ( 650703.9, 4203978.2,       6.1,       6.1,       0.0);
( 650723.9, 4203978.2,       6.0,       6.0,       0.0);
     ( 650743.9, 4203978.2,       5.9,       5.9,       0.0);
( 650763.9, 4203978.2,       5.8,       5.8,       0.0);
     ( 650783.9, 4203978.2,       5.8,       5.8,       0.0);
( 650803.9, 4203978.2,       5.9,       5.9,       0.0);
     ( 650823.9, 4203978.2,       6.0,       6.0,       0.0);
( 650843.9, 4203978.2,       6.0,       6.0,       0.0);
     ( 649923.9, 4203998.2,       5.0,       5.0,       0.0);
( 649943.9, 4203998.2,       5.1,       5.1,       0.0);
     ( 649963.9, 4203998.2,       5.1,       5.1,       0.0);
( 649983.9, 4203998.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4203998.2,       5.1,       5.1,       0.0);
( 650023.9, 4203998.2,       5.2,       5.2,       0.0);
```

```
     ( 650043.9, 4203998.2,       5.2,       5.2,       0.0);
( 650063.9, 4203998.2,       5.3,       5.3,       0.0);
     ( 650083.9, 4203998.2,       5.3,       5.3,       0.0);
( 650103.9, 4203998.2,       5.3,       5.3,       0.0);
     ( 650123.9, 4203998.2,       5.4,       5.4,       0.0);
( 650703.9, 4203998.2,       6.0,       6.0,       0.0);
     ( 650723.9, 4203998.2,       5.9,       5.9,       0.0);
( 650743.9, 4203998.2,       5.8,       5.8,       0.0);
     ( 650763.9, 4203998.2,       5.8,       5.8,       0.0);
( 650783.9, 4203998.2,       5.8,       5.8,       0.0);
     ( 650803.9, 4203998.2,       5.9,       5.9,       0.0);
( 650823.9, 4203998.2,       5.9,       5.9,       0.0);
     ( 650843.9, 4203998.2,       5.9,       5.9,       0.0);
( 649923.9, 4204018.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4204018.2,       5.1,       5.1,       0.0);
( 649963.9, 4204018.2,       5.1,       5.1,       0.0);
     ( 649983.9, 4204018.2,       5.1,       5.1,       0.0);
( 650003.9, 4204018.2,       5.2,       5.2,       0.0);
     ( 650023.9, 4204018.2,       5.2,       5.2,       0.0);
( 650043.9, 4204018.2,       5.2,       5.2,       0.0);
     ( 650063.9, 4204018.2,       5.3,       5.3,       0.0);
( 650083.9, 4204018.2,       5.3,       5.3,       0.0);
     ( 650103.9, 4204018.2,       5.3,       5.3,       0.0);
( 650123.9, 4204018.2,       5.4,       5.4,       0.0);
     ( 650703.9, 4204018.2,       5.9,       5.9,       0.0);
( 650723.9, 4204018.2,       5.9,       5.9,       0.0);
     ( 650743.9, 4204018.2,       5.8,       5.8,       0.0);
( 650763.9, 4204018.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204018.2,       5.8,       5.8,       0.0);
( 650803.9, 4204018.2,       5.8,       5.8,       0.0);
     ( 650823.9, 4204018.2,       5.9,       5.9,       0.0);
( 650843.9, 4204018.2,       5.9,       5.9,       0.0);
     ( 649923.9, 4204038.2,       5.0,       5.0,       0.0);
( 649943.9, 4204038.2,       5.1,       5.1,       0.0);
     ( 649963.9, 4204038.2,       5.1,       5.1,       0.0);
( 649983.9, 4204038.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4204038.2,       5.2,       5.2,       0.0);
( 650023.9, 4204038.2,       5.2,       5.2,       0.0);
     ( 650043.9, 4204038.2,       5.2,       5.2,       0.0);
( 650063.9, 4204038.2,       5.3,       5.3,       0.0);
     ( 650083.9, 4204038.2,       5.3,       5.3,       0.0);
( 650103.9, 4204038.2,       5.3,       5.3,       0.0);
     ( 650123.9, 4204038.2,       5.4,       5.4,       0.0);
( 650683.9, 4204038.2,       5.9,       5.9,       0.0);
     ( 650703.9, 4204038.2,       5.9,       5.9,       0.0);
( 650723.9, 4204038.2,       5.8,       5.8,       0.0);
     ( 650743.9, 4204038.2,       5.7,       5.7,       0.0);
( 650763.9, 4204038.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204038.2,       5.8,       5.8,       0.0);
( 650803.9, 4204038.2,       5.8,       5.8,       0.0);
     ( 650823.9, 4204038.2,       5.9,       5.9,       0.0);
( 649923.9, 4204058.2,       5.0,       5.0,       0.0);
```

```
     ( 649943.9, 4204058.2,       5.1,       5.1,       0.0);
( 649963.9, 4204058.2,       5.1,       5.1,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 649983.9, 4204058.2,       5.1,       5.1,       0.0);
( 650003.9, 4204058.2,       5.2,       5.2,       0.0);
     ( 650023.9, 4204058.2,       5.2,       5.2,       0.0);
( 650043.9, 4204058.2,       5.2,       5.2,       0.0);
     ( 650063.9, 4204058.2,       5.3,       5.3,       0.0);
( 650083.9, 4204058.2,       5.3,       5.3,       0.0);
     ( 650103.9, 4204058.2,       5.3,       5.3,       0.0);
( 650123.9, 4204058.2,       5.4,       5.4,       0.0);
     ( 650683.9, 4204058.2,       5.9,       5.9,       0.0);
( 650703.9, 4204058.2,       5.8,       5.8,       0.0);
     ( 650723.9, 4204058.2,       5.8,       5.8,       0.0);
( 650743.9, 4204058.2,       5.7,       5.7,       0.0);
     ( 650763.9, 4204058.2,       5.7,       5.7,       0.0);
( 650783.9, 4204058.2,       5.8,       5.8,       0.0);
     ( 650803.9, 4204058.2,       5.8,       5.8,       0.0);
( 650823.9, 4204058.2,       5.9,       5.9,       0.0);
     ( 649923.9, 4204078.2,       5.0,       5.0,       0.0);
( 649943.9, 4204078.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4204078.2,       5.1,       5.1,       0.0);
( 649983.9, 4204078.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4204078.2,       5.1,       5.1,       0.0);
( 650023.9, 4204078.2,       5.2,       5.2,       0.0);
     ( 650043.9, 4204078.2,       5.2,       5.2,       0.0);
( 650063.9, 4204078.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4204078.2,       5.3,       5.3,       0.0);
( 650103.9, 4204078.2,       5.3,       5.3,       0.0);
     ( 650123.9, 4204078.2,       5.3,       5.3,       0.0);
( 650683.9, 4204078.2,       5.8,       5.8,       0.0);
     ( 650703.9, 4204078.2,       5.7,       5.7,       0.0);
( 650723.9, 4204078.2,       5.7,       5.7,       0.0);
     ( 650743.9, 4204078.2,       5.7,       5.7,       0.0);
( 650763.9, 4204078.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204078.2,       5.7,       5.7,       0.0);
( 650803.9, 4204078.2,       5.8,       5.8,       0.0);
     ( 650823.9, 4204078.2,       5.9,       5.9,       0.0);
( 649923.9, 4204098.2,       5.0,       5.0,       0.0);
```

```
     ( 649943.9, 4204098.2,       5.0,       5.0,       0.0);
( 649963.9, 4204098.2,       5.1,       5.1,       0.0);
     ( 649983.9, 4204098.2,       5.1,       5.1,       0.0);
( 650003.9, 4204098.2,       5.1,       5.1,       0.0);
     ( 650023.9, 4204098.2,       5.2,       5.2,       0.0);
( 650043.9, 4204098.2,       5.2,       5.2,       0.0);
     ( 650063.9, 4204098.2,       5.2,       5.2,       0.0);
( 650083.9, 4204098.2,       5.3,       5.3,       0.0);
     ( 650103.9, 4204098.2,       5.3,       5.3,       0.0);
( 650123.9, 4204098.2,       5.3,       5.3,       0.0);
     ( 650143.9, 4204098.2,       5.4,       5.4,       0.0);
( 650163.9, 4204098.2,       5.4,       5.4,       0.0);
     ( 650663.9, 4204098.2,       5.8,       5.8,       0.0);
( 650683.9, 4204098.2,       5.8,       5.8,       0.0);
     ( 650703.9, 4204098.2,       5.7,       5.7,       0.0);
( 650723.9, 4204098.2,       5.7,       5.7,       0.0);
     ( 650743.9, 4204098.2,       5.7,       5.7,       0.0);
( 650763.9, 4204098.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204098.2,       5.7,       5.7,       0.0);
( 650803.9, 4204098.2,       5.8,       5.8,       0.0);
     ( 650823.9, 4204098.2,       5.9,       5.9,       0.0);
( 649923.9, 4204118.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4204118.2,       5.0,       5.0,       0.0);
( 649963.9, 4204118.2,       5.1,       5.1,       0.0);
     ( 649983.9, 4204118.2,       5.1,       5.1,       0.0);
( 650003.9, 4204118.2,       5.1,       5.1,       0.0);
     ( 650023.9, 4204118.2,       5.1,       5.1,       0.0);
( 650043.9, 4204118.2,       5.2,       5.2,       0.0);
     ( 650063.9, 4204118.2,       5.2,       5.2,       0.0);
( 650083.9, 4204118.2,       5.3,       5.3,       0.0);
     ( 650103.9, 4204118.2,       5.3,       5.3,       0.0);
( 650123.9, 4204118.2,       5.3,       5.3,       0.0);
     ( 650143.9, 4204118.2,       5.3,       5.3,       0.0);
( 650163.9, 4204118.2,       5.4,       5.4,       0.0);
     ( 650182.3, 4204112.1,       5.4,       5.4,       0.0);
( 650663.9, 4204118.2,       5.7,       5.7,       0.0);
     ( 650683.9, 4204118.2,       5.7,       5.7,       0.0);
( 650703.9, 4204118.2,       5.7,       5.7,       0.0);
     ( 650723.9, 4204118.2,       5.7,       5.7,       0.0);
( 650743.9, 4204118.2,       5.7,       5.7,       0.0);
     ( 650763.9, 4204118.2,       5.7,       5.7,       0.0);
( 650783.9, 4204118.2,       5.7,       5.7,       0.0);
     ( 650803.9, 4204118.2,       5.8,       5.8,       0.0);
( 650823.9, 4204118.2,       5.9,       5.9,       0.0);
     ( 649923.9, 4204138.2,       5.0,       5.0,       0.0);
( 649943.9, 4204138.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4204138.2,       5.1,       5.1,       0.0);
( 649983.9, 4204138.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4204138.2,       5.1,       5.1,       0.0);
( 650023.9, 4204138.2,       5.1,       5.1,       0.0);
     ( 650043.9, 4204138.2,       5.2,       5.2,       0.0);
( 650063.9, 4204138.2,       5.2,       5.2,       0.0);
```

```
     ( 650083.9, 4204138.2,       5.2,       5.2,       0.0);
( 650103.9, 4204138.2,       5.3,       5.3,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 650123.9, 4204138.2,       5.3,       5.3,       0.0);
( 650143.9, 4204138.2,       5.3,       5.3,       0.0);
     ( 650156.6, 4204142.2,       5.3,       5.3,       0.0);
( 650643.9, 4204138.2,       5.7,       5.7,       0.0);
     ( 650663.9, 4204138.2,       5.7,       5.7,       0.0);
( 650683.9, 4204138.2,       5.7,       5.7,       0.0);
     ( 650703.9, 4204138.2,       5.6,       5.6,       0.0);
( 650723.9, 4204138.2,       5.7,       5.7,       0.0);
     ( 650743.9, 4204138.2,       5.7,       5.7,       0.0);
( 650763.9, 4204138.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204138.2,       5.7,       5.7,       0.0);
( 650803.9, 4204138.2,       5.8,       5.8,       0.0);
     ( 649923.9, 4204158.2,       5.0,       5.0,       0.0);
( 649943.9, 4204158.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4204158.2,       5.1,       5.1,       0.0);
( 649983.9, 4204158.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4204158.2,       5.1,       5.1,       0.0);
( 650023.9, 4204158.2,       5.1,       5.1,       0.0);
     ( 650043.9, 4204158.2,       5.1,       5.1,       0.0);
( 650063.9, 4204158.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4204158.2,       5.2,       5.2,       0.0);
( 650103.9, 4204158.2,       5.2,       5.2,       0.0);
     ( 650123.9, 4204158.2,       5.3,       5.3,       0.0);
( 650143.9, 4204158.2,       5.3,       5.3,       0.0);
     ( 650177.7, 4204158.0,       5.4,       5.4,       0.0);
( 650643.9, 4204158.2,       5.7,       5.7,       0.0);
     ( 650663.9, 4204158.2,       5.7,       5.7,       0.0);
( 650683.9, 4204158.2,       5.6,       5.6,       0.0);
     ( 650703.9, 4204158.2,       5.6,       5.6,       0.0);
( 650723.9, 4204158.2,       5.7,       5.7,       0.0);
     ( 650743.9, 4204158.2,       5.7,       5.7,       0.0);
( 650763.9, 4204158.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204158.2,       5.7,       5.7,       0.0);
( 650803.9, 4204158.2,       5.8,       5.8,       0.0);
     ( 650923.9, 4204158.2,       5.8,       5.8,       0.0);
( 649923.9, 4204178.2,       5.0,       5.0,       0.0);
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```
     ( 649943.9, 4204178.2,       5.0,       5.0,       0.0);
( 649963.9, 4204178.2,       5.1,       5.1,       0.0);
     ( 649983.9, 4204178.2,       5.1,       5.1,       0.0);
( 650003.9, 4204178.2,       5.0,       5.0,       0.0);
     ( 650023.9, 4204178.2,       5.0,       5.0,       0.0);
( 650043.9, 4204178.2,       5.1,       5.1,       0.0);
     ( 650063.9, 4204178.2,       5.1,       5.1,       0.0);
( 650083.9, 4204178.2,       5.2,       5.2,       0.0);
     ( 650103.9, 4204178.2,       5.2,       5.2,       0.0);
( 650123.9, 4204178.2,       5.3,       5.3,       0.0);
     ( 650143.9, 4204178.2,       5.3,       5.3,       0.0);
( 650156.4, 4204185.3,       5.3,       5.3,       0.0);
     ( 650643.9, 4204178.2,       5.7,       5.7,       0.0);
( 650663.9, 4204178.2,       5.6,       5.6,       0.0);
     ( 650683.9, 4204178.2,       5.6,       5.6,       0.0);
( 650703.9, 4204178.2,       5.6,       5.6,       0.0);
     ( 650723.9, 4204178.2,       5.7,       5.7,       0.0);
( 650743.9, 4204178.2,       5.7,       5.7,       0.0);
     ( 650763.9, 4204178.2,       5.7,       5.7,       0.0);
( 650783.9, 4204178.2,       5.8,       5.8,       0.0);
     ( 650803.9, 4204178.2,       5.8,       5.8,       0.0);
( 650903.9, 4204178.2,       5.8,       5.8,       0.0);
     ( 650923.9, 4204178.2,       5.8,       5.8,       0.0);
( 649923.9, 4204198.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4204198.2,       5.0,       5.0,       0.0);
( 649963.9, 4204198.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4204198.2,       5.0,       5.0,       0.0);
( 650003.9, 4204198.2,       5.0,       5.0,       0.0);
     ( 650023.9, 4204198.2,       4.9,       4.9,       0.0);
( 650043.9, 4204198.2,       5.0,       5.0,       0.0);
     ( 650063.9, 4204198.2,       5.1,       5.1,       0.0);
( 650083.9, 4204198.2,       5.1,       5.1,       0.0);
     ( 650103.9, 4204198.2,       5.2,       5.2,       0.0);
( 650123.9, 4204198.2,       5.2,       5.2,       0.0);
     ( 650143.9, 4204198.2,       5.3,       5.3,       0.0);
( 650643.9, 4204198.2,       5.6,       5.6,       0.0);
     ( 650663.9, 4204198.2,       5.6,       5.6,       0.0);
( 650683.9, 4204198.2,       5.6,       5.6,       0.0);
     ( 650703.9, 4204198.2,       5.6,       5.6,       0.0);
( 650723.9, 4204198.2,       5.7,       5.7,       0.0);
     ( 650743.9, 4204198.2,       5.7,       5.7,       0.0);
( 650763.9, 4204198.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204198.2,       5.7,       5.7,       0.0);
( 650803.9, 4204198.2,       5.8,       5.8,       0.0);
     ( 650903.9, 4204198.2,       5.8,       5.8,       0.0);
( 650923.9, 4204198.2,       5.8,       5.8,       0.0);
     ( 649923.9, 4204218.2,       5.0,       5.0,       0.0);
( 649943.9, 4204218.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4204218.2,       5.0,       5.0,       0.0);
( 649983.9, 4204218.2,       5.0,       5.0,       0.0);
     ( 650003.9, 4204218.2,       4.8,       4.8,       0.0);
( 650023.9, 4204218.2,       4.8,       4.8,       0.0);
```

```
     ( 650043.9, 4204218.2,       4.9,       4.9,       0.0);
( 650063.9, 4204218.2,       5.0,       5.0,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 650083.9, 4204218.2,       5.1,       5.1,       0.0);
( 650103.9, 4204218.2,       5.2,       5.2,       0.0);
     ( 650123.9, 4204218.2,       5.2,       5.2,       0.0);
( 650623.9, 4204218.2,       5.6,       5.6,       0.0);
     ( 650643.9, 4204218.2,       5.6,       5.6,       0.0);
( 650703.9, 4204218.2,       5.7,       5.7,       0.0);
     ( 650723.9, 4204218.2,       5.7,       5.7,       0.0);
( 650743.9, 4204218.2,       5.7,       5.7,       0.0);
     ( 650763.9, 4204218.2,       5.7,       5.7,       0.0);
( 650903.9, 4204218.2,       5.8,       5.8,       0.0);
     ( 650923.9, 4204218.2,       5.8,       5.8,       0.0);
( 649923.9, 4204238.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4204238.2,       4.9,       4.9,       0.0);
( 649963.9, 4204238.2,       4.9,       4.9,       0.0);
     ( 649983.9, 4204238.2,       4.8,       4.8,       0.0);
( 650003.9, 4204238.2,       4.6,       4.6,       0.0);
     ( 650023.9, 4204238.2,       4.6,       4.6,       0.0);
( 650043.9, 4204238.2,       4.7,       4.7,       0.0);
     ( 650063.9, 4204238.2,       4.9,       4.9,       0.0);
( 650083.9, 4204238.2,       5.0,       5.0,       0.0);
     ( 650103.9, 4204238.2,       5.1,       5.1,       0.0);
( 650123.9, 4204238.2,       5.2,       5.2,       0.0);
     ( 650623.9, 4204238.2,       5.6,       5.6,       0.0);
( 650643.9, 4204238.2,       5.6,       5.6,       0.0);
     ( 650703.9, 4204238.2,       5.7,       5.7,       0.0);
( 650723.9, 4204238.2,       5.7,       5.7,       0.0);
     ( 650743.9, 4204238.2,       5.7,       5.7,       0.0);
( 650763.9, 4204238.2,       5.7,       5.7,       0.0);
     ( 650903.9, 4204238.2,       5.8,       5.8,       0.0);
( 650923.9, 4204238.2,       5.8,       5.8,       0.0);
     ( 649923.9, 4204258.2,       4.8,       4.8,       0.0);
( 649943.9, 4204258.2,       4.8,       4.8,       0.0);
     ( 649963.9, 4204258.2,       4.8,       4.8,       0.0);
( 649983.9, 4204258.2,       4.6,       4.6,       0.0);
     ( 650003.9, 4204258.2,       4.5,       4.5,       0.0);
( 650023.9, 4204258.2,       4.5,       4.5,       0.0);
```

```
     ( 650043.9, 4204258.2,       4.6,       4.6,       0.0);
( 650063.9, 4204258.2,       4.7,       4.7,       0.0);
     ( 650083.9, 4204258.2,       4.9,       4.9,       0.0);
( 650103.9, 4204258.2,       5.1,       5.1,       0.0);
     ( 650123.9, 4204258.2,       5.2,       5.2,       0.0);
( 650143.9, 4204258.2,       5.2,       5.2,       0.0);
     ( 650623.9, 4204258.2,       5.6,       5.6,       0.0);
( 650643.9, 4204258.2,       5.7,       5.7,       0.0);
     ( 650903.9, 4204258.2,       5.8,       5.8,       0.0);
( 650923.9, 4204258.2,       5.9,       5.9,       0.0);
     ( 649923.9, 4204278.2,       4.7,       4.7,       0.0);
( 649943.9, 4204278.2,       4.6,       4.6,       0.0);
     ( 649963.9, 4204278.2,       4.5,       4.5,       0.0);
( 649983.9, 4204278.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204278.2,       4.5,       4.5,       0.0);
( 650023.9, 4204278.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204278.2,       4.5,       4.5,       0.0);
( 650063.9, 4204278.2,       4.6,       4.6,       0.0);
     ( 650083.9, 4204278.2,       4.8,       4.8,       0.0);
( 650103.9, 4204278.2,       5.0,       5.0,       0.0);
     ( 650123.9, 4204278.2,       5.1,       5.1,       0.0);
( 650623.9, 4204278.2,       5.6,       5.6,       0.0);
     ( 650643.9, 4204278.2,       5.7,       5.7,       0.0);
( 650903.9, 4204278.2,       5.8,       5.8,       0.0);
     ( 650923.9, 4204278.2,       5.8,       5.8,       0.0);
( 649923.9, 4204298.2,       4.6,       4.6,       0.0);
     ( 649943.9, 4204298.2,       4.5,       4.5,       0.0);
( 649963.9, 4204298.2,       4.5,       4.5,       0.0);
     ( 649983.9, 4204298.2,       4.5,       4.5,       0.0);
( 650003.9, 4204298.2,       4.5,       4.5,       0.0);
     ( 650023.9, 4204298.2,       4.5,       4.5,       0.0);
( 650043.9, 4204298.2,       4.5,       4.5,       0.0);
     ( 650063.9, 4204298.2,       4.5,       4.5,       0.0);
( 650083.9, 4204298.2,       4.6,       4.6,       0.0);
     ( 650103.9, 4204298.2,       4.8,       4.8,       0.0);
( 650123.9, 4204298.2,       4.9,       4.9,       0.0);
     ( 650883.9, 4204298.2,       5.8,       5.8,       0.0);
( 650903.9, 4204298.2,       5.8,       5.8,       0.0);
     ( 650923.9, 4204298.2,       5.8,       5.8,       0.0);
( 649923.9, 4204318.2,       4.5,       4.5,       0.0);
     ( 649943.9, 4204318.2,       4.5,       4.5,       0.0);
( 649963.9, 4204318.2,       4.5,       4.5,       0.0);
     ( 649983.9, 4204318.2,       4.5,       4.5,       0.0);
( 650003.9, 4204318.2,       4.5,       4.5,       0.0);
     ( 650023.9, 4204318.2,       4.5,       4.5,       0.0);
( 650043.9, 4204318.2,       4.5,       4.5,       0.0);
     ( 650063.9, 4204318.2,       4.5,       4.5,       0.0);
( 650083.9, 4204318.2,       4.5,       4.5,       0.0);
     ( 650127.7, 4204307.4,       4.8,       4.8,       0.0);
( 650883.9, 4204318.2,       5.8,       5.8,       0.0);
     ( 650903.9, 4204318.2,       5.8,       5.8,       0.0);
( 650923.9, 4204318.2,       5.8,       5.8,       0.0);
```

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     ( 649923.9, 4204338.2,       4.5,       4.5,       0.0);
( 649943.9, 4204338.2,       4.5,       4.5,       0.0);
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 649963.9, 4204338.2,       4.5,       4.5,       0.0);
( 649983.9, 4204338.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204338.2,       4.5,       4.5,       0.0);
( 650023.9, 4204338.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204338.2,       4.5,       4.5,       0.0);
( 650063.9, 4204338.2,       4.5,       4.5,       0.0);
     ( 650883.9, 4204338.2,       5.8,       5.8,       0.0);
( 650903.9, 4204338.2,       5.8,       5.8,       0.0);
     ( 650923.9, 4204338.2,       5.8,       5.8,       0.0);
( 649923.9, 4204358.2,       4.5,       4.5,       0.0);
     ( 649943.9, 4204358.2,       4.5,       4.5,       0.0);
( 649963.9, 4204358.2,       4.5,       4.5,       0.0);
     ( 649983.9, 4204358.2,       4.5,       4.5,       0.0);
( 650003.9, 4204358.2,       4.5,       4.5,       0.0);
     ( 650023.9, 4204358.2,       4.5,       4.5,       0.0);
( 650043.9, 4204358.2,       4.5,       4.5,       0.0);
     ( 650063.9, 4204358.2,       4.5,       4.5,       0.0);
( 650883.9, 4204358.2,       5.8,       5.8,       0.0);
     ( 650903.9, 4204358.2,       5.8,       5.8,       0.0);
( 650923.9, 4204358.2,       5.8,       5.8,       0.0);
     ( 649923.9, 4204378.2,       4.5,       4.5,       0.0);
( 649943.9, 4204378.2,       4.5,       4.5,       0.0);
     ( 649963.9, 4204378.2,       4.5,       4.5,       0.0);
( 649983.9, 4204378.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204378.2,       4.5,       4.5,       0.0);
( 650023.9, 4204378.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204378.2,       4.5,       4.5,       0.0);
( 650063.9, 4204378.2,       4.5,       4.5,       0.0);
     ( 650083.9, 4204378.2,       4.5,       4.5,       0.0);
( 650103.9, 4204378.2,       4.5,       4.5,       0.0);
     ( 650903.9, 4204378.2,       5.8,       5.8,       0.0);
( 650923.9, 4204378.2,       5.8,       5.8,       0.0);
     ( 649923.9, 4204398.2,       4.5,       4.5,       0.0);
( 649943.9, 4204398.2,       4.5,       4.5,       0.0);
     ( 649963.9, 4204398.2,       4.5,       4.5,       0.0);
( 649983.9, 4204398.2,       4.5,       4.5,       0.0);
```

```
     ( 650003.9, 4204398.2,       4.5,       4.5,       0.0);
( 650023.9, 4204398.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204398.2,       4.5,       4.5,       0.0);
( 650063.9, 4204398.2,       4.5,       4.5,       0.0);
     ( 650083.9, 4204398.2,       4.5,       4.5,       0.0);
( 650103.9, 4204398.2,       4.5,       4.5,       0.0);
     ( 649923.9, 4204418.2,       4.5,       4.5,       0.0);
( 649943.9, 4204418.2,       4.5,       4.5,       0.0);
     ( 649963.9, 4204418.2,       4.5,       4.5,       0.0);
( 649983.9, 4204418.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204418.2,       4.5,       4.5,       0.0);
( 650023.9, 4204418.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204418.2,       4.5,       4.5,       0.0);
( 650103.9, 4204418.2,       4.5,       4.5,       0.0);
     ( 649923.9, 4204438.2,       4.5,       4.5,       0.0);
( 649943.9, 4204438.2,       4.5,       4.5,       0.0);
     ( 649963.9, 4204438.2,       4.5,       4.5,       0.0);
( 649983.9, 4204438.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204438.2,       4.5,       4.5,       0.0);
( 650023.9, 4204438.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204438.2,       4.5,       4.5,       0.0);
( 650063.9, 4204438.2,       4.5,       4.5,       0.0);
     ( 650083.9, 4204438.2,       4.5,       4.5,       0.0);
( 650143.9, 4204438.2,       4.5,       4.5,       0.0);
     ( 650209.7, 4204428.7,       4.7,       4.7,       0.0);
( 650229.7, 4204428.7,       5.1,       5.1,       0.0);
     ( 649923.9, 4204458.2,       4.5,       4.5,       0.0);
( 649943.9, 4204458.2,       4.5,       4.5,       0.0);
     ( 649963.9, 4204458.2,       4.5,       4.5,       0.0);
( 649983.9, 4204458.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204458.2,       4.5,       4.5,       0.0);
( 650023.9, 4204458.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204458.2,       4.5,       4.5,       0.0);
( 650063.9, 4204458.2,       4.5,       4.5,       0.0);
     ( 650083.9, 4204458.2,       4.5,       4.5,       0.0);
( 650143.9, 4204458.2,       4.5,       4.5,       0.0);
     ( 650203.9, 4204458.2,       4.9,       4.9,       0.0);
( 650223.9, 4204458.2,       5.2,       5.2,       0.0);
     ( 649923.9, 4204478.2,       4.5,       4.5,       0.0);
( 649943.9, 4204478.2,       4.5,       4.5,       0.0);
     ( 649963.9, 4204478.2,       4.5,       4.5,       0.0);
( 649983.9, 4204478.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204478.2,       4.5,       4.5,       0.0);
( 650023.9, 4204478.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204478.2,       4.5,       4.5,       0.0);
( 650063.9, 4204478.2,       4.6,       4.6,       0.0);
     ( 650203.9, 4204478.2,       5.1,       5.1,       0.0);
( 649923.9, 4204498.2,       4.5,       4.5,       0.0);
     ( 649943.9, 4204498.2,       4.5,       4.5,       0.0);
( 649963.9, 4204498.2,       4.5,       4.5,       0.0);
     ( 649983.9, 4204498.2,       4.5,       4.5,       0.0);
( 650003.9, 4204498.2,       4.5,       4.5,       0.0);
```

```
     ( 650023.9, 4204498.2,       4.5,       4.5,       0.0);
( 650043.9, 4204498.2,       4.6,       4.6,       0.0);
```

*** DISCRETE
CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD,
ZELEV, ZHILL, ZFLAG)

(METERS)

(650063.9, 4204498.2, 4.8, 4.8, 0.0);
(650103.9, 4204498.2, 5.0, 5.0, 0.0);
(650123.9, 4204498.2, 5.0, 5.0, 0.0);
(650143.9, 4204498.2, 5.0, 5.0, 0.0);
(650163.9, 4204498.2, 5.0, 5.0, 0.0);
(650183.9, 4204498.2, 5.2, 5.2, 0.0);
(650203.9, 4204498.2, 5.2, 5.2, 0.0);
(649923.9, 4204518.2, 4.5, 4.5, 0.0);
(649943.9, 4204518.2, 4.5, 4.5, 0.0);
(649963.9, 4204518.2, 4.5, 4.5, 0.0);
(649983.9, 4204518.2, 4.5, 4.5, 0.0);
(650003.9, 4204518.2, 4.6, 4.6, 0.0);
(650023.9, 4204518.2, 4.7, 4.7, 0.0);
(650043.9, 4204518.2, 4.8, 4.8, 0.0);
(650063.9, 4204518.2, 5.0, 5.0, 0.0);
(650103.9, 4204518.2, 5.1, 5.1, 0.0);
(650123.9, 4204518.2, 5.1, 5.1, 0.0);
(650143.9, 4204518.2, 5.1, 5.1, 0.0);
(650163.9, 4204518.2, 5.2, 5.2, 0.0);
(650183.9, 4204518.2, 5.2, 5.2, 0.0);
(650203.9, 4204518.2, 5.2, 5.2, 0.0);
(650172.6, 4204361.1, 4.5, 4.5, 0.0);
(650181.7, 4204363.6, 4.5, 4.5, 0.0);
(650191.2, 4204366.7, 4.5, 4.5, 0.0);
(650200.6, 4204370.0, 4.5, 4.5, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: P:\300.Environmental\13355 St. Joseph's Hospital\13355.02 - EIR - Dignity Health Met Version: 18081
Profile file: P:\300.Environmental\13355 St. Joseph's Hospital\13355.02 - EIR - Dignity Health
Surface format: FREE
Profile format: FREE
Surface station no.: 23237 Upper air station no.: 23230
Name: UNKNOWN Name: OAKLAND/WSO_AP
Year: 2013 Year: 2013

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
13	01	01	1	01	-22.0	0.211	-9.000	-9.000	-999.	232.	48.8	0.07	2.20	1.00	2.78	149.	10.0	273.8	2.0
13	01	01	1	02	-14.6	0.158	-9.000	-9.000	-999.	152.	27.6	0.04	2.20	1.00	2.37	77.	10.0	273.8	2.0
13	01	01	1	03	-18.4	0.181	-9.000	-9.000	-999.	185.	36.0	0.06	2.20	1.00	2.52	97.	10.0	273.1	2.0
13	01	01	1	04	-6.7	0.105	-9.000	-9.000	-999.	84.	16.0	0.04	2.20	1.00	1.63	349.	10.0	272.5	2.0
13	01	01	1	05	-20.1	0.193	-9.000	-9.000	-999.	203.	40.9	0.04	2.20	1.00	2.86	356.	10.0	274.2	2.0
13	01	01	1	06	-3.9	0.081	-9.000	-9.000	-999.	64.	12.6	0.04	2.20	1.00	1.23	77.	10.0	273.8	2.0
13	01	01	1	07	-18.3	0.180	-9.000	-9.000	-999.	184.	35.8	0.06	2.20	1.00	2.52	255.	10.0	273.1	2.0
13	01	01	1	08	-26.9	0.259	-9.000	-9.000	-999.	316.	73.8	0.08	2.20	0.73	3.29	287.	10.0	274.2	2.0
13	01	01	1	09	-1.9	0.212	-9.000	-9.000	-999.	236.	461.6	0.05	2.20	0.39	2.81	315.	10.0	275.9	2.0
13	01	01	1	10	61.1	0.155	0.630	0.005	150.	147.	-5.5	0.04	2.20	0.27	1.60	336.	10.0	277.5	2.0
13	01	01	1	11	110.2	0.238	1.137	0.005	488.	279.	-11.2	0.06	2.20	0.23	2.45	228.	10.0	279.9	2.0

```
 13 01 01   1 12  137.1  0.276  1.492  0.008  886.  347.    -14.0
0.08   2.20   0.22    2.69  286.   10.0  280.4    2.0
 13 01 01   1 13  141.1  0.271  1.531  0.007  929.  339.    -12.9
0.05   2.20   0.21    2.88  325.   10.0  282.5    2.0
 13 01 01   1 14  121.3  0.232  1.475  0.006  965.  269.     -9.4
0.04   2.20   0.22    2.57  356.   10.0  283.8    2.0
 13 01 01   1 15   78.7  0.218  1.287  0.005  988.  244.    -12.0
0.04   2.20   0.26    2.47  357.   10.0  284.2    2.0
 13 01 01   1 16   17.6  0.265  0.783  0.005  993.  327.    -96.0
0.03   2.20   0.35    3.59    2.   10.0  284.2    2.0
 13 01 01   1 17  -11.2  0.143 -9.000 -9.000 -999.  139.     24.1
0.04   2.20   0.60    2.16  346.   10.0  282.5    2.0
 13 01 01   1 18   -8.7  0.125 -9.000 -9.000 -999.  107.     20.6
0.08   2.20   1.00    1.67  273.   10.0  279.2    2.0
 13 01 01   1 19  -13.3  0.154 -9.000 -9.000 -999.  145.     26.0
0.06   2.20   1.00    2.15  238.   10.0  278.1    2.0
 13 01 01   1 20  -10.2  0.134 -9.000 -9.000 -999.  117.     21.4
0.06   2.20   1.00    1.89  230.   10.0  275.9    2.0
 13 01 01   1 21  -12.5  0.148 -9.000 -9.000 -999.  137.     24.2
0.05   2.20   1.00    2.11  300.   10.0  276.4    2.0
 13 01 01   1 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.05   2.20   1.00    0.00    0.   10.0  275.9    2.0
 13 01 01   1 23  -24.0  0.230 -9.000 -9.000 -999.  264.     57.9
0.04   2.20   1.00    3.36   80.   10.0  274.2    2.0
 13 01 01   1 24  -16.1  0.169 -9.000 -9.000 -999.  167.     31.3
0.06   2.20   1.00    2.36  100.   10.0  274.2    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW
sigmaV
 13 01 01 01   10.0 1  149.    2.78   273.8
99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
649898.38	4203525.65	2.95016	649918.38	4203525.65	3.05075
650043.90	4203518.18	3.66313	650063.90	4203518.18	3.76520
650083.90	4203518.18	3.86490	650103.90	4203518.18	3.96162
650143.90	4203518.18	4.14434	650163.90	4203518.18	4.23058
650183.90	4203518.18	4.31399	650203.90	4203518.18	4.39549
650223.90	4203518.18	4.47645	650243.90	4203518.18	4.55809
650263.90	4203518.18	4.64173	650283.90	4203518.18	4.72862
650303.90	4203518.18	4.81955	650323.90	4203518.18	4.91476
650663.90	4203518.18	5.89934	650683.90	4203518.18	5.86777

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          650043.90    4203538.18         3.81972
650063.90    4203538.18         3.93207
          650083.90    4203538.18         4.04215
650103.90    4203538.18         4.14912
          650143.90    4203538.18         4.35260
650163.90    4203538.18         4.44889
          650183.90    4203538.18         4.54182
650203.90    4203538.18         4.63249
          650223.90    4203538.18         4.72238
650243.90    4203538.18         4.81291
          650263.90    4203538.18         4.90534
650283.90    4203538.18         5.00120
          650303.90    4203538.18         5.10124
650323.90    4203538.18         5.20576
          650523.90    4203538.18         6.17952
650543.90    4203538.18         6.22467
          650563.90    4203538.18         6.25577
650583.90    4203538.18         6.27305
          650663.90    4203538.18         6.21708
650683.90    4203538.18         6.17612
          650063.90    4203558.18         4.11013
650083.90    4203558.18         4.23198
          650103.90    4203558.18         4.35084
650143.90    4203558.18         4.57780
          650163.90    4203558.18         4.68539
650183.90    4203558.18         4.78918
          650203.90    4203558.18         4.89053
650223.90    4203558.18         4.99084
          650243.90    4203558.18         5.09169
650263.90    4203558.18         5.19431
          650283.90    4203558.18         5.30049
650303.90    4203558.18         5.41111
          650323.90    4203558.18         5.52648
650523.90    4203558.18         6.57056
          650543.90    4203558.18         6.61315
650563.90    4203558.18         6.63984
          650583.90    4203558.18         6.65108
650003.90    4203578.18         3.89024
          650023.90    4203578.18         4.02656
650043.90    4203578.18         4.16362
          650063.90    4203578.18         4.30025
650083.90    4203578.18         4.43533
          650123.90    4203578.18         4.69678
650143.90    4203578.18         4.82168
          650163.90    4203578.18         4.94218
650183.90    4203578.18         5.05862
          650203.90    4203578.18         5.17244
650223.90    4203578.18         5.28488
          650243.90    4203578.18         5.39758
650263.90    4203578.18         5.51223
          650283.90    4203578.18         5.63037
650303.90    4203578.18         5.75332
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         650323.90    4203578.18        5.88109
650523.90    4203578.18        7.00107
         650543.90    4203578.18        7.03965
650563.90    4203578.18        7.06026
         650583.90    4203578.18        7.06357
650063.90    4203598.18        4.50362
         650083.90    4203598.18        4.65335
650123.90    4203598.18        4.94550
         650143.90    4203598.18        5.08575
650163.90    4203598.18        5.22150
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650183.90	4203598.18	5.35309	650203.90	4203598.18	5.48138
650223.90	4203598.18	5.60779	650243.90	4203598.18	5.73416
650263.90	4203598.18	5.86325	650283.90	4203598.18	5.99546
650303.90	4203598.18	6.13271	650323.90	4203598.18	6.27490
650523.90	4203598.18	7.47608	650543.90	4203598.18	7.50876
650563.90	4203598.18	7.52108	650583.90	4203598.18	7.51407
650123.90	4203618.18	5.21487	650143.90	4203618.18	5.37303
650163.90	4203618.18	5.52656	650183.90	4203618.18	5.67541
650203.90	4203618.18	5.82086	650223.90	4203618.18	5.96408

650243.90 4203618.18 6.10681
650263.90 4203618.18 6.25205
650283.90 4203618.18 6.40130
650303.90 4203618.18 6.55549
650323.90 4203618.18 6.71492
650523.90 4203618.18 8.00133
650543.90 4203618.18 8.02556
650563.90 4203618.18 8.02678
650583.90 4203618.18 8.00641
650603.90 4203618.18 7.96621
650623.90 4203618.18 7.90807
650643.90 4203618.18 7.83394
649963.90 4203638.18 4.06839
649983.90 4203638.18 4.23612
650003.90 4203638.18 4.40951
650023.90 4203638.18 4.58793
650043.90 4203638.18 4.77026
650063.90 4203638.18 4.95478
650083.90 4203638.18 5.14021
650123.90 4203638.18 5.50738
650143.90 4203638.18 5.68634
650163.90 4203638.18 5.86067
650183.90 4203638.18 6.02986
650203.90 4203638.18 6.19566
650223.90 4203638.18 6.35875
650243.90 4203638.18 6.52092
650263.90 4203638.18 6.68550
650283.90 4203638.18 6.85462
650303.90 4203638.18 7.02884
650323.90 4203638.18 7.20891
650363.90 4203638.18 7.58062
650563.90 4203638.18 8.58247
650583.90 4203638.18 8.54488
650603.90 4203638.18 8.48552
650623.90 4203638.18 8.40678
650643.90 4203638.18 8.31102
650663.90 4203638.18 8.20055
650683.90 4203638.18 8.07754
649923.90 4203658.18 3.89447
649943.90 4203658.18 4.06037
649963.90 4203658.18 4.23437
649983.90 4203658.18 4.41616
650003.90 4203658.18 4.60518
650023.90 4203658.18 4.80046
650043.90 4203658.18 5.00119
650063.90 4203658.18 5.20571
650083.90 4203658.18 5.41253
650103.90 4203658.18 5.61988
650123.90 4203658.18 5.82590
650223.90 4203658.18 6.79672
650243.90 4203658.18 6.98279
650263.90 4203658.18 7.17171

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         650283.90    4203658.18        7.36377
650303.90    4203658.18        7.56154
         650363.90    4203658.18        8.18470
650383.90    4203658.18        8.39172
         650403.90    4203658.18        8.58837
650643.90    4203658.18        8.82470
         650663.90    4203658.18        8.68754
650683.90    4203658.18        8.53782
         649923.90    4203678.18        4.04419
649943.90    4203678.18        4.22261
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
649963.90	4203678.18	4.41044	649983.90	4203678.18	4.60746
650003.90	4203678.18	4.81335	650023.90	4203678.18	5.02754
650043.90	4203678.18	5.24872	650063.90	4203678.18	5.47583
650083.90	4203678.18	5.70689	650103.90	4203678.18	5.94010
650123.90	4203678.18	6.17338	650143.90	4203678.18	6.40488
650363.90	4203678.18	8.87331	650383.90	4203678.18	9.10547
650403.90	4203678.18	9.32255	649923.90	4203698.18	4.20246
649943.90	4203698.18	4.39424	649963.90	4203698.18	4.59725
649983.90	4203698.18	4.81106	650003.90	4203698.18	5.03566

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          650023.90    4203698.18         5.27047
650043.90    4203698.18         5.51459
          650063.90    4203698.18         5.76693
650083.90    4203698.18         6.02543
          650103.90    4203698.18         6.28826
650123.90    4203698.18         6.55335
          650143.90    4203698.18         6.81753
649923.90    4203718.18         4.36971
          649943.90    4203718.18         4.57627
649963.90    4203718.18         4.79544
          649983.90    4203718.18         5.02781
650003.90    4203718.18         5.27319
          650023.90    4203718.18         5.53086
650043.90    4203718.18         5.80100
          650063.90    4203718.18         6.08133
650083.90    4203718.18         6.37127
          650103.90    4203718.18         6.66837
650123.90    4203718.18         6.96992
          650143.90    4203718.18         7.27340
649923.90    4203738.18         4.54645
          649943.90    4203738.18         4.76897
649963.90    4203738.18         5.00625
          649983.90    4203738.18         5.25886
650003.90    4203738.18         5.52704
          650023.90    4203738.18         5.81050
650043.90    4203738.18         6.10939
          650063.90    4203738.18         6.42174
650083.90    4203738.18         6.74725
          650103.90    4203738.18         7.08355
650123.90    4203738.18         7.42784
          650143.90    4203738.18         7.77742
650163.90    4203738.18         8.12976
          650183.90    4203738.18         8.47999
650203.90    4203738.18         8.82755
          649923.90    4203758.18         4.73321
649943.90    4203758.18         4.97312
          649963.90    4203758.18         5.23006
649983.90    4203758.18         5.50512
          650003.90    4203758.18         5.79852
650023.90    4203758.18         6.11071
          650043.90    4203758.18         6.44185
650063.90    4203758.18         6.79041
          650083.90    4203758.18         7.15653
650103.90    4203758.18         7.53804
          650123.90    4203758.18         7.93225
650143.90    4203758.18         8.33681
          650163.90    4203758.18         8.74783
650183.90    4203758.18         9.16059
          650203.90    4203758.18         9.57336
649923.90    4203778.18         4.93048
          649943.90    4203778.18         5.18918
649963.90    4203778.18         5.46782
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         649983.90    4203778.18        5.76720
650003.90    4203778.18        6.08874
         650023.90    4203778.18        6.43298
650043.90    4203778.18        6.80009
         650063.90    4203778.18        7.19052
650083.90    4203778.18        7.60314
         650103.90    4203778.18        8.03631
650123.90    4203778.18        8.48900
         649923.90    4203798.18        5.13893
649943.90    4203798.18        5.41847
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
649963.90	4203798.18	5.72053	649983.90	4203798.18	6.04714
650003.90	4203798.18	6.39970	650023.90	4203798.18	6.77954
650043.90	4203798.18	7.18716	650063.90	4203798.18	7.62430
650083.90	4203798.18	8.09061	650103.90	4203798.18	8.58445
650123.90	4203798.18	9.10596	649923.90	4203818.18	5.35890
649943.90	4203818.18	5.66114	649963.90	4203818.18	5.98902
649983.90	4203818.18	6.34541	650003.90	4203818.18	6.73208
650023.90	4203818.18	7.15166	650043.90	4203818.18	7.60552
650063.90	4203818.18	8.09587	650083.90	4203818.18	8.62323

650103.90 4203818.18 9.18857
650123.90 4203818.18 9.79143
650143.90 4203818.18 10.43186
650163.90 4203818.18 11.10739
650196.10 4203810.71 11.83498
650216.10 4203810.71 12.52297
649923.90 4203838.18 5.59085
649943.90 4203838.18 5.91737
649963.90 4203838.18 6.27366
649983.90 4203838.18 6.66274
650003.90 4203838.18 7.08770
650023.90 4203838.18 7.55135
650043.90 4203838.18 8.05734
650063.90 4203838.18 8.60829
650083.90 4203838.18 9.20642
650196.10 4203830.71 13.02740
650216.10 4203830.71 13.88389
649923.90 4203858.18 5.83501
649943.90 4203858.18 6.18808
649963.90 4203858.18 6.57539
649983.90 4203858.18 7.00034
650003.90 4203858.18 7.46731
650023.90 4203858.18 7.98034
650043.90 4203858.18 8.54502
650063.90 4203858.18 9.16493
650083.90 4203858.18 9.84463
649923.90 4203878.18 6.09189
649943.90 4203878.18 6.47376
649963.90 4203878.18 6.89486
649983.90 4203878.18 7.35908
650003.90 4203878.18 7.87235
650023.90 4203878.18 8.44064
650043.90 4203878.18 9.07082
650063.90 4203878.18 9.76905
650083.90 4203878.18 10.54266
650743.90 4203878.18 12.88339
650763.90 4203878.18 12.25261
650783.90 4203878.18 11.66001
650803.90 4203878.18 11.10307
650823.90 4203878.18 10.57963
650843.90 4203878.18 10.08825
650863.90 4203878.18 9.62709
649923.90 4203898.18 6.36188
649943.90 4203898.18 6.77524
649963.90 4203898.18 7.23225
649983.90 4203898.18 7.73931
650003.90 4203898.18 8.30342
650023.90 4203898.18 8.93247
650043.90 4203898.18 9.63580
650063.90 4203898.18 10.42251
650083.90 4203898.18 11.30367
650743.90 4203898.18 13.29651

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         650763.90    4203898.18       12.61501
650783.90    4203898.18       11.97771
         650803.90    4203898.18       11.38151
650823.90    4203898.18       10.82380
         650843.90    4203898.18       10.30267
650863.90    4203898.18        9.81529
         649923.90    4203918.18        6.64440
649943.90    4203918.18        7.09175
         649963.90    4203918.18        7.58824
649983.90    4203918.18        8.14161
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650003.90	4203918.18	8.76134	650023.90	4203918.18	9.45781
650043.90	4203918.18	10.24203	650063.90	4203918.18	11.12887
650083.90	4203918.18	12.13349	650723.90	4203918.18	14.47289
650743.90	4203918.18	13.68463	650763.90	4203918.18	12.95271
650783.90	4203918.18	12.27150	650803.90	4203918.18	11.63733
650823.90	4203918.18	11.04684	650843.90	4203918.18	10.49703
650863.90	4203918.18	9.98478	649923.90	4203938.18	6.93937
649943.90	4203938.18	7.42273	649963.90	4203938.18	7.96179
649983.90	4203938.18	8.56641	650003.90	4203938.18	9.24675

650023.90 4203938.18 10.01620
650043.90 4203938.18 10.89027
650063.90 4203938.18 11.88761
650083.90 4203938.18 13.03254
650103.90 4203938.18 14.35136
650123.90 4203938.18 15.88025
650143.90 4203938.18 17.66922
650723.90 4203938.18 14.88615
650743.90 4203938.18 14.04169
650763.90 4203938.18 13.26058
650783.90 4203938.18 12.53718
650803.90 4203938.18 11.86691
650823.90 4203938.18 11.24531
650843.90 4203938.18 10.66869
649923.90 4203958.18 7.24519
649943.90 4203958.18 7.76734
649963.90 4203958.18 8.35242
649983.90 4203958.18 9.01098
650003.90 4203958.18 9.75716
650023.90 4203958.18 10.60625
650043.90 4203958.18 11.57851
650063.90 4203958.18 12.69915
650083.90 4203958.18 13.99831
650103.90 4203958.18 15.51430
650123.90 4203958.18 17.30148
650143.90 4203958.18 19.42907
650723.90 4203958.18 15.25952
650743.90 4203958.18 14.36088
650763.90 4203958.18 13.53331
650783.90 4203958.18 12.77054
650803.90 4203958.18 12.06667
650823.90 4203958.18 11.41641
650843.90 4203958.18 10.81536
649923.90 4203978.18 7.56072
649943.90 4203978.18 8.12408
649963.90 4203978.18 8.75738
649983.90 4203978.18 9.47431
650003.90 4203978.18 10.28992
650023.90 4203978.18 11.22438
650043.90 4203978.18 12.30314
650063.90 4203978.18 13.55693
650083.90 4203978.18 15.02481
650103.90 4203978.18 16.76133
650123.90 4203978.18 18.83575
650703.90 4203978.18 16.62243
650723.90 4203978.18 15.58494
650743.90 4203978.18 14.63581
650763.90 4203978.18 13.76576
650783.90 4203978.18 12.96712
650803.90 4203978.18 12.23302
650823.90 4203978.18 11.55721
650843.90 4203978.18 10.93469

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         649923.90    4203998.18        7.88372
649943.90    4203998.18        8.49045
         649963.90    4203998.18        9.17501
649983.90    4203998.18        9.95270
         650003.90    4203998.18       10.84162
650023.90    4203998.18       11.86649
         650043.90    4203998.18       13.05848
650063.90    4203998.18       14.45433
         650083.90    4203998.18       16.10433
650103.90    4203998.18       18.07697
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650123.90	4203998.18	20.46591	650703.90	4203998.18	16.94638
650723.90	4203998.18	15.85496	650743.90	4203998.18	14.86071
650763.90	4203998.18	13.95298	650783.90	4203998.18	13.12295
650803.90	4203998.18	12.36269	650823.90	4203998.18	11.66505
650843.90	4203998.18	11.02428	649923.90	4204018.18	8.21023
649943.90	4204018.18	8.86195	649963.90	4204018.18	9.59981
649983.90	4204018.18	10.44123	650003.90	4204018.18	11.40782
650023.90	4204018.18	12.52798	650043.90	4204018.18	13.83609
650063.90	4204018.18	15.38172	650083.90	4204018.18	17.22317

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         650103.90    4204018.18       19.44497
650123.90    4204018.18       22.16787
         650703.90    4204018.18       17.20125
650723.90    4204018.18       16.06298
         650743.90    4204018.18       15.03006
650763.90    4204018.18       14.09063
         650783.90    4204018.18       13.23452
650803.90    4204018.18       12.45285
         650823.90    4204018.18       11.73766
650843.90    4204018.18       11.08236
         649923.90    4204038.18        8.53749
649943.90    4204038.18        9.23534
         649963.90    4204038.18       10.02799
649983.90    4204038.18       10.93564
         650003.90    4204038.18       11.98177
650023.90    4204038.18       13.19862
         650043.90    4204038.18       14.62777
650063.90    4204038.18       16.32669
         650083.90    4204038.18       18.36541
650103.90    4204038.18       20.84609
         650123.90    4204038.18       23.91582
650683.90    4204038.18       18.68375
         650703.90    4204038.18       17.37976
650723.90    4204038.18       16.20330
         650743.90    4204038.18       15.13949
650763.90    4204038.18       14.17518
         650783.90    4204038.18       13.29904
650803.90    4204038.18       12.50125
         650823.90    4204038.18       11.77315
649923.90    4204058.18        8.86172
         649943.90    4204058.18        9.60568
649963.90    4204058.18       10.45431
         649983.90    4204058.18       11.42866
650003.90    4204058.18       12.55478
         650023.90    4204058.18       13.87047
650043.90    4204058.18       15.42241
         650063.90    4204058.18       17.27539
650083.90    4204058.18       19.51368
         650103.90    4204058.18       22.26070
650123.90    4204058.18       25.68443
         650683.90    4204058.18       18.81667
650703.90    4204058.18       17.47659
         650723.90    4204058.18       16.27175
650743.90    4204058.18       15.18574
         650763.90    4204058.18       14.20408
650783.90    4204058.18       13.31449
         650803.90    4204058.18       12.50631
650823.90    4204058.18       11.77019
         649923.90    4204078.18        9.17897
649943.90    4204078.18        9.96862
         649963.90    4204078.18       10.87248
649983.90    4204078.18       11.91266
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         650003.90    4204078.18       13.12017
650023.90    4204078.18       14.53488
         650043.90    4204078.18       16.21100
650063.90    4204078.18       18.21818
         650083.90    4204078.18       20.65629
650103.90    4204078.18       23.66664
         650123.90    4204078.18       27.44319
650683.90    4204078.18       18.85278
         650703.90    4204078.18       17.48869
650723.90    4204078.18       16.26605
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650743.90	4204078.18	15.16700	650763.90	4204078.18	14.17601
650783.90	4204078.18	13.27984	650803.90	4204078.18	12.46714
650823.90	4204078.18	11.72814	649923.90	4204098.18	9.48527
649943.90	4204098.18	10.31930	649963.90	4204098.18	11.27708
649983.90	4204098.18	12.38241	650003.90	4204098.18	13.66929
650023.90	4204098.18	15.18158	650043.90	4204098.18	16.97911
650063.90	4204098.18	19.14097	650083.90	4204098.18	21.77639
650103.90	4204098.18	25.04208	650123.90	4204098.18	29.17323
650143.90	4204098.18	34.51725	650163.90	4204098.18	41.63322

650663.90 4204098.18 20.33427
650683.90 4204098.18 18.79028
650703.90 4204098.18 17.41497
650723.90 4204098.18 16.18558
650743.90 4204098.18 15.08294
650763.90 4204098.18 14.09072
650783.90 4204098.18 13.19493
650803.90 4204098.18 12.38370
650823.90 4204098.18 11.64690
649923.90 4204118.18 9.77636
649943.90 4204118.18 10.65359
649963.90 4204118.18 11.66224
649983.90 4204118.18 12.82996
650003.90 4204118.18 14.19218
650023.90 4204118.18 15.79837
650043.90 4204118.18 17.71305
650063.90 4204118.18 20.02293
650083.90 4204118.18 22.84864
650103.90 4204118.18 26.36509
650123.90 4204118.18 30.83874
650143.90 4204118.18 36.67229
650163.90 4204118.18 44.52997
650182.31 4204112.08 53.32201
650663.90 4204118.18 20.17652
650683.90 4204118.18 18.63028
650703.90 4204118.18 17.25662
650723.90 4204118.18 16.03152
650743.90 4204118.18 14.93473
650763.90 4204118.18 13.94927
650783.90 4204118.18 13.06065
650803.90 4204118.18 12.25671
650823.90 4204118.18 11.52709
649923.90 4204138.18 10.04963
649943.90 4204138.18 10.96651
649963.90 4204138.18 12.02303
649983.90 4204138.18 13.24897
650003.90 4204138.18 14.68154
650023.90 4204138.18 16.37350
650043.90 4204138.18 18.39800
650063.90 4204138.18 20.84697
650083.90 4204138.18 23.85402
650103.90 4204138.18 27.60748
650123.90 4204138.18 32.40645
650143.90 4204138.18 38.71692
650156.64 4204142.19 44.33326
650643.90 4204138.18 21.64721
650663.90 4204138.18 19.90942
650683.90 4204138.18 18.37605
650703.90 4204138.18 17.01681
650723.90 4204138.18 15.80660
650743.90 4204138.18 14.72468
650763.90 4204138.18 13.75358

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         650783.90    4204138.18       12.87863
650803.90    4204138.18       12.08748
         649923.90    4204158.18       10.30071
649943.90    4204158.18       11.25322
         649963.90    4204158.18       12.35347
649983.90    4204158.18       13.63095
         650003.90    4204158.18       15.12656
650023.90    4204158.18       16.89641
         650043.90    4204158.18       19.01851
650063.90    4204158.18       21.59680
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650083.90	4204158.18	24.76685	650103.90	4204158.18	28.73569
650123.90	4204158.18	33.83504	650143.90	4204158.18	40.58073
650177.74	4204157.98	58.64743	650643.90	4204158.18	21.24918
650663.90	4204158.18	19.53864	650683.90	4204158.18	18.03259
650703.90	4204158.18	16.69980	650723.90	4204158.18	15.51461
650743.90	4204158.18	14.45591	650763.90	4204158.18	13.50623
650783.90	4204158.18	12.65091	650803.90	4204158.18	11.87768
650923.90	4204158.18	8.48320	649923.90	4204178.18	10.52663
649943.90	4204178.18	11.51076	649963.90	4204178.18	12.64833

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         649983.90    4204178.18       13.97006
650003.90    4204178.18       15.51516
         650023.90    4204178.18       17.35042
650043.90    4204178.18       19.55757
         650063.90    4204178.18       22.24226
650083.90    4204178.18       25.55929
         650103.90    4204178.18       29.71418
650123.90    4204178.18       35.06415
         650143.90    4204178.18       42.16594
650156.35    4204185.33       48.45422
         650643.90    4204178.18       20.73792
650663.90    4204178.18       19.07125
         650683.90    4204178.18       17.60608
650703.90    4204178.18       16.31082
         650723.90    4204178.18       15.15979
650743.90    4204178.18       14.13200
         650763.90    4204178.18       13.21020
650783.90    4204178.18       12.37998
         650803.90    4204178.18       11.62940
650903.90    4204178.18        8.76888
         650923.90    4204178.18        8.33077
649923.90    4204198.18       10.72359
         649943.90    4204198.18       11.73327
649963.90    4204198.18       12.90049
         649983.90    4204198.18       14.25570
650003.90    4204198.18       15.84040
         650023.90    4204198.18       17.72638
650043.90    4204198.18       19.99992
         650063.90    4204198.18       22.77056
650083.90    4204198.18       26.19543
         650103.90    4204198.18       30.49601
650123.90    4204198.18       36.02596
         650143.90    4204198.18       43.36502
650643.90    4204198.18       20.12202
         650663.90    4204198.18       18.51460
650683.90    4204198.18       17.10267
         650703.90    4204198.18       15.85503
650723.90    4204198.18       14.74645
         650743.90    4204198.18       13.75656
650763.90    4204198.18       12.86850
         650783.90    4204198.18       12.06845
650803.90    4204198.18       11.34474
         650903.90    4204198.18        8.58225
650923.90    4204198.18        8.15827
         649923.90    4204218.18       10.88769
649943.90    4204218.18       11.91610
         649963.90    4204218.18       13.10432
649983.90    4204218.18       14.48178
         650003.90    4204218.18       16.09145
650023.90    4204218.18       18.01081
         650043.90    4204218.18       20.32848
650063.90    4204218.18       23.16024
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         650083.90    4204218.18       26.65371
650103.90    4204218.18       31.04464
         650123.90    4204218.18       36.67249
650623.90    4204218.18       21.16775
         650643.90    4204218.18       19.40923
650703.90    4204218.18       15.33718
         650723.90    4204218.18       14.27871
650743.90    4204218.18       13.33303
         650763.90    4204218.18       12.48415
650903.90    4204218.18        8.37469
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650923.90	4204218.18	7.96664	649923.90	4204238.18	11.01077
649943.90	4204238.18	12.04884	649963.90	4204238.18	13.24817
649983.90	4204238.18	14.63300	650003.90	4204238.18	16.24795
650023.90	4204238.18	18.18529	650043.90	4204238.18	20.52651
650063.90	4204238.18	23.38166	650083.90	4204238.18	26.90027
650103.90	4204238.18	31.32625	650123.90	4204238.18	36.96978
650623.90	4204238.18	20.26376	650643.90	4204238.18	18.60588
650703.90	4204238.18	14.76162	650723.90	4204238.18	13.76038
650743.90	4204238.18	12.86484	650763.90	4204238.18	12.06006

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          650903.90    4204238.18        8.14739
650923.90    4204238.18        7.75693
          649923.90    4204258.18       11.08600
649943.90    4204258.18       12.12382
          649963.90    4204258.18       13.32091
649983.90    4204258.18       14.70532
          650003.90    4204258.18       16.32280
650023.90    4204258.18       18.25447
          650043.90    4204258.18       20.58345
650063.90    4204258.18       23.41806
          650083.90    4204258.18       26.91457
650103.90    4204258.18       31.30660
          650123.90    4204258.18       36.89070
650143.90    4204258.18       44.15258
          650623.90    4204258.18       19.25826
650643.90    4204258.18       17.71773
          650903.90    4204258.18        7.90175
650923.90    4204258.18        7.53034
          649923.90    4204278.18       11.10957
649943.90    4204278.18       12.13622
          649963.90    4204278.18       13.31910
649983.90    4204278.18       14.68989
          650003.90    4204278.18       16.30377
650023.90    4204278.18       18.20729
          650043.90    4204278.18       20.48155
650063.90    4204278.18       23.24251
          650083.90    4204278.18       26.66045
650103.90    4204278.18       30.94252
          650123.90    4204278.18       36.35351
650623.90    4204278.18       18.15967
          650643.90    4204278.18       16.75235
650903.90    4204278.18        7.63946
          650923.90    4204278.18        7.28848
649923.90    4204298.18       11.08006
          649943.90    4204298.18       12.09337
649963.90    4204298.18       13.25856
          649983.90    4204298.18       14.60685
650003.90    4204298.18       16.18059
          650023.90    4204298.18       18.03057
650043.90    4204298.18       20.22654
          650063.90    4204298.18       22.87246
650083.90    4204298.18       26.10513
          650103.90    4204298.18       30.14301
650123.90    4204298.18       35.23664
          650883.90    4204298.18        7.71761
650903.90    4204298.18        7.36251
          650923.90    4204298.18        7.03303
649923.90    4204318.18       11.00198
          649943.90    4204318.18       11.99113
649963.90    4204318.18       13.12472
          649983.90    4204318.18       14.43020
650003.90    4204318.18       15.94412
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         650023.90    4204318.18       17.71345
650043.90    4204318.18       19.79940
         650063.90    4204318.18       22.28327
650083.90    4204318.18       25.27827
         650127.68    4204307.44       35.59946
650883.90    4204318.18        7.40344
         650903.90    4204318.18        7.07322
650923.90    4204318.18        6.76606
         649923.90    4204338.18       10.87589
649943.90    4204338.18       11.83109
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
649963.90	4204338.18	12.91885	649983.90	4204338.18	14.16448
650003.90	4204338.18	15.59954	650023.90	4204338.18	17.26388
650043.90	4204338.18	19.20843	650063.90	4204338.18	21.49930
650883.90	4204338.18	7.07909	650903.90	4204338.18	6.77431
650923.90	4204338.18	6.49002	649923.90	4204358.18	10.70217
649943.90	4204358.18	11.61348	649963.90	4204358.18	12.64507
649983.90	4204358.18	13.81825	650003.90	4204358.18	15.15908
650023.90	4204358.18	16.69966	650043.90	4204358.18	18.47990
650063.90	4204358.18	20.54988	650883.90	4204358.18	6.74802

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          650903.90    4204358.18         6.46884
650923.90    4204358.18         6.20760
          649923.90    4204378.18        10.48448
649943.90    4204378.18        11.34508
          649963.90    4204378.18        12.31253
649983.90    4204378.18        13.40402
          650003.90    4204378.18        14.64000
650023.90    4204378.18        16.04486
          650043.90    4204378.18        17.64770
650063.90    4204378.18        19.48308
          650083.90    4204378.18        21.59164
650103.90    4204378.18        24.01953
          650903.90    4204378.18         6.16013
650923.90    4204378.18         5.92173
          649923.90    4204398.18        10.22916
649943.90    4204398.18        11.03415
          649963.90    4204398.18        11.93209
649983.90    4204398.18        12.93617
          650003.90    4204398.18        14.06145
650023.90    4204398.18        15.32505
          650043.90    4204398.18        16.74603
650063.90    4204398.18        18.34484
          650083.90    4204398.18        20.14186
650103.90    4204398.18        22.15358
          649923.90    4204418.18         9.94307
649943.90    4204418.18        10.68941
          649963.90    4204418.18        11.51489
649983.90    4204418.18        12.42892
          650003.90    4204418.18        13.44162
650023.90    4204418.18        14.56348
          650043.90    4204418.18        15.80464
650103.90    4204418.18        20.29883
          649923.90    4204438.18         9.63291
649943.90    4204438.18        10.31918
          649963.90    4204438.18        11.07120
649983.90    4204438.18        11.89496
          650003.90    4204438.18        12.79616
650023.90    4204438.18        13.77951
          650043.90    4204438.18        14.84765
650063.90    4204438.18        15.99920
          650083.90    4204438.18        17.22555
650143.90    4204438.18        21.03389
          650209.72    4204428.68        25.30010
650229.72    4204428.68        25.17648
          649923.90    4204458.18         9.30479
649943.90    4204458.18         9.93080
          649963.90    4204458.18        10.60986
649983.90    4204458.18        11.34494
          650003.90    4204458.18        12.13793
650023.90    4204458.18        12.98878
          650043.90    4204458.18        13.89427
650063.90    4204458.18        14.84603
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         650083.90    4204458.18       15.83044
650143.90    4204458.18       18.58312
         650203.90    4204458.18       19.70560
650223.90    4204458.18       19.45676
         649923.90    4204478.18        8.96399
649943.90    4204478.18        9.53050
         649963.90    4204478.18       10.13826
649983.90    4204478.18       10.78764
         650003.90    4204478.18       11.47745
650023.90    4204478.18       12.20485
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650043.90	4204478.18	12.96562	650063.90	4204478.18	13.74619
650203.90	4204478.18	16.90847	649923.90	4204498.18	8.61497
649943.90	4204498.18	9.12351	649963.90	4204498.18	9.66253
649983.90	4204498.18	10.23097	650003.90	4204498.18	10.82479
650023.90	4204498.18	11.44011	650043.90	4204498.18	12.07099
650063.90	4204498.18	12.70150	650103.90	4204498.18	13.85285
650123.90	4204498.18	14.30496	650143.90	4204498.18	14.63537
650163.90	4204498.18	14.81645	650183.90	4204498.18	14.82481
650203.90	4204498.18	14.65890	649923.90	4204518.18	8.26152

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         649943.90    4204518.18        8.71474
649963.90    4204518.18        9.18944
         649983.90    4204518.18        9.68369
650003.90    4204518.18       10.19281
         650023.90    4204518.18       10.70898
650043.90    4204518.18       11.22101
         650063.90    4204518.18       11.71571
650103.90    4204518.18       12.55965
         650123.90    4204518.18       12.85553
650143.90    4204518.18       13.03984
         650163.90    4204518.18       13.09759
650183.90    4204518.18       13.02525
         650203.90    4204518.18       12.83895
650172.55    4204361.09       39.76128
         650181.70    4204363.65       41.48238
650191.23    4204366.71       42.95373
         650200.63    4204370.00       43.88259
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649898.38	4203525.65	74.56324	(14121622)	649918.38	4203525.65	76.22407	(14121622)
650043.90	4203518.18	84.96922	(16031018)	650063.90	4203518.18	87.20312	(16031018)
650083.90	4203518.18	91.02228	(17122819)	650103.90	4203518.18	94.11174	(16040707)
650143.90	4203518.18	95.67571	(16011805)	650163.90	4203518.18	97.74330	(16011805)
650183.90	4203518.18	97.93621	(17122420)	650203.90	4203518.18	102.24742	(17012519)
650223.90	4203518.18	103.76970	(17012519)	650243.90	4203518.18	102.16475	(17012519)
650263.90	4203518.18	108.98777	(17011209)	650283.90	4203518.18	115.98822	(17011209)
650303.90	4203518.18	118.98355	(17011209)	650323.90	4203518.18	118.37403	(17020417)
650663.90	4203518.18	86.08996	(17021319)				

650683.90   4203518.18   83.23224 (17021319)
        650043.90   4203538.18   87.51499 (16021923)
650063.90   4203538.18   90.04732 (16031018)
        650083.90   4203538.18   93.58182 (17122819)
650103.90   4203538.18   97.09434 (16040707)
        650143.90   4203538.18   98.82719 (16040707)
650163.90   4203538.18   101.60596 (16011805)
        650183.90   4203538.18   102.10868 (14120619)
650203.90   4203538.18   106.14765 (17012519)
        650223.90   4203538.18   108.19363 (17012519)
650243.90   4203538.18   106.85008 (17012519)
        650263.90   4203538.18   113.47993 (17011209)
650283.90   4203538.18   120.97955 (17011209)
        650303.90   4203538.18   124.10442 (17011209)
650323.90   4203538.18   123.65512 (17020417)
        650523.90   4203538.18   101.78888 (17122718)
650543.90   4203538.18   101.62647 (17122718)
        650563.90   4203538.18   99.05111 (17122718)
650583.90   4203538.18   96.36985 (17121519)
        650663.90   4203538.18   87.81887 (17021319)
650683.90   4203538.18   84.01803 (17021319)
        650063.90   4203558.18   92.77030 (16031018)
650083.90   4203558.18   96.02697 (17122819)
        650103.90   4203558.18   100.03083 (16040707)
650143.90   4203558.18   103.41328 (16040707)
        650163.90   4203558.18   105.59132 (16011805)
650183.90   4203558.18   106.50755 (14120619)
        650203.90   4203558.18   110.23972 (17012519)
650223.90   4203558.18   112.89807 (17012519)
        650243.90   4203558.18   111.87947 (17012519)
650263.90   4203558.18   118.29390 (17011209)
        650283.90   4203558.18   126.35137 (17011209)
650303.90   4203558.18   129.61777 (17011209)
        650323.90   4203558.18   129.33220 (17020417)
650523.90   4203558.18   106.36742 (17122718)
        650543.90   4203558.18   104.99609 (17122718)
650563.90   4203558.18   101.71381 (17121519)
        650583.90   4203558.18   98.66118 (17121519)
650003.90   4203578.18   91.25314 (17122818)
        650023.90   4203578.18   93.98543 (17122818)
650043.90   4203578.18   94.95843 (17122818)
        650063.90   4203578.18   95.40937 (16021923)
650083.90   4203578.18   98.32399 (16031018)
        650123.90   4203578.18   106.86011 (16040707)
650143.90   4203578.18   108.13030 (16040707)
        650163.90   4203578.18   109.68717 (16011805)
650183.90   4203578.18   111.15744 (16011805)
        650203.90   4203578.18   114.53410 (17012519)
650223.90   4203578.18   117.90654 (17012519)
        650243.90   4203578.18   117.28213 (17012519)
650263.90   4203578.18   123.46463 (17011209)
        650283.90   4203578.18   132.14750 (17011209)

650303.90   4203578.18   135.56784 (17011209)
        650323.90   4203578.18   135.44223 (17020417)
650523.90   4203578.18   110.72912 (17122718)
        650543.90   4203578.18   107.99977 (17122718)
650563.90   4203578.18   104.81892 (17121519)
        650583.90   4203578.18   100.48372 (17121519)
650063.90   4203598.18   98.80164 (17122818)
        650083.90   4203598.18   101.67560 (16031018)
650123.90   4203598.18   110.64796 (16040707)
        650143.90   4203598.18   112.92975 (16040707)
650163.90   4203598.18   113.86892 (16011805)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650183.90	4203598.18	116.25239	(16011805)
650203.90	4203598.18	119.03576	(17012519)
650223.90	4203598.18	123.23289	(17012519)
650243.90	4203598.18	123.08509	(17012519)
650263.90	4203598.18	129.02631	(17011209)
650283.90	4203598.18	138.41911	(17011209)
650303.90	4203598.18	142.00367	(17011209)
650323.90	4203598.18	142.03155	(17020417)
650523.90	4203598.18	114.77299	(17122718)
650543.90	4203598.18	111.00208	(17121519)
650563.90	4203598.18	107.45590	(17121519)
650583.90	4203598.18	104.32916	(17010419)
650123.90	4203618.18	114.36323	(16040707)
650143.90	4203618.18	117.80490	(16040707)
650163.90	4203618.18	118.13166	(16011805)
650183.90	4203618.18	121.55735	(16011805)
650203.90	4203618.18	123.74044	(17012519)

650223.90   4203618.18   128.91170 (17012519)
        650243.90   4203618.18   129.35868 (17012519)
650263.90   4203618.18   135.00341 (17011209)
        650283.90   4203618.18   145.21986 (17011209)
650303.90   4203618.18   148.98716 (17011209)
        650323.90   4203618.18   149.16038 (17020417)
650523.90   4203618.18   118.38682 (17122718)
        650543.90   4203618.18   114.60643 (17121519)
650563.90   4203618.18   109.52968 (17121519)
        650583.90   4203618.18   108.01139 (17021319)
650603.90   4203618.18   105.72936 (17021319)
        650623.90   4203618.18   101.55839 (17021319)
650643.90   4203618.18   95.87808 (17021319)
        649963.90   4203638.18   93.13416 (14121622)
649983.90   4203638.18   95.68244 (14121622)
        650003.90   4203638.18   98.15828 (13120719)
650023.90   4203638.18   101.69735 (17122818)
        650043.90   4203638.18   105.92560 (17122818)
650063.90   4203638.18   108.09127 (17122818)
        650083.90   4203638.18   108.58024 (16021923)
650123.90   4203638.18   118.38010 (17122819)
        650143.90   4203638.18   122.71560 (16040707)
650163.90   4203638.18   123.90137 (16040707)
        650183.90   4203638.18   127.08031 (16011805)
650203.90   4203638.18   128.83379 (17122420)
        650223.90   4203638.18   134.96742 (17012519)
650243.90   4203638.18   136.14263 (17012519)
        650263.90   4203638.18   141.47191 (17011209)
650283.90   4203638.18   152.61435 (17011209)
        650303.90   4203638.18   156.58331 (17011209)
650323.90   4203638.18   156.88463 (17020417)
        650363.90   4203638.18   145.39920 (17020417)
650563.90   4203638.18   114.02523 (17010419)
        650583.90   4203638.18   111.83000 (17021319)
650603.90   4203638.18   108.05499 (17021319)
        650623.90   4203638.18   102.50000 (17021319)
650643.90   4203638.18   96.20870 (17121520)
        650663.90   4203638.18   93.61819 (17121520)
650683.90   4203638.18   89.87778 (17020419)
        649923.90   4203658.18   94.59306 (14041207)
649943.90   4203658.18   96.08278 (14041207)
        649963.90   4203658.18   96.23692 (14041207)
649983.90   4203658.18   98.55155 (14121622)
        650003.90   4203658.18   100.68209 (14121622)
650023.90   4203658.18   104.07515 (13120719)
        650043.90   4203658.18   108.97508 (17122818)
650063.90   4203658.18   112.42027 (17122818)
        650083.90   4203658.18   113.46640 (17122818)
650103.90   4203658.18   115.91098 (16031018)
        650123.90   4203658.18   122.42586 (17122819)
650223.90   4203658.18   141.38340 (17012519)
        650243.90   4203658.18   143.47196 (17012519)

650263.90   4203658.18   148.51069 (17011209)
        650283.90   4203658.18   160.67901 (17011209)
650303.90   4203658.18   164.86341 (17011209)
        650363.90   4203658.18   151.80440 (17012806)
650383.90   4203658.18   150.26996 (17020420)
        650403.90   4203658.18   149.38949 (17020420)
650643.90   4203658.18   98.80602 (17121520)
        650663.90   4203658.18   95.03377 (17121520)
650683.90   4203658.18   92.25462 (17020419)
        649923.90   4203678.18   96.89371 (14041207)
649943.90   4203678.18   99.43415 (14041207)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649963.90	4203678.18	100.62646	(14041207)
649983.90	4203678.18	100.95109	(14121622)
650003.90	4203678.18	104.21224	(14121622)
650023.90	4203678.18	107.07268	(13120719)
650043.90	4203678.18	111.60791	(17122818)
650063.90	4203678.18	116.43455	(17122818)
650083.90	4203678.18	118.86522	(17122818)
650103.90	4203678.18	120.07416	(16021923)
650123.90	4203678.18	126.28642	(17122819)
650143.90	4203678.18	132.45048	(16040707)
650363.90	4203678.18	159.81298	(17012806)
650383.90	4203678.18	159.08226	(17020420)
650403.90	4203678.18	156.33299	(17020420)
649923.90	4203698.18	98.59481	(14041207)
649943.90	4203698.18	102.23660	(14041207)
649963.90	4203698.18	104.55195	(14041207)
649983.90	4203698.18	105.38771	(14041207)

650003.90   4203698.18   107.27969 (14121622)
        650023.90   4203698.18   110.11591 (14121622)
650043.90   4203698.18   113.97164 (13120719)
        650063.90   4203698.18   120.04905 (17122818)
650083.90   4203698.18   123.99282 (17122818)
        650103.90   4203698.18   125.13452 (17122818)
650123.90   4203698.18   129.89485 (17122819)
        650143.90   4203698.18   137.70531 (17122819)
649923.90   4203718.18   99.62725 (14041207)
        649943.90   4203718.18   104.42829 (14041207)
649963.90   4203718.18   107.92387 (14041207)
        649983.90   4203718.18   109.95285 (14041207)
650003.90   4203718.18   110.38590 (14041207)
        650023.90   4203718.18   113.94418 (14121622)
650043.90   4203718.18   117.35060 (13120719)
        650063.90   4203718.18   123.19281 (17122818)
650083.90   4203718.18   128.76568 (17122818)
        650103.90   4203718.18   131.56509 (17122818)
650123.90   4203718.18   133.90089 (17121502)
        650143.90   4203718.18   142.92867 (17122819)
649923.90   4203738.18   100.07078 (14010609)
        649943.90   4203738.18   105.92295 (14041207)
649963.90   4203738.18   110.67736 (14041207)
        649983.90   4203738.18   113.97848 (14041207)
650003.90   4203738.18   115.66573 (14041207)
        650023.90   4203738.18   117.23397 (14121622)
650043.90   4203738.18   120.97015 (14121622)
        650063.90   4203738.18   125.80378 (17122818)
650083.90   4203738.18   133.08846 (17122818)
        650103.90   4203738.18   137.68361 (17122818)
650123.90   4203738.18   139.67468 (16021923)
        650143.90   4203738.18   147.89521 (17122819)
650163.90   4203738.18   155.93572 (17122819)
        650183.90   4203738.18   161.00291 (16040707)
650203.90   4203738.18   165.82356 (16011805)
        649923.90   4203758.18   105.12889 (14010609)
649943.90   4203758.18   106.65277 (14041207)
        649963.90   4203758.18   112.71851 (14041207)
649983.90   4203758.18   117.37764 (14041207)
        650003.90   4203758.18   120.41281 (14041207)
650023.90   4203758.18   121.69608 (14041207)
        650043.90   4203758.18   125.13208 (14121622)
650063.90   4203758.18   129.27385 (13120719)
        650083.90   4203758.18   136.87491 (17122818)
650103.90   4203758.18   143.38002 (17122818)
        650123.90   4203758.18   146.69178 (17122818)
650143.90   4203758.18   152.52210 (17122819)
        650163.90   4203758.18   162.97980 (17122819)
650183.90   4203758.18   169.67218 (16040707)
        650203.90   4203758.18   174.53900 (16011805)
649923.90   4203778.18   109.66880 (14010609)
        649943.90   4203778.18   110.40606 (14010609)

649963.90   4203778.18   113.97069 (14041207)
        649983.90   4203778.18   120.05621 (14041207)
650003.90   4203778.18   124.54193 (14041207)
        650023.90   4203778.18   127.24359 (14041207)
650043.90   4203778.18   128.65240 (14121622)
        650063.90   4203778.18   133.45927 (14121622)
650083.90   4203778.18   140.06725 (17122818)
        650103.90   4203778.18   148.55208 (17122818)
650123.90   4203778.18   153.98325 (17122818)
        649923.90   4203798.18   113.58300 (14010609)
649943.90   4203798.18   115.47844 (14010609)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649963.90	4203798.18	116.10155	(14010609)
649983.90	4203798.18	121.95623	(14041207)
650003.90	4203798.18	127.99517	(14041207)
650023.90	4203798.18	132.22122	(14041207)
650043.90	4203798.18	134.48847	(14041207)
650063.90	4203798.18	137.99103	(14121622)
650083.90	4203798.18	143.21814	(13120719)
650103.90	4203798.18	153.14771	(17122818)
650123.90	4203798.18	160.79599	(17122818)
649923.90	4203818.18	116.72110	(14010609)
649943.90	4203818.18	119.95498	(14010609)
649963.90	4203818.18	121.77448	(14010609)
649983.90	4203818.18	122.95284	(14041207)
650003.90	4203818.18	130.65885	(14041207)
650023.90	4203818.18	136.54723	(14041207)
650043.90	4203818.18	140.40016	(14041207)
650063.90	4203818.18	142.18852	(14041207)

650083.90   4203818.18   147.90305 (14121622)
        650103.90   4203818.18   157.12839 (17122818)
650123.90   4203818.18   167.06263 (17122818)
        650143.90   4203818.18   173.61006 (17122818)
650163.90   4203818.18   182.15659 (17122819)
        650196.10   4203810.71   198.57304 (16040707)
650216.10   4203810.71   207.16026 (14120619)
        649923.90   4203838.18   118.89392 (14010609)
649943.90   4203838.18   123.66094 (14010609)
        649963.90   4203838.18   126.90637 (14010609)
649983.90   4203838.18   128.61180 (14010609)
        650003.90   4203838.18   132.42449 (14041207)
650023.90   4203838.18   140.13952 (14041207)
        650043.90   4203838.18   145.75192 (14041207)
650063.90   4203838.18   149.13169 (14041207)
        650083.90   4203838.18   152.98026 (14121622)
650196.10   4203830.71   209.93593 (17122819)
        650216.10   4203830.71   218.67565 (17012502)
649923.90   4203858.18   119.86555 (14010609)
        649943.90   4203858.18   126.37890 (14010609)
649963.90   4203858.18   131.31743 (14010609)
        649983.90   4203858.18   134.53145 (14010609)
650003.90   4203858.18   136.05481 (14010609)
        650023.90   4203858.18   142.85969 (14041207)
650043.90   4203858.18   150.46911 (14041207)
        650063.90   4203858.18   155.64953 (14041207)
650083.90   4203858.18   158.40864 (14041207)
        649923.90   4203878.18   119.38298 (14010609)
649943.90   4203878.18   127.81999 (14010609)
        649963.90   4203878.18   134.73248 (14010609)
649983.90   4203878.18   139.80257 (14010609)
        650003.90   4203878.18   142.91956 (14010609)
650023.90   4203878.18   144.51129 (14041207)
        650043.90   4203878.18   154.40136 (14041207)
650063.90   4203878.18   161.69955 (14041207)
        650083.90   4203878.18   166.24562 (14041207)
650743.90   4203878.18   98.90903 (17021320)
        650763.90   4203878.18   95.14191 (17021320)
650783.90   4203878.18   92.50652 (17022308)
        650803.90   4203878.18   90.11348 (17022308)
650823.90   4203878.18   87.39648 (17022308)
        650843.90   4203878.18   84.39499 (17022308)
650863.90   4203878.18   81.15301 (17022308)
        649923.90   4203898.18   117.19626 (14010609)
649943.90   4203898.18   127.66464 (14010609)
        649963.90   4203898.18   136.78122 (14010609)
649983.90   4203898.18   144.08205 (14010609)
        650003.90   4203898.18   149.24422 (14010609)
650023.90   4203898.18   152.17570 (14010609)
        650043.90   4203898.18   157.27312 (14041207)
650063.90   4203898.18   167.10043 (14041207)
        650083.90   4203898.18   173.84467 (14041207)

650743.90   4203898.18   99.34785 (17022308)
        650763.90   4203898.18   96.92554 (17022308)
650783.90   4203898.18   94.12550 (17022308)
        650803.90   4203898.18   90.98030 (17022308)
650823.90   4203898.18   87.53588 (17022308)
        650843.90   4203898.18   83.93675 (17121922)
650863.90   4203898.18   80.53065 (17121922)
        649923.90   4203918.18   120.29833 (13010809)
649943.90   4203918.18   125.56094 (14010609)
        649963.90   4203918.18   137.04979 (14010609)
649983.90   4203918.18   146.91730 (14010609)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650003.90	4203918.18	154.62463	(14010609)
650023.90	4203918.18	159.82199	(14010609)
650043.90	4203918.18	162.45302	(14010609)
650063.90	4203918.18	171.58203	(14041207)
650083.90	4203918.18	181.10739	(14041207)
650723.90	4203918.18	104.43440	(17022308)
650743.90	4203918.18	101.58874	(17022308)
650763.90	4203918.18	98.33543	(17022308)
650783.90	4203918.18	94.71112	(17022308)
650803.90	4203918.18	90.77294	(17022308)
650823.90	4203918.18	86.89800	(17121922)
650843.90	4203918.18	83.02773	(17121922)
650863.90	4203918.18	79.01488	(17121922)
649923.90	4203938.18	126.06466	(13010809)
649943.90	4203938.18	128.44749	(13010809)
649963.90	4203938.18	135.08576	(14010609)
649983.90	4203938.18	147.77371	(14010609)

650003.90   4203938.18   158.49895 (14010609)
        650023.90   4203938.18   166.61015 (14010609)
650043.90   4203938.18   171.72878 (14010609)
        650063.90   4203938.18   174.66117 (14041207)
650083.90   4203938.18   187.65140 (14041207)
        650103.90   4203938.18   196.54844 (14041207)
650123.90   4203938.18   201.96818 (14020221)
        650143.90   4203938.18   216.89285 (17122818)
650723.90   4203938.18   106.55481 (17022308)
        650743.90   4203938.18   102.78406 (17022308)
650763.90   4203938.18   98.61379 (17022308)
        650783.90   4203938.18   94.11434 (17022308)
650803.90   4203938.18   89.91480 (17121922)
        650823.90   4203938.18   85.52370 (17121922)
650843.90   4203938.18   81.00868 (17121922)
        649923.90   4203958.18   130.64652 (13010809)
649943.90   4203958.18   134.85985 (13010809)
        649963.90   4203958.18   137.69193 (13010809)
649983.90   4203958.18   146.04271 (14010609)
        650003.90   4203958.18   160.13129 (14010609)
650023.90   4203958.18   171.81148 (14010609)
        650043.90   4203958.18   180.30081 (14010609)
650063.90   4203958.18   185.21843 (14010609)
        650083.90   4203958.18   192.90033 (14041207)
650103.90   4203958.18   205.65035 (14041207)
        650123.90   4203958.18   213.43206 (14041207)
650143.90   4203958.18   223.71524 (14020221)
        650723.90   4203958.18   107.51976 (17022308)
650743.90   4203958.18   102.71661 (17022308)
        650763.90   4203958.18   97.78177 (17121922)
650783.90   4203958.18   92.98615 (17121922)
        650803.90   4203958.18   88.00807 (17121922)
650823.90   4203958.18   82.93113 (17121922)
        650843.90   4203958.18   77.83396 (17121922)
649923.90   4203978.18   133.37535 (13010809)
        649943.90   4203978.18   139.87972 (13010809)
649963.90   4203978.18   144.90911 (13010809)
        649983.90   4203978.18   148.29921 (13010809)
650003.90   4203978.18   158.75607 (14010609)
        650023.90   4203978.18   174.49515 (14010609)
650043.90   4203978.18   187.25873 (14010609)
        650063.90   4203978.18   196.07921 (14010609)
650083.90   4203978.18   200.55662 (14010609)
        650103.90   4203978.18   213.76833 (14041207)
650123.90   4203978.18   225.76177 (14041207)
        650703.90   4203978.18   112.59890 (17022308)
650723.90   4203978.18   107.04637 (17022308)
        650743.90   4203978.18   101.59475 (17121922)
650763.90   4203978.18   96.10585 (17121922)
        650783.90   4203978.18   90.45814 (17121922)
650803.90   4203978.18   84.75185 (17121922)
        650823.90   4203978.18   79.07524 (17121922)

650843.90   4203978.18   74.98876 (17121923)
        649923.90   4203998.18   133.52065 (13010809)
649943.90   4203998.18   142.64500 (13010809)
        649963.90   4203998.18   150.43917 (13010809)
649983.90   4203998.18   156.51723 (13010809)
        650003.90   4203998.18   160.60025 (13010809)
650023.90   4203998.18   173.64994 (14010609)
        650043.90   4203998.18   191.40425 (14010609)
650063.90   4203998.18   205.37284 (14010609)
        650083.90   4203998.18   214.37500 (14010609)
650103.90   4203998.18   219.90703 (14041207)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650123.90	4203998.18	237.64254	(14041207)
650703.90	4203998.18	111.63113	(17022308)
650723.90	4203998.18	105.55560	(17121922)
650743.90	4203998.18	99.25699	(17121922)
650763.90	4203998.18	92.84069	(17121922)
650783.90	4203998.18	86.42493	(17121922)
650803.90	4203998.18	80.93438	(17121923)
650823.90	4203998.18	78.10400	(17020123)
650843.90	4203998.18	75.37173	(17020123)
649923.90	4204018.18	136.03494	(17020422)
649943.90	4204018.18	142.23169	(13010809)
649963.90	4204018.18	153.15134	(13010809)
649983.90	4204018.18	162.60393	(13010809)
650003.90	4204018.18	170.04405	(13010809)
650023.90	4204018.18	175.07494	(13010809)
650043.90	4204018.18	191.34126	(14010609)
650063.90	4204018.18	211.52349	(14010609)

650083.90   4204018.18   226.81143 (14010609)
        650103.90   4204018.18   235.75459 (14010609)
650123.90   4204018.18   247.92701 (14041207)
        650703.90   4204018.18   109.66069 (17121922)
650723.90   4204018.18   102.40501 (17121922)
        650743.90   4204018.18   95.10282 (17121922)
650763.90   4204018.18   87.88748 (17121922)
        650783.90   4204018.18   84.48266 (17020123)
650803.90   4204018.18   81.32947 (17020123)
        650823.90   4204018.18   78.42345 (17022808)
650843.90   4204018.18   76.11099 (17122309)
        649923.90   4204038.18   138.19070 (17020422)
649943.90   4204038.18   145.78490 (17020422)
        649963.90   4204038.18   152.25222 (17020422)
649983.90   4204038.18   165.16236 (13010809)
        650003.90   4204038.18   176.77590 (13010809)
650023.90   4204038.18   186.02723 (13010809)
        650043.90   4204038.18   192.29432 (13010809)
650063.90   4204038.18   212.61196 (14010609)
        650083.90   4204038.18   235.74975 (14010609)
650103.90   4204038.18   252.45593 (14010609)
        650123.90   4204038.18   260.94877 (14010609)
650683.90   4204038.18   113.87826 (17121922)
        650703.90   4204038.18   105.49372 (17121922)
650723.90   4204038.18   97.16684 (17121922)
        650743.90   4204038.18   91.84139 (17020123)
650763.90   4204038.18   88.18534 (17020123)
        650783.90   4204038.18   84.94565 (17120818)
650803.90   4204038.18   82.90205 (17122309)
        650823.90   4204038.18   80.86007 (17122309)
649923.90   4204058.18   141.40293 (17020322)
        649943.90   4204058.18   147.69595 (17020322)
649963.90   4204058.18   156.66989 (17020422)
        649983.90   4204058.18   165.02893 (17020422)
650003.90   4204058.18   178.93553 (13010809)
        650023.90   4204058.18   193.40816 (13010809)
650043.90   4204058.18   205.11853 (13010809)
        650063.90   4204058.18   213.12840 (13010809)
650083.90   4204058.18   238.49949 (14010609)
        650103.90   4204058.18   265.38589 (14010609)
650123.90   4204058.18   283.58729 (14010609)
        650683.90   4204058.18   108.42160 (17121922)
650703.90   4204058.18   100.48071 (17010424)
        650723.90   4204058.18   96.19869 (17020123)
650743.90   4204058.18   93.05646 (17122309)
        650763.90   4204058.18   90.64039 (17122309)
650783.90   4204058.18   88.18269 (17122309)
        650803.90   4204058.18   85.69512 (17122309)
650823.90   4204058.18   83.19040 (17122309)
        649923.90   4204078.18   142.56655 (17020322)
649943.90   4204078.18   151.54813 (17020322)
        649963.90   4204078.18   159.85502 (17020322)

649983.90   4204078.18   168.78980 (17020422)
        650003.90   4204078.18   179.66282 (17020422)
650023.90   4204078.18   194.81585 (13010809)
        650043.90   4204078.18   213.15692 (13010809)
650063.90   4204078.18   228.29513 (13010809)
        650083.90   4204078.18   238.76386 (13010809)
650103.90   4204078.18   270.70426 (14010609)
        650123.90   4204078.18   302.27104 (14010609)
650683.90   4204078.18   105.79522 (17010424)
        650703.90   4204078.18   102.56038 (17122309)
650723.90   4204078.18   99.63560 (17122309)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650743.90	4204078.18	96.65352	(17122309)	650763.90	4204078.18	93.63348	(17122309)
650783.90	4204078.18	90.59607	(17122309)	650803.90	4204078.18	87.56114	(17122309)
650823.90	4204078.18	84.54708	(17122309)	649923.90	4204098.18	143.97987	(17020323)
649943.90	4204098.18	151.33343	(17020105)	649963.90	4204098.18	162.39070	(17020322)
649983.90	4204098.18	173.34939	(17020322)	650003.90	4204098.18	183.26224	(17020322)
650023.90	4204098.18	196.50637	(17020422)	650043.90	4204098.18	213.17907	(13010809)
650063.90	4204098.18	236.80876	(13010809)	650083.90	4204098.18	256.84554	(13010809)
650103.90	4204098.18	270.96316	(13010809)	650123.90	4204098.18	311.49895	(14010609)
650143.90	4204098.18	349.17408	(14010609)				

650163.90   4204098.18   369.21047 (14010609)
        650663.90   4204098.18   113.95207 (17122309)
650683.90   4204098.18   110.36137 (17122309)
        650703.90   4204098.18   106.68635 (17122309)
650723.90   4204098.18   102.96263 (17122309)
        650743.90   4204098.18   99.22511 (17122309)
650763.90   4204098.18   95.50475 (17122309)
        650783.90   4204098.18   91.82721 (17122309)
650803.90   4204098.18   88.21445 (17122309)
        650823.90   4204098.18   84.68441 (17122309)
649923.90   4204118.18   146.72557 (17020323)
        649943.90   4204118.18   155.10700 (17020323)
649963.90   4204118.18   163.04870 (17020323)
        649983.90   4204118.18   173.62163 (17020322)
650003.90   4204118.18   188.08259 (17020322)
        650023.90   4204118.18   201.72900 (17020322)
650043.90   4204118.18   216.35590 (14120809)
        650063.90   4204118.18   234.34513 (13010809)
650083.90   4204118.18   265.31540 (13010809)
        650103.90   4204118.18   292.49653 (13010809)
650123.90   4204118.18   312.29351 (13010809)
        650143.90   4204118.18   364.57738 (14010609)
650163.90   4204118.18   410.10389 (14010609)
        650182.31   4204112.08   419.33927 (14041207)
650663.90   4204118.18   118.90295 (17122309)
        650683.90   4204118.18   114.20883 (17122309)
650703.90   4204118.18   109.51209 (17122309)
        650723.90   4204118.18   104.86212 (17122309)
650743.90   4204118.18   100.29765 (17122309)
        650763.90   4204118.18   95.84894 (17122309)
650783.90   4204118.18   91.53706 (17122309)
        650803.90   4204118.18   87.37762 (17122309)
650823.90   4204118.18   83.38116 (17122309)
        649923.90   4204138.18   149.85610 (17020822)
649943.90   4204138.18   157.67961 (17020822)
        649963.90   4204138.18   166.32327 (17020323)
649983.90   4204138.18   177.34692 (17020323)
        650003.90   4204138.18   187.75765 (17020323)
650023.90   4204138.18   203.67034 (17020322)
        650043.90   4204138.18   222.49105 (17020322)
650063.90   4204138.18   240.58628 (14120809)
        650083.90   4204138.18   263.56245 (14120809)
650103.90   4204138.18   299.87138 (13010809)
        650123.90   4204138.18   337.88258 (13010809)
650143.90   4204138.18   379.44014 (14021209)
        650156.64   4204142.19   442.77903 (14021209)
650643.90   4204138.18   128.15680 (17122309)
        650663.90   4204138.18   122.08795 (17122309)
650683.90   4204138.18   116.12906 (17122309)
        650703.90   4204138.18   110.33723 (17122309)
650723.90   4204138.18   104.75163 (17122309)
        650743.90   4204138.18   99.39851 (17122309)

650763.90   4204138.18   94.29222 (17122309)
        650783.90   4204138.18   89.43866 (17122309)
650803.90   4204138.18   84.83831 (17122309)
        649923.90   4204158.18   149.87231 (16020517)
649943.90   4204158.18   159.77507 (16020517)
        649963.90   4204158.18   170.43808 (17020822)
649983.90   4204158.18   181.19392 (17020822)
        650003.90   4204158.18   192.96397 (17020424)
650023.90   4204158.18   206.45584 (17020323)
        650043.90   4204158.18   220.90973 (17121902)
650063.90   4204158.18   245.27586 (17021408)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650083.90	4204158.18	271.49706	(17021408)
650103.90	4204158.18	301.01342	(14120809)
650123.90	4204158.18	341.86152	(13010809)
650143.90	4204158.18	396.62681	(13010809)
650177.74	4204157.98	585.95748	(14021209)
650643.90	4204158.18	130.00309	(17122309)
650663.90	4204158.18	122.45169	(17122309)
650683.90	4204158.18	115.27777	(17122309)
650703.90	4204158.18	108.50340	(17122309)
650723.90	4204158.18	102.13412	(17122309)
650743.90	4204158.18	96.16450	(17122309)
650763.90	4204158.18	91.54407	(17021903)
650783.90	4204158.18	87.94868	(17122417)
650803.90	4204158.18	84.61146	(17122417)
650923.90	4204158.18	68.23636	(17122423)
649923.90	4204178.18	149.30659	(17013002)
649943.90	4204178.18	157.74762	(17013002)

649963.90   4204178.18   169.96592 (16020517)
        649983.90   4204178.18   183.64790 (16020517)
650003.90   4204178.18   198.05787 (16020517)
        650023.90   4204178.18   213.15646 (16020517)
650043.90   4204178.18   229.19005 (17020424)
        650063.90   4204178.18   248.93384 (17020424)
650083.90   4204178.18   270.80168 (17121902)
        650103.90   4204178.18   307.12526 (17021408)
650123.90   4204178.18   345.44584 (14120809)
        650143.90   4204178.18   392.61503 (14120809)
650156.35   4204185.33   436.72676 (13010809)
        650643.90   4204178.18   127.84097 (17122309)
650663.90   4204178.18   119.08690 (17122309)
        650683.90   4204178.18   111.01127 (17122309)
650703.90   4204178.18   104.88864 (17122417)
        650723.90   4204178.18   100.23131 (17122417)
650743.90   4204178.18   95.82942 (17122417)
        650763.90   4204178.18   91.67606 (17122417)
650783.90   4204178.18   87.82903 (17122423)
        650803.90   4204178.18   84.67802 (17021004)
650903.90   4204178.18   71.43670 (17021004)
        650923.90   4204178.18   69.16473 (17021004)
649923.90   4204198.18   149.01779 (17121104)
        649943.90   4204198.18   158.80398 (17013002)
649963.90   4204198.18   169.96796 (17013002)
        649983.90   4204198.18   181.92956 (17013002)
650003.90   4204198.18   194.60110 (17013002)
        650023.90   4204198.18   213.78050 (16020517)
650043.90   4204198.18   235.19025 (16020517)
        650063.90   4204198.18   258.44656 (16020517)
650083.90   4204198.18   283.10399 (16020517)
        650103.90   4204198.18   311.35507 (17020424)
650123.90   4204198.18   345.69946 (17121902)
        650143.90   4204198.18   402.96994 (17021408)
650643.90   4204198.18   122.91173 (17122417)
        650663.90   4204198.18   116.35315 (17122417)
650683.90   4204198.18   110.57723 (17021901)
        650703.90   4204198.18   105.55372 (17021004)
650723.90   4204198.18   101.15630 (17021004)
        650743.90   4204198.18   97.02898 (17021004)
650763.90   4204198.18   93.15362 (17021004)
        650783.90   4204198.18   89.51375 (17021004)
650803.90   4204198.18   86.09140 (17021004)
        650903.90   4204198.18   71.75542 (17021004)
650923.90   4204198.18   69.35134 (17021004)
        649923.90   4204218.18   152.39352 (17010209)
649943.90   4204218.18   160.55606 (17010209)
        649963.90   4204218.18   169.88416 (17012724)
649983.90   4204218.18   181.08003 (17012724)
        650003.90   4204218.18   194.40285 (17121907)
650023.90   4204218.18   211.22181 (17013002)
        650043.90   4204218.18   230.82223 (17013002)

650063.90   4204218.18   252.87050 (16020517)
        650083.90   4204218.18   286.05548 (16020517)
650103.90   4204218.18   323.85098 (16020517)
        650123.90   4204218.18   365.76099 (16020517)
650623.90   4204218.18   132.00114 (17021004)
        650643.90   4204218.18   125.06086 (17021004)
650703.90   4204218.18   107.44860 (17021004)
        650723.90   4204218.18   102.47705 (17021004)
650743.90   4204218.18   97.88203 (17021004)
        650763.90   4204218.18   93.62658 (17021004)
650903.90   4204218.18   72.05732 (15012609)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650923.90	4204218.18	69.74071	(15012609)
649923.90	4204238.18	160.84241	(17012309)
649943.90	4204238.18	169.84153	(17012309)
649963.90	4204238.18	179.77783	(17012309)
649983.90	4204238.18	190.57281	(17012309)
650003.90	4204238.18	202.36765	(17012309)
650023.90	4204238.18	215.88990	(17012309)
650043.90	4204238.18	232.51233	(17122407)
650063.90	4204238.18	254.85124	(17122407)
650083.90	4204238.18	280.86155	(16122709)
650103.90	4204238.18	316.97695	(17122606)
650123.90	4204238.18	360.14414	(17122606)
650623.90	4204238.18	134.01824	(15012609)
650643.90	4204238.18	127.00549	(15012609)
650703.90	4204238.18	109.53939	(15012609)
650723.90	4204238.18	104.66794	(15012609)
650743.90	4204238.18	100.17882	(15012609)

650763.90   4204238.18   96.02862 (15012609)
650903.90   4204238.18   73.89638 (16012709)
650923.90   4204238.18   71.47421 (16012709)
649923.90   4204258.18   166.45085 (17012309)
649943.90   4204258.18   176.79394 (17012309)
649963.90   4204258.18   188.42565 (17012309)
649983.90   4204258.18   201.46430 (17012309)
650003.90   4204258.18   216.24364 (17012309)
650023.90   4204258.18   233.56863 (17012309)
650043.90   4204258.18   254.00391 (17012309)
650063.90   4204258.18   278.21002 (17012309)
650083.90   4204258.18   307.16873 (17012309)
650103.90   4204258.18   342.39861 (17012309)
650123.90   4204258.18   385.29730 (17012309)
650143.90   4204258.18   438.50881 (17012309)
650623.90   4204258.18   140.11411 (15012609)
650643.90   4204258.18   132.02662 (15012609)
650903.90   4204258.18   75.31331 (16012709)
650923.90   4204258.18   72.80613 (16012709)
649923.90   4204278.18   164.07689 (17013109)
649943.90   4204278.18   174.40029 (17013109)
649963.90   4204278.18   186.11230 (17013109)
649983.90   4204278.18   199.47641 (17013109)
650003.90   4204278.18   215.17096 (17012309)
650023.90   4204278.18   233.38893 (17012309)
650043.90   4204278.18   254.87079 (17012309)
650063.90   4204278.18   280.72466 (17013109)
650083.90   4204278.18   312.93636 (17013109)
650103.90   4204278.18   353.32273 (17013109)
650123.90   4204278.18   404.18300 (17013109)
650623.90   4204278.18   142.69676 (16012709)
650643.90   4204278.18   134.24175 (16012709)
650903.90   4204278.18   75.55981 (16012709)
650923.90   4204278.18   73.04377 (16012709)
649923.90   4204298.18   165.90934 (17013109)
649943.90   4204298.18   176.34838 (17013109)
649963.90   4204298.18   188.17277 (17013109)
649983.90   4204298.18   201.64773 (17013109)
650003.90   4204298.18   217.14728 (17013109)
650023.90   4204298.18   235.07860 (17013109)
650043.90   4204298.18   256.00427 (17013109)
650063.90   4204298.18   280.79881 (17013109)
650083.90   4204298.18   310.47612 (17013109)
650103.90   4204298.18   346.66761 (17013109)
650123.90   4204298.18   390.33331 (17013109)
650883.90   4204298.18   77.08424 (16012709)
650903.90   4204298.18   74.49400 (16012709)
650923.90   4204298.18   72.06273 (16012709)
649923.90   4204318.18   158.82220 (17013109)
649943.90   4204318.18   167.79908 (17013109)
649963.90   4204318.18   177.75872 (17013109)
649983.90   4204318.18   188.80323 (17013109)

650003.90   4204318.18   203.09866 (17122509)
        650023.90   4204318.18   222.88610 (17122509)
650043.90   4204318.18   246.31904 (17122509)
        650063.90   4204318.18   274.22695 (17122509)
650083.90   4204318.18   307.56218 (17122509)
        650127.68   4204307.44   409.09352 (17122509)
650883.90   4204318.18   77.55372 (13020217)
        650903.90   4204318.18   74.68806 (13020217)
650923.90   4204318.18   71.98438 (13020217)
        649923.90   4204338.18   156.86009 (17122509)
649943.90   4204338.18   168.01048 (17122509)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649963.90	4204338.18	180.54016	(17122509)
649983.90	4204338.18	194.64805	(17122509)
650003.90	4204338.18	210.53140	(17122509)
650023.90	4204338.18	228.35222	(17122509)
650043.90	4204338.18	248.17099	(17122509)
650063.90	4204338.18	269.82375	(17122509)
650883.90	4204338.18	78.64804	(13020217)
650903.90	4204338.18	75.85511	(13020217)
650923.90	4204338.18	73.21521	(13020217)
649923.90	4204358.18	159.20087	(17122509)
649943.90	4204358.18	168.97779	(17122509)
649963.90	4204358.18	179.48771	(17122509)
649983.90	4204358.18	190.66297	(17122509)
650003.90	4204358.18	202.33302	(17122509)
650023.90	4204358.18	214.16201	(17122509)
650043.90	4204358.18	226.77770	(17010901)
650063.90	4204358.18	248.05272	(17010901)

650883.90   4204358.18   78.39231 (13020217)
        650903.90   4204358.18   75.78679 (13020217)
650923.90   4204358.18   73.31151 (13020217)
        649923.90   4204378.18   153.60173 (17122509)
649943.90   4204378.18   160.49494 (17122509)
        649963.90   4204378.18   167.25376 (17122509)
649983.90   4204378.18   179.49042 (17010901)
        650003.90   4204378.18   192.60555 (17010901)
650023.90   4204378.18   206.28885 (17010901)
        650043.90   4204378.18   221.30507 (17020721)
650063.90   4204378.18   239.59011 (17011108)
        650083.90   4204378.18   257.91137 (17011108)
650103.90   4204378.18   272.73557 (17011108)
        650903.90   4204378.18   74.47867 (15120709)
650923.90   4204378.18   72.17744 (13020217)
        649923.90   4204398.18   148.38319 (17010901)
649943.90   4204398.18   157.29931 (17010901)
        649963.90   4204398.18   166.47557 (17010901)
649983.90   4204398.18   175.98956 (17020721)
        650003.90   4204398.18   187.73472 (17011108)
650023.90   4204398.18   200.62546 (17011108)
        650043.90   4204398.18   212.72798 (17011108)
650063.90   4204398.18   222.63197 (17011108)
        650083.90   4204398.18   228.22822 (17011108)
650103.90   4204398.18   226.68915 (17011108)
        649923.90   4204418.18   146.00588 (17010901)
649943.90   4204418.18   153.95251 (17121719)
        649963.90   4204418.18   163.15346 (17011108)
649983.90   4204418.18   172.34178 (17011108)
        650003.90   4204418.18   180.79071 (17011108)
650023.90   4204418.18   187.69221 (17011108)
        650043.90   4204418.18   191.91007 (17011108)
650103.90   4204418.18   214.56346 (17020722)
        649923.90   4204438.18   144.04554 (17011108)
649943.90   4204438.18   150.88577 (17011108)
        649963.90   4204438.18   157.06108 (17011108)
649983.90   4204438.18   162.07020 (17011108)
        650003.90   4204438.18   165.24385 (17011108)
650023.90   4204438.18   165.74079 (17011108)
        650043.90   4204438.18   166.02210 (16020309)
650063.90   4204438.18   178.56321 (16120909)
        650083.90   4204438.18   191.92357 (17020722)
650143.90   4204438.18   241.47945 (14122709)
        650209.72   4204428.68   345.95308 (17122409)
650229.72   4204428.68   388.83065 (17122409)
        649923.90   4204458.18   138.73513 (17011108)
649943.90   4204458.18   142.50902 (17011108)
        649963.90   4204458.18   144.94218 (17011108)
649983.90   4204458.18   145.51946 (17011108)
        650003.90   4204458.18   143.65255 (17011108)
650023.90   4204458.18   151.78378 (16020309)
        650043.90   4204458.18   161.96851 (16120909)

650063.90   4204458.18   173.12532 (17020722)
        650083.90   4204458.18   184.91328 (17020722)
650143.90   4204458.18   231.99030 (17012703)
        650203.90   4204458.18   306.45372 (17122409)
650223.90   4204458.18   327.53211 (17122409)
        649923.90   4204478.18   128.99907 (17011108)
649943.90   4204478.18   129.55218 (17011108)
        649963.90   4204478.18   128.36798 (17011108)
649983.90   4204478.18   130.94647 (16020309)
        650003.90   4204478.18   139.54244 (16120909)
650023.90   4204478.18   147.77716 (16120909)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650043.90	4204478.18	157.42817	(17020722)	650063.90	4204478.18	166.88390	(17020722)
650203.90	4204478.18	286.56386	(17122409)	649923.90	4204498.18	115.86851	(17011108)
649943.90	4204498.18	114.96124	(17120220)	649963.90	4204498.18	121.64672	(16020309)
649983.90	4204498.18	128.99902	(16120909)	650003.90	4204498.18	135.96833	(17020819)
650023.90	4204498.18	143.96305	(17020722)	650043.90	4204498.18	151.69348	(17020722)
650063.90	4204498.18	160.80584	(15012209)	650103.90	4204498.18	178.87618	(17021519)
650123.90	4204498.18	198.55312	(17020903)	650143.90	4204498.18	216.34146	(17020903)
650163.90	4204498.18	224.97262	(17010203)	650183.90	4204498.18	245.64563	(17122409)
650203.90	4204498.18	264.72220	(17122409)				

649923.90   4204518.18   107.06704 (16020309)
        649943.90   4204518.18   113.35600 (16120909)
649963.90   4204518.18   119.67583 (16120909)
        649983.90   4204518.18   125.75932 (17020819)
650003.90   4204518.18   132.51445 (17020722)
        650023.90   4204518.18   138.90173 (17020722)
650043.90   4204518.18   146.28035 (15012209)
        650063.90   4204518.18   154.45034 (15012209)
650103.90   4204518.18   175.87746 (17120720)
        650123.90   4204518.18   192.43321 (17020903)
650143.90   4204518.18   203.04668 (17020903)
        650163.90   4204518.18   209.16231 (17021907)
650183.90   4204518.18   232.97279 (17122409)
        650203.90   4204518.18   243.00305 (17122409)
650172.55   4204361.09   382.41356 (16112016)
        650181.70   4204363.65   385.42193 (16112016)
650191.23   4204366.71   398.09200 (14122709)
        650200.63   4204370.00   423.35587 (14122709)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649898.38	4203525.65	14.15887c	(13030724)
649918.38	4203525.65	14.44305c	(13030724)
650043.90	4203518.18	15.93763m	(14120724)
650063.90	4203518.18	16.89800	(13032824)
650083.90	4203518.18	17.76952	(13032824)
650103.90	4203518.18	18.52161	(13032824)
650143.90	4203518.18	19.63423	(13032824)
650163.90	4203518.18	20.11969	(16040724)
650183.90	4203518.18	20.29507	(16040724)
650203.90	4203518.18	20.44567	(13032824)
650223.90	4203518.18	20.55616	(13032824)
650243.90	4203518.18	20.60998	(13032824)
650263.90	4203518.18	20.69420	(17012524)
650283.90	4203518.18	20.88238	(17012524)
650303.90	4203518.18	20.74993	(15091424)
650323.90	4203518.18	21.73742	(15091424)
650663.90	4203518.18	19.16258	(13120424)

650683.90   4203518.18   18.41903 (13120424)
        650043.90   4203538.18   16.71297m (14120724)
650063.90   4203538.18   17.37518 (13032824)
        650083.90   4203538.18   18.36502 (13032824)
650103.90   4203538.18   19.23266 (13032824)
        650143.90   4203538.18   20.55519 (13032824)
650163.90   4203538.18   21.00923 (13032824)
        650183.90   4203538.18   21.33852 (13032824)
650203.90   4203538.18   21.56306 (13032824)
        650223.90   4203538.18   21.70316 (13032824)
650243.90   4203538.18   21.77102 (13032824)
        650263.90   4203538.18   21.76659 (13032824)
650283.90   4203538.18   21.92062 (17012524)
        650303.90   4203538.18   21.87678 (15091424)
650323.90   4203538.18   22.93128 (15091424)
        650523.90   4203538.18   25.15306 (16121124)
650543.90   4203538.18   24.43491 (16121124)
        650563.90   4203538.18   23.61852 (16121124)
650583.90   4203538.18   22.75542 (16121124)
        650663.90   4203538.18   19.65133 (13120424)
650683.90   4203538.18   18.85288 (13022624)
        650063.90   4203558.18   17.84512 (13032824)
650083.90   4203558.18   18.96517 (13032824)
        650103.90   4203558.18   19.96405 (13032824)
650143.90   4203558.18   21.52755 (13032824)
        650163.90   4203558.18   22.08027 (13032824)
650183.90   4203558.18   22.48846 (13032824)
        650203.90   4203558.18   22.77235 (13032824)
650223.90   4203558.18   22.95122 (13032824)
        650243.90   4203558.18   23.03877 (13032824)
650263.90   4203558.18   23.03448 (13032824)
        650283.90   4203558.18   23.04764 (17012524)
650303.90   4203558.18   23.10802 (15091424)
        650323.90   4203558.18   24.23664 (15091424)
650523.90   4203558.18   26.22613 (16121124)
        650543.90   4203558.18   25.40959 (16121124)
650563.90   4203558.18   24.50692 (16121124)
        650583.90   4203558.18   23.57074 (16121124)
650003.90   4203578.18   17.73784m (14120724)
        650023.90   4203578.18   18.10643m (14120724)
650043.90   4203578.18   18.43066m (14120724)
        650063.90   4203578.18   18.69572m (14120724)
650083.90   4203578.18   19.56492 (13032824)
        650123.90   4203578.18   21.71198 (13032824)
650143.90   4203578.18   22.55122 (13032824)
        650163.90   4203578.18   23.22071 (13032824)
650183.90   4203578.18   23.72553 (13032824)
        650203.90   4203578.18   24.08388 (13032824)
650223.90   4203578.18   24.31285 (13032824)
        650243.90   4203578.18   24.42611 (13032824)
650263.90   4203578.18   24.42598 (13032824)
        650283.90   4203578.18   24.30065 (13032824)

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650303.90   4203578.18       24.45782  (15091424)
        650323.90   4203578.18       25.66768  (15091424)
650523.90   4203578.18       27.36205  (16121124)
        650543.90   4203578.18       26.44036  (16121124)
650563.90   4203578.18       25.44692  (16121124)
        650583.90   4203578.18       24.43461  (16121124)
650063.90   4203598.18       19.70220m (14120724)
        650083.90   4203598.18       20.15894  (13032824)
650123.90   4203598.18       22.62894  (13032824)
        650143.90   4203598.18       23.62270  (13032824)
650163.90   4203598.18       24.43243  (13032824)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650183.90	4203598.18	25.05760	(13032824)
650203.90	4203598.18	25.50824	(13032824)
650223.90	4203598.18	25.80008	(13032824)
650243.90	4203598.18	25.94679	(13032824)
650263.90	4203598.18	25.95747	(13032824)
650283.90	4203598.18	25.81111	(13032824)
650303.90	4203598.18	25.94261	(15091424)
650323.90	4203598.18	27.24210	(15091424)
650523.90	4203598.18	28.56633	(16121124)
650543.90	4203598.18	27.53267	(16121124)
650563.90	4203598.18	26.44386	(16121124)
650583.90	4203598.18	25.35205	(16121124)
650123.90	4203618.18	23.57212	(13032824)
650143.90	4203618.18	24.74509	(13032824)
650163.90	4203618.18	25.72094	(13032824)
650183.90	4203618.18	26.48894	(13032824)
650203.90	4203618.18	27.05560	(13032824)

650223.90   4203618.18   27.43071 (13032824)
        650243.90   4203618.18   27.62471 (13032824)
650263.90   4203618.18   27.64647 (13032824)
        650283.90   4203618.18   27.48104 (13032824)
650303.90   4203618.18   27.58296 (15091424)
        650323.90   4203618.18   28.98255 (15091424)
650523.90   4203618.18   29.84537 (16121124)
        650543.90   4203618.18   28.69278 (16121124)
650563.90   4203618.18   27.50372 (16121124)
        650583.90   4203618.18   26.32842 (16121124)
650603.90   4203618.18   25.19808 (16121124)
        650623.90   4203618.18   24.12878 (16121124)
650643.90   4203618.18   23.40766 (16022824)
        649963.90   4203638.18   19.22468m (14120724)
649983.90   4203638.18   19.82854m (14120724)
        650003.90   4203638.18   20.41622m (14120724)
650023.90   4203638.18   20.97674m (14120724)
        650043.90   4203638.18   21.49512m (14120724)
650063.90   4203638.18   21.95199m (14120724)
        650083.90   4203638.18   22.32877m (14120724)
650123.90   4203638.18   24.53805 (13032824)
        650143.90   4203638.18   25.91669 (13032824)
650163.90   4203638.18   27.08852 (13032824)
        650183.90   4203638.18   28.02979 (13032824)
650203.90   4203638.18   28.74129 (13032824)
        650223.90   4203638.18   29.22287 (13032824)
650243.90   4203638.18   29.48047 (13032824)
        650263.90   4203638.18   29.52208 (13032824)
650283.90   4203638.18   29.33509 (13032824)
        650303.90   4203638.18   29.40233 (15091424)
650323.90   4203638.18   30.91355 (15091424)
        650363.90   4203638.18   34.83832 (16040924)
650563.90   4203638.18   28.63389 (16121124)
        650583.90   4203638.18   27.36993 (16121124)
650603.90   4203638.18   26.16384 (16121124)
        650623.90   4203638.18   25.02745 (16121124)
650643.90   4203638.18   25.34366 (16022824)
        650663.90   4203638.18   25.73545 (16022824)
650683.90   4203638.18   25.99477 (16022824)
        649923.90   4203658.18   18.70015m (14120724)
649943.90   4203658.18   19.37844m (14120724)
        649963.90   4203658.18   20.06200m (14120724)
649983.90   4203658.18   20.74380m (14120724)
        650003.90   4203658.18   21.41404m (14120724)
650023.90   4203658.18   22.05919m (14120724)
        650043.90   4203658.18   22.66429m (14120724)
650063.90   4203658.18   23.20881m (14120724)
        650083.90   4203658.18   23.67173m (14120724)
650103.90   4203658.18   24.03034m (14120724)
        650123.90   4203658.18   25.52247 (13032824)
650223.90   4203658.18   31.18951 (13032824)
        650243.90   4203658.18   31.53676 (13032824)

650263.90   4203658.18   31.61764 (13032824)
        650283.90   4203658.18   31.40367 (13032824)
650303.90   4203658.18   31.42864 (15091424)
        650363.90   4203658.18   37.36283 (16040924)
650383.90   4203658.18   38.37160 (16040924)
        650403.90   4203658.18   38.18066 (16040924)
650643.90   4203658.18   27.40706 (16022824)
        650663.90   4203658.18   27.69055 (16022824)
650683.90   4203658.18   27.82770 (16022824)
        649923.90   4203678.18   19.41145m (14120724)
649943.90   4203678.18   20.16512m (14120724)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649963.90	4203678.18	20.92978m	(14120724)
649983.90	4203678.18	21.69839m	(14120724)
650003.90	4203678.18	22.46141m	(14120724)
650023.90	4203678.18	23.20576m	(14120724)
650043.90	4203678.18	23.91238m	(14120724)
650063.90	4203678.18	24.56146m	(14120724)
650083.90	4203678.18	25.12740m	(14120724)
650103.90	4203678.18	25.58533m	(14120724)
650123.90	4203678.18	26.51804	(13032824)
650143.90	4203678.18	28.39665	(13032824)
650363.90	4203678.18	40.15315	(16040924)
650383.90	4203678.18	40.96647	(16040924)
650403.90	4203678.18	40.42424	(16040924)
649923.90	4203698.18	20.13810m	(14120724)
649943.90	4203698.18	20.97132m	(14120724)
649963.90	4203698.18	21.82499m	(14120724)
649983.90	4203698.18	22.69034m	(14120724)

650003.90   4203698.18   23.55860m (14120724)
        650023.90   4203698.18   24.41525m (14120724)
650043.90   4203698.18   25.24112m (14120724)
        650063.90   4203698.18   26.01341m (14120724)
650083.90   4203698.18   26.70318m (14120724)
        650103.90   4203698.18   27.28200m (14120724)
650123.90   4203698.18   27.72176m (14120724)
        650143.90   4203698.18   29.69043 (13032824)
649923.90   4203718.18   20.87988m (14120724)
        649943.90   4203718.18   21.79861m (14120724)
649963.90   4203718.18   22.74524m (14120724)
        649983.90   4203718.18   23.71663m (14120724)
650003.90   4203718.18   24.70242m (14120724)
        650023.90   4203718.18   25.68611m (14120724)
650043.90   4203718.18   26.65178m (14120724)
        650063.90   4203718.18   27.56767m (14120724)
650083.90   4203718.18   28.40747m (14120724)
        650103.90   4203718.18   29.13528m (14120724)
650123.90   4203718.18   29.71581m (14120724)
        650143.90   4203718.18   31.01625 (13032824)
649923.90   4203738.18   21.63938m (14120724)
        649943.90   4203738.18   22.64658m (14120724)
649963.90   4203738.18   23.69349m (14120724)
        649983.90   4203738.18   24.77732m (14120724)
650003.90   4203738.18   25.89006m (14120724)
        650023.90   4203738.18   27.01685m (14120724)
650043.90   4203738.18   28.13989m (14120724)
        650063.90   4203738.18   29.22552m (14120724)
650083.90   4203738.18   30.24397m (14120724)
        650103.90   4203738.18   31.15329m (14120724)
650123.90   4203738.18   31.91109m (14120724)
        650143.90   4203738.18   32.48018m (14120724)
650163.90   4203738.18   35.10632 (13032824)
        650183.90   4203738.18   37.61235 (13032824)
650203.90   4203738.18   39.76296 (13032824)
        649923.90   4203758.18   22.42180m (14120724)
649943.90   4203758.18   23.52069m (14120724)
        649963.90   4203758.18   24.67108m (14120724)
649983.90   4203758.18   25.87390m (14120724)
        650003.90   4203758.18   27.12188m (14120724)
650023.90   4203758.18   28.40444m (14120724)
        650043.90   4203758.18   29.70299m (14120724)
650063.90   4203758.18   30.98342m (14120724)
        650083.90   4203758.18   32.21311m (14120724)
650103.90   4203758.18   33.34350m (14120724)
        650123.90   4203758.18   34.32335m (14120724)
650143.90   4203758.18   35.10721m (14120724)
        650163.90   4203758.18   36.91194 (13032824)
650183.90   4203758.18   39.92154 (13032824)
        650203.90   4203758.18   42.59221 (13032824)
649923.90   4203778.18   23.23469m (14120724)
        649943.90   4203778.18   24.42797m (14120724)

649963.90   4203778.18   25.68669m (14120724)
        649983.90   4203778.18   27.01102m (14120724)
650003.90   4203778.18   28.40174m (14120724)
        650023.90   4203778.18   29.85015m (14120724)
650043.90   4203778.18   31.33839m (14120724)
        650063.90   4203778.18   32.84124m (14120724)
650083.90   4203778.18   34.31568m (14120724)
        650103.90   4203778.18   35.70825m (14120724)
650123.90   4203778.18   36.96416m (14120724)
        649923.90   4203798.18   24.08777m (14120724)
649943.90   4203798.18   25.38297m (14120724)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649963.90	4203798.18	26.75319m	(14120724)
649983.90	4203798.18	28.20639m	(14120724)
650003.90	4203798.18	29.74464m	(14120724)
650023.90	4203798.18	31.36578m	(14120724)
650043.90	4203798.18	33.05587m	(14120724)
650063.90	4203798.18	34.79746m	(14120724)
650083.90	4203798.18	36.54943m	(14120724)
650103.90	4203798.18	38.25226m	(14120724)
650123.90	4203798.18	39.84539m	(14120724)
649923.90	4203818.18	24.98784m	(14120724)
649943.90	4203818.18	26.39358m	(14120724)
649963.90	4203818.18	27.88456m	(14120724)
649983.90	4203818.18	29.47321m	(14120724)
650003.90	4203818.18	31.16488m	(14120724)
650023.90	4203818.18	32.96657m	(14120724)
650043.90	4203818.18	34.87191m	(14120724)
650063.90	4203818.18	36.86870m	(14120724)

650083.90   4203818.18   38.92161m (14120724)
        650103.90   4203818.18   40.98118m (14120724)
650123.90   4203818.18   42.97489m (14120724)
        650143.90   4203818.18   44.82177m (14120724)
650163.90   4203818.18   46.42727m (14120724)
        650196.10   4203810.71   49.38692 (13032824)
650216.10   4203810.71   53.78118 (13032824)
        649923.90   4203838.18   25.93849m (14120724)
649943.90   4203838.18   27.46471m (14120724)
        649963.90   4203838.18   29.09034m (14120724)
649983.90   4203838.18   30.82687m (14120724)
        650003.90   4203838.18   32.68668m (14120724)
650023.90   4203838.18   34.67887m (14120724)
        650043.90   4203838.18   36.81210m (14120724)
650063.90   4203838.18   39.07974m (14120724)
        650083.90   4203838.18   41.45854m (14120724)
650196.10   4203830.71   52.66373 (13032824)
        650216.10   4203830.71   58.16097 (13032824)
649923.90   4203858.18   26.93480m (14120724)
        649943.90   4203858.18   28.59841m (14120724)
649963.90   4203858.18   30.37657m (14120724)
        649983.90   4203858.18   32.27980m (14120724)
650003.90   4203858.18   34.32550m (14120724)
        650023.90   4203858.18   36.52877m (14120724)
650043.90   4203858.18   38.90962m (14120724)
        650063.90   4203858.18   41.46920m (14120724)
650083.90   4203858.18   44.19969m (14120724)
        649923.90   4203878.18   27.96454m (14120724)
649943.90   4203878.18   29.78332m (14120724)
        649963.90   4203878.18   31.73579m (14120724)
649983.90   4203878.18   33.83046m (14120724)
        650003.90   4203878.18   36.08919m (14120724)
650023.90   4203878.18   38.53450m (14120724)
        650043.90   4203878.18   41.19203m (14120724)
650063.90   4203878.18   44.07683m (14120724)
        650083.90   4203878.18   47.19686m (14120724)
650743.90   4203878.18   41.28793 (17010524)
        650763.90   4203878.18   39.15723 (17010524)
650783.90   4203878.18   37.08710 (17010524)
        650803.90   4203878.18   35.91520 (17022824)
650823.90   4203878.18   34.85174 (17022824)
        650843.90   4203878.18   33.77385 (17022824)
650863.90   4203878.18   32.69089 (17022824)
        649923.90   4203898.18   29.00575m (14120724)
649943.90   4203898.18   30.99832m (14120724)
        649963.90   4203898.18   33.14303m (14120724)
649983.90   4203898.18   35.45688m (14120724)
        650003.90   4203898.18   37.96132m (14120724)
650023.90   4203898.18   40.68399m (14120724)
        650043.90   4203898.18   43.65982m (14120724)
650063.90   4203898.18   46.91718m (14120724)
        650083.90   4203898.18   50.48233m (14120724)

650743.90   4203898.18   41.36040 (17010524)
        650763.90   4203898.18   39.79159 (17022824)
650783.90   4203898.18   38.55604 (17022824)
        650803.90   4203898.18   37.30121 (17022824)
650823.90   4203898.18   36.03855 (17022824)
        650843.90   4203898.18   34.77999 (17022824)
650863.90   4203898.18   33.53311 (17022824)
        649923.90   4203918.18   30.02438m (14120724)
649943.90   4203918.18   32.20322m (14120724)
        649963.90   4203918.18   34.56255m (14120724)
649983.90   4203918.18   37.12031m (14120724)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650003.90	4203918.18	39.90416m	(14120724)
650023.90	4203918.18	42.94731m	(14120724)
650043.90	4203918.18	46.28677m	(14120724)
650063.90	4203918.18	49.97651m	(14120724)
650083.90	4203918.18	54.06048m	(14120724)
650723.90	4203918.18	44.30045	(17022824)
650743.90	4203918.18	42.85619	(17022824)
650763.90	4203918.18	41.39330	(17022824)
650783.90	4203918.18	39.92022	(17022824)
650803.90	4203918.18	38.44954	(17022824)
650823.90	4203918.18	36.99239	(17022824)
650843.90	4203918.18	35.55879	(17022824)
650863.90	4203918.18	34.15627	(17022824)
649923.90	4203938.18	30.98874m	(14120724)
649943.90	4203938.18	33.35508m	(14120724)
649963.90	4203938.18	35.94059m	(14120724)
649983.90	4203938.18	38.76838m	(14120724)

650003.90   4203938.18   41.86085m (14120724)
        650023.90   4203938.18   45.25712m (14120724)
650043.90   4203938.18   49.00799m (14120724)
        650063.90   4203938.18   53.17861m (14120724)
650083.90   4203938.18   57.85345m (14120724)
        650103.90   4203938.18   63.10387m (14120724)
650123.90   4203938.18   69.00838m (14120724)
        650143.90   4203938.18   75.65181m (14120724)
650723.90   4203938.18   46.15287 (17022824)
        650743.90   4203938.18   44.42895 (17022824)
650763.90   4203938.18   42.70746 (17022824)
        650783.90   4203938.18   41.00101 (17022824)
650803.90   4203938.18   39.32189 (17022824)
        650823.90   4203938.18   37.67963 (17022824)
650843.90   4203938.18   36.08297 (17022824)
        649923.90   4203958.18   31.86446m (14120724)
649943.90   4203958.18   34.41331m (14120724)
        649963.90   4203958.18   37.22741m (14120724)
649983.90   4203958.18   40.32804m (14120724)
        650003.90   4203958.18   43.74979m (14120724)
650023.90   4203958.18   47.52932m (14120724)
        650043.90   4203958.18   51.72751m (14120724)
650063.90   4203958.18   56.42861m (14120724)
        650083.90   4203958.18   61.73415m (14120724)
650103.90   4203958.18   67.76518m (14120724)
        650123.90   4203958.18   74.67504m (14120724)
650143.90   4203958.18   82.61438m (14120724)
        650723.90   4203958.18   47.66079 (17022824)
650743.90   4203958.18   45.65870 (17022824)
        650763.90   4203958.18   43.68668 (17022824)
650783.90   4203958.18   41.75872 (17022824)
        650803.90   4203958.18   39.88517 (17022824)
650823.90   4203958.18   38.07394 (17022824)
        650843.90   4203958.18   36.33201 (17022824)
649923.90   4203978.18   33.11459 (17121224)
        649943.90   4203978.18   35.34653m (14120724)
649963.90   4203978.18   38.37194m (14120724)
        649983.90   4203978.18   41.74423m (14120724)
650003.90   4203978.18   45.49474m (14120724)
        650023.90   4203978.18   49.67222m (14120724)
650043.90   4203978.18   54.34518m (14120724)
        650063.90   4203978.18   59.60313m (14120724)
650083.90   4203978.18   65.56919m (14120724)
        650103.90   4203978.18   72.42072m (14120724)
650123.90   4203978.18   80.35787m (14120724)
        650703.90   4203978.18   51.08525 (17022824)
650723.90   4203978.18   48.76618 (17022824)
        650743.90   4203978.18   46.49663 (17022824)
650763.90   4203978.18   44.29119 (17022824)
        650783.90   4203978.18   42.16072 (17022824)
650803.90   4203978.18   40.11377 (17022824)
        650823.90   4203978.18   38.15622 (17022824)

650843.90   4203978.18   36.29250 (17022824)
        649923.90   4203998.18   35.35661 (17121224)
649943.90   4203998.18   36.89197 (17121224)
        649963.90   4203998.18   39.34930m (14120724)
649983.90   4203998.18   42.96678m (14120724)
        650003.90   4203998.18   47.03309m (14120724)
650023.90   4203998.18   51.60814m (14120724)
        650043.90   4203998.18   56.76871m (14120724)
650063.90   4203998.18   62.60531m (14120724)
        650083.90   4203998.18   69.26063m (14120724)
650103.90   4203998.18   76.94073m (14120724)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650123.90	4203998.18	85.91683m	(14120724)
650703.90	4203998.18	52.02373	(17022824)
650723.90	4203998.18	49.41984	(17022824)
650743.90	4203998.18	46.90480	(17022824)
650763.90	4203998.18	44.49021	(17022824)
650783.90	4203998.18	42.18421	(17022824)
650803.90	4203998.18	39.99226	(17022824)
650823.90	4203998.18	37.91698	(17022824)
650843.90	4203998.18	35.95915	(17022824)
649923.90	4204018.18	37.43546	(17121224)
649943.90	4204018.18	39.23512	(17121224)
649963.90	4204018.18	41.18876	(16111924)
649983.90	4204018.18	44.05462	(16111924)
650003.90	4204018.18	48.32265m	(14120724)
650023.90	4204018.18	53.27948m	(14120724)
650043.90	4204018.18	58.91401m	(14120724)
650063.90	4204018.18	65.34880m	(14120724)

650083.90   4204018.18   72.72205m (14120724)
        650103.90   4204018.18   81.26208m (14120724)
650123.90   4204018.18   91.30353m (14120724)
        650703.90   4204018.18   52.44795 (17022824)
650723.90   4204018.18   49.58503 (17022824)
        650743.90   4204018.18   46.85537 (17022824)
650763.90   4204018.18   44.26517 (17022824)
        650783.90   4204018.18   41.81873 (17022824)
650803.90   4204018.18   39.51691 (17022824)
        650823.90   4204018.18   37.35752 (17022824)
650843.90   4204018.18   35.33698 (17022824)
        649923.90   4204038.18   39.30633 (17121224)
649943.90   4204038.18   41.38554 (17121224)
        649963.90   4204038.18   43.57107 (17121224)
649983.90   4204038.18   46.19689 (16111924)
        650003.90   4204038.18   49.68050 (16111924)
650023.90   4204038.18   54.62921m (14120724)
        650043.90   4204038.18   60.71763m (14120724)
650063.90   4204038.18   67.74526m (14120724)
        650083.90   4204038.18   75.86375m (14120724)
650103.90   4204038.18   85.32109m (14120724)
        650123.90   4204038.18   96.49427m (14120724)
650683.90   4204038.18   55.57706 (17022824)
        650703.90   4204038.18   52.32265 (17022824)
650723.90   4204038.18   49.24016 (17022824)
        650743.90   4204038.18   46.33658 (17022824)
650763.90   4204038.18   43.61347 (17022824)
        650783.90   4204038.18   41.06841 (17022824)
650803.90   4204038.18   38.69619 (17022824)
        650823.90   4204038.18   36.48934 (17022824)
649923.90   4204058.18   40.92955 (17121224)
        649943.90   4204058.18   43.29819 (17121224)
649963.90   4204058.18   45.81429 (17121224)
        649983.90   4204058.18   48.48414 (17121224)
650003.90   4204058.18   51.89507 (16111924)
        650023.90   4204058.18   56.11863 (16111924)
650043.90   4204058.18   62.12758m (14120724)
        650063.90   4204058.18   69.70499m (14120724)
650083.90   4204058.18   78.57030m (14120724)
        650103.90   4204058.18   89.00904m (14120724)
650123.90   4204058.18   101.40770m (14120724)
        650683.90   4204058.18   55.11036 (17022824)
650703.90   4204058.18   51.63080 (17022824)
        650723.90   4204058.18   48.37897 (17022824)
650743.90   4204058.18   45.35378 (17022824)
        650763.90   4204058.18   42.54748 (17022824)
650783.90   4204058.18   39.95011 (17022824)
        650803.90   4204058.18   37.54967 (17022824)
650823.90   4204058.18   35.33268 (17022824)
        649923.90   4204078.18   42.27361 (17121224)
649943.90   4204078.18   44.93585 (17121224)
        649963.90   4204078.18   47.79873 (17121224)

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649983.90   4204078.18       50.86590  (17121224)
        650003.90   4204078.18       54.15356  (17121224)
650023.90   4204078.18       58.32171  (16111924)
        650043.90   4204078.18       63.44124  (16111924)
650063.90   4204078.18       71.18098m (14120724)
        650083.90   4204078.18       80.73917m (14120724)
650103.90   4204078.18       92.15221m (14120724)
        650123.90   4204078.18      105.84784m (14120724)
650683.90   4204078.18       54.01519  (17022824)
        650703.90   4204078.18       50.37431  (17022824)
650723.90   4204078.18       47.01663  (17022824)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650743.90	4204078.18	43.92903	(17022824)	650763.90	4204078.18	41.09371	(17022824)
650783.90	4204078.18	38.49203	(17022824)	650803.90	4204078.18	36.10522	(17022824)
650823.90	4204078.18	33.91510	(17022824)	649923.90	4204098.18	43.31496	(17121224)
649943.90	4204098.18	46.26331	(17121224)	649963.90	4204098.18	49.47808	(17121224)
649983.90	4204098.18	52.96895	(17121224)	650003.90	4204098.18	56.75817	(17121224)
650023.90	4204098.18	60.87103	(17121224)	650043.90	4204098.18	65.54620	(16111924)
650063.90	4204098.18	72.17390m	(14120724)	650083.90	4204098.18	82.28649m	(14120724)
650103.90	4204098.18	94.56943m	(14120724)	650123.90	4204098.18	109.59014m	(14120724)
650143.90	4204098.18	128.14047m	(14120724)				

650163.90   4204098.18   151.49694m (14120724)
        650663.90   4204098.18   56.37983 (17022824)
650683.90   4204098.18   52.30011 (17022824)
        650703.90   4204098.18   48.57705 (17022824)
650723.90   4204098.18   45.18533 (17022824)
        650743.90   4204098.18   42.09824 (17022824)
650763.90   4204098.18   39.89266 (14020324)
        650783.90   4204098.18   38.09406 (14020324)
650803.90   4204098.18   36.40456 (14020324)
        650823.90   4204098.18   34.81853 (14020324)
649923.90   4204118.18   44.03478 (17121224)
        649943.90   4204118.18   47.25216 (17121224)
649963.90   4204118.18   50.80295 (17121224)
        649983.90   4204118.18   54.71817 (17121224)
650003.90   4204118.18   59.02899 (17121224)
        650023.90   4204118.18   63.77989 (17121224)
650043.90   4204118.18   69.01759 (17121224)
        650063.90   4204118.18   74.79954 (17121224)
650083.90   4204118.18   83.21320m (14120724)
        650103.90   4204118.18   96.16375m (14120724)
650123.90   4204118.18   112.35611m (14120724)
        650143.90   4204118.18   132.79052m (14120724)
650163.90   4204118.18   159.02405m (14120724)
        650182.31   4204112.08   187.08504m (14120724)
650663.90   4204118.18   54.12756 (17022824)
        650683.90   4204118.18   50.00110 (17022824)
650703.90   4204118.18   47.42829 (14020324)
        650723.90   4204118.18   45.12843 (14020324)
650743.90   4204118.18   42.97361 (14020324)
        650763.90   4204118.18   40.95667 (14020324)
650783.90   4204118.18   39.06904 (14020324)
        650803.90   4204118.18   37.30260 (14020324)
650823.90   4204118.18   35.64967 (14020324)
        649923.90   4204138.18   44.42270 (17121224)
649943.90   4204138.18   47.87239 (17121224)
        649963.90   4204138.18   51.72821 (17121224)
649983.90   4204138.18   56.04081 (17121224)
        650003.90   4204138.18   60.86045 (17121224)
650023.90   4204138.18   66.25467 (17121224)
        650043.90   4204138.18   72.30740 (17121224)
650063.90   4204138.18   79.08667 (17121224)
        650083.90   4204138.18   86.69372 (17121224)
650103.90   4204138.18   97.00637m (14120724)
        650123.90   4204138.18   114.02566m (14120724)
650143.90   4204138.18   136.11863m (14120724)
        650156.64   4204142.19   154.51159m (14120724)
650643.90   4204138.18   56.77432 (14020324)
        650663.90   4204138.18   53.80554 (14020324)
650683.90   4204138.18   51.03177 (14020324)
        650703.90   4204138.18   48.44473 (14020324)
650723.90   4204138.18   46.03399 (14020324)
        650743.90   4204138.18   43.78874 (14020324)

650763.90   4204138.18   41.69727 (14020324)
        650783.90   4204138.18   39.74783 (14020324)
650803.90   4204138.18   37.92946 (14020324)
        649923.90   4204158.18   45.47638 (13010824)
649943.90   4204158.18   48.61529 (13010824)
        649963.90   4204158.18   52.20129 (17121224)
649983.90   4204158.18   56.85330 (17121224)
        650003.90   4204158.18   62.12841 (17121224)
650023.90   4204158.18   68.12860 (17121224)
        650043.90   4204158.18   74.97896 (17121224)
650063.90   4204158.18   82.81183 (17121224)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 , CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650083.90	4204158.18	91.74280	(17121224)	650103.90	4204158.18	101.94493	(17121224)
650123.90	4204158.18	114.74923m	(14120724)	650143.90	4204158.18	137.88948m	(14120724)
650177.74	4204157.98	198.84958m	(14120724)	650643.90	4204158.18	57.81479	(14020324)
650663.90	4204158.18	54.66778	(14020324)	650683.90	4204158.18	51.75721	(14020324)
650703.90	4204158.18	49.06530	(14020324)	650723.90	4204158.18	46.57413	(14020324)
650743.90	4204158.18	44.26655	(14020324)	650763.90	4204158.18	42.12669	(14020324)
650783.90	4204158.18	40.13952	(14020324)	650803.90	4204158.18	38.29137	(14020324)
650923.90	4204158.18	29.53006	(14020324)	649923.90	4204178.18	48.35131	(13010824)
649943.90	4204178.18	51.63457	(13010824)				

649963.90   4204178.18   55.33348 (13010824)
        649983.90   4204178.18   59.51904 (13010824)
650003.90   4204178.18   64.28460 (13010824)
        650023.90   4204178.18   69.82754 (13010824)
650043.90   4204178.18   76.76743 (17121224)
        650063.90   4204178.18   85.57623 (17121224)
650083.90   4204178.18   95.86332 (17121224)
        650103.90   4204178.18   107.83759 (17121224)
650123.90   4204178.18   121.89762 (17121224)
        650143.90   4204178.18   138.56292 (17121224)
650156.35   4204185.33   157.16136m (14120724)
        650643.90   4204178.18   58.39099 (14020324)
650663.90   4204178.18   55.09755 (14020324)
        650683.90   4204178.18   52.08105 (14020324)
650703.90   4204178.18   49.31324 (14020324)
        650723.90   4204178.18   46.76821 (14020324)
650743.90   4204178.18   44.42303 (14020324)
        650763.90   4204178.18   42.25748 (14020324)
650783.90   4204178.18   40.25314 (14020324)
        650803.90   4204178.18   38.39441 (14020324)
650903.90   4204178.18   30.85482 (14020324)
        650923.90   4204178.18   29.62777 (14020324)
649923.90   4204198.18   51.29967 (13010824)
        649943.90   4204198.18   54.80708 (13010824)
649963.90   4204198.18   58.74220 (13010824)
        649983.90   4204198.18   63.16638 (13010824)
650003.90   4204198.18   68.17121 (13010824)
        650023.90   4204198.18   73.96325 (13010824)
650043.90   4204198.18   80.75814 (13010824)
        650063.90   4204198.18   88.80724 (13010824)
650083.90   4204198.18   98.47087 (13010824)
        650103.90   4204198.18   112.13700 (17121224)
650123.90   4204198.18   128.52665 (17121224)
        650143.90   4204198.18   148.28052 (17121224)
650643.90   4204198.18   58.51093 (14020324)
        650663.90   4204198.18   55.10472 (14020324)
650683.90   4204198.18   52.01275 (14020324)
        650703.90   4204198.18   49.19631 (14020324)
650723.90   4204198.18   46.62190 (14020324)
        650743.90   4204198.18   44.26162 (14020324)
650763.90   4204198.18   42.09062 (14020324)
        650783.90   4204198.18   40.08829 (14020324)
650803.90   4204198.18   38.23592 (14020324)
        650903.90   4204198.18   30.75814 (14020324)
650923.90   4204198.18   29.54443 (14020324)
        649923.90   4204218.18   54.58613 (17011524)
649943.90   4204218.18   58.67822c (15012324)
        649963.90   4204218.18   63.27105c (15012324)
649983.90   4204218.18   68.35790c (15012324)
        650003.90   4204218.18   74.00099c (15012324)
650023.90   4204218.18   80.45411c (15012324)
        650043.90   4204218.18   87.88549c (15012324)

650063.90   4204218.18   96.44454c (15012324)
        650083.90   4204218.18   106.18268c (15012324)
650103.90   4204218.18   117.30795c (15012324)
        650123.90   4204218.18   132.38468 (17121224)
650623.90   4204218.18   62.01124 (14020324)
        650643.90   4204218.18   58.13084 (14020324)
650703.90   4204218.18   48.68935 (14020324)
        650723.90   4204218.18   46.11354 (14020324)
650743.90   4204218.18   43.76258 (14020324)
        650763.90   4204218.18   41.60880 (14020324)
650903.90   4204218.18   30.45737 (14020324)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 , CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650923.90	4204218.18	29.26876	(14020324)
649923.90	4204238.18	58.73580c	(15012324)
649943.90	4204238.18	63.28972c	(15012324)
649963.90	4204238.18	68.39715c	(15012324)
649983.90	4204238.18	74.03385c	(15012324)
650003.90	4204238.18	80.29600c	(15012324)
650023.90	4204238.18	87.60517c	(15012324)
650043.90	4204238.18	96.08221c	(15012324)
650063.90	4204238.18	105.84826c	(15012324)
650083.90	4204238.18	116.98460c	(15012324)
650103.90	4204238.18	129.76886c	(15012324)
650123.90	4204238.18	144.05195c	(15012324)
650623.90	4204238.18	61.04812	(14020324)
650643.90	4204238.18	57.13194	(14020324)
650703.90	4204238.18	47.72829	(14020324)
650723.90	4204238.18	45.18986	(14020324)
650743.90	4204238.18	42.88179	(14020324)

650763.90   4204238.18   40.77405 (14020324)
        650903.90   4204238.18   29.93738 (14020324)
650923.90   4204238.18   28.78685 (14020324)
        649923.90   4204258.18   62.39940c (15012324)
649943.90   4204258.18   67.34062c (15012324)
        649963.90   4204258.18   72.90155c (15012324)
649983.90   4204258.18   79.11773c (15012324)
        650003.90   4204258.18   86.12678c (15012324)
650023.90   4204258.18   94.29981c (15012324)
        650043.90   4204258.18   103.84478c (15012324)
650063.90   4204258.18   114.96590c (15012324)
        650083.90   4204258.18   127.94894c (15012324)
650103.90   4204258.18   143.21201c (15012324)
        650123.90   4204258.18   160.83595c (15012324)
650143.90   4204258.18   181.11493c (15012324)
        650623.90   4204258.18   59.15877 (14020324)
650643.90   4204258.18   55.33456 (14020324)
        650903.90   4204258.18   29.18229 (14020324)
650923.90   4204258.18   28.08457 (14020324)
        649923.90   4204278.18   65.30881c (15012324)
649943.90   4204278.18   70.52202c (15012324)
        649963.90   4204278.18   76.41831c (15012324)
649983.90   4204278.18   83.09893c (15012324)
        650003.90   4204278.18   90.83874c (15012324)
650023.90   4204278.18   99.71306c (15012324)
        650043.90   4204278.18   110.00990c (15012324)
650063.90   4204278.18   122.15251c (15012324)
        650083.90   4204278.18   136.77665c (15012324)
650103.90   4204278.18   154.39596c (15012324)
        650123.90   4204278.18   175.37504c (15012324)
650623.90   4204278.18   58.26017 (16010124)
        650643.90   4204278.18   54.36358 (16010124)
650903.90   4204278.18   28.17995 (14020324)
        650923.90   4204278.18   27.15214 (14020324)
649923.90   4204298.18   67.27997c (15012324)
        649943.90   4204298.18   72.69890c (15012324)
649963.90   4204298.18   78.83810c (15012324)
        649983.90   4204298.18   85.81920c (15012324)
650003.90   4204298.18   93.81729c (15012324)
        650023.90   4204298.18   103.00558c (15012324)
650043.90   4204298.18   113.63024c (15012324)
        650063.90   4204298.18   126.11130c (15012324)
650083.90   4204298.18   140.93832c (15012324)
        650103.90   4204298.18   159.02941c (15012324)
650123.90   4204298.18   181.03891c (15012324)
        650883.90   4204298.18   29.03704 (16010124)
650903.90   4204298.18   27.86918 (16010124)
        650923.90   4204298.18   26.77761 (16010124)
649923.90   4204318.18   68.25981c (15012324)
        649943.90   4204318.18   73.69069c (15012324)
649963.90   4204318.18   79.82411c (15012324)
        649983.90   4204318.18   86.75807c (15012324)

650003.90   4204318.18   94.62998c (15012324)
        650023.90   4204318.18   103.60646c (15012324)
650043.90   4204318.18   113.89219c (15012324)
        650063.90   4204318.18   125.74385c (15012324)
650083.90   4204318.18   139.52417c (15012324)
        650127.68   4204307.44   184.46320c (15012324)
650883.90   4204318.18   28.68825 (16010124)
        650903.90   4204318.18   27.57118 (16010124)
650923.90   4204318.18   26.52481 (16010124)
        649923.90   4204338.18   68.22539c (15012324)
649943.90   4204338.18   73.47621c (15012324)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649963.90	4204338.18	79.33998c	(15012324)
649983.90	4204338.18	85.90313c	(15012324)
650003.90	4204338.18	93.26427c	(15012324)
650023.90	4204338.18	101.53606c	(15012324)
650043.90	4204338.18	110.84784c	(15012324)
650063.90	4204338.18	121.35057c	(15012324)
650883.90	4204338.18	28.00168	(16010124)
650903.90	4204338.18	26.96166	(16010124)
650923.90	4204338.18	25.98392	(16010124)
649923.90	4204358.18	67.22093c	(15012324)
649943.90	4204358.18	72.11272c	(15012324)
649963.90	4204358.18	77.51021c	(15012324)
649983.90	4204358.18	83.46576c	(15012324)
650003.90	4204358.18	90.03306c	(15012324)
650023.90	4204358.18	97.26597c	(15012324)
650043.90	4204358.18	105.21694c	(15012324)
650063.90	4204358.18	113.93514c	(15012324)

650883.90   4204358.18   26.99796 (16010124)
        650903.90   4204358.18   26.05814 (16010124)
650923.90   4204358.18   25.16984 (16010124)
        649923.90   4204378.18   65.38062c (15012324)
649943.90   4204378.18   69.79951c (15012324)
        649963.90   4204378.18   74.60317c (15012324)
649983.90   4204378.18   79.81236c (15012324)
        650003.90   4204378.18   85.44151c (15012324)
650023.90   4204378.18   91.49640c (15012324)
        650043.90   4204378.18   99.27958 (14122024)
650063.90   4204378.18   108.35894 (14122024)
        650083.90   4204378.18   118.72894 (15012024)
650103.90   4204378.18   131.92609 (15012024)
        650903.90   4204378.18   24.89353 (16010124)
650923.90   4204378.18   24.11119 (16010124)
        649923.90   4204398.18   62.89562c (15012324)
649943.90   4204398.18   66.78263c (15012324)
        649963.90   4204398.18   70.93771c (15012324)
649983.90   4204398.18   75.43093 (14122024)
        650003.90   4204398.18   81.39706 (14122024)
650023.90   4204398.18   87.77310 (14122024)
        650043.90   4204398.18   95.80789 (15012024)
650063.90   4204398.18   104.91562 (15012024)
        650083.90   4204398.18   115.18338 (15120924)
650103.90   4204398.18   126.61372 (15120924)
        649923.90   4204418.18   59.96436c (15012324)
649943.90   4204418.18   63.74215 (14122024)
        649963.90   4204418.18   68.18888 (14122024)
649983.90   4204418.18   73.22594 (15012024)
        650003.90   4204418.18   79.52484 (15012024)
650023.90   4204418.18   86.23610 (15012024)
        650043.90   4204418.18   93.63530 (15120924)
650103.90   4204418.18   121.94963 (14121724)
        649923.90   4204438.18   58.11470 (14122024)
649943.90   4204438.18   62.47030 (15012024)
        649963.90   4204438.18   67.38369 (15012024)
649983.90   4204438.18   72.56433 (15012024)
        650003.90   4204438.18   78.03052 (15120924)
650023.90   4204438.18   84.30015 (15120924)
        650043.90   4204438.18   90.75934 (15120924)
650063.90   4204438.18   97.56135 (14121724)
        650083.90   4204438.18   106.47548 (14121724)
650143.90   4204438.18   127.94233 (14121724)
        650209.72   4204428.68   140.62518 (15110924)
650229.72   4204428.68   131.59791 (15110924)
        649923.90   4204458.18   58.00572 (15012024)
649943.90   4204458.18   62.14400 (15012024)
        649963.90   4204458.18   66.42300 (15012024)
649983.90   4204458.18   71.16582 (15120924)
        650003.90   4204458.18   76.31146 (15120924)
650023.90   4204458.18   81.45446 (15120924)
        650043.90   4204458.18   86.98215 (14121724)

650063.90   4204458.18   93.97849 (14121724)
        650083.90   4204458.18   100.62382 (14121724)
650143.90   4204458.18   112.11936 (14121724)
        650203.90   4204458.18   110.50308 (15110924)
650223.90   4204458.18   104.06298 (17010224)
        649923.90   4204478.18   57.45363 (15012024)
649943.90   4204478.18   61.00430 (15012024)
        649963.90   4204478.18   65.17967 (15120924)
649983.90   4204478.18   69.43914 (15120924)
        650003.90   4204478.18   73.58522 (15120924)
650023.90   4204478.18   78.12741 (14121724)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
CON10445 , CON10446 , CON10447 , CON10448 , CON10449 ,
CON10450 , CON10451 , CON10452 , CON10453 , CON10454 , CON10455 , CON10456 , CON10457 ,
CON10458 , CON10459 , CON10460 , CON10461 , CON10462 , CON10463 , CON10464 , CON10465 ,
CON10466 , CON10467 , CON10468 , CON10469 , CON10470 , CON10471 ,
CON10472 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650043.90	4204478.18	83.76978	(14121724)
650063.90	4204478.18	89.06875	(14121724)
650203.90	4204478.18	93.96608	(15110924)
649923.90	4204498.18	56.34573	(15120924)
649943.90	4204498.18	59.93691	(15120924)
649963.90	4204498.18	63.49241	(15120924)
649983.90	4204498.18	66.88023	(15120924)
650003.90	4204498.18	70.63483	(14121724)
650023.90	4204498.18	75.22341	(14121724)
650043.90	4204498.18	79.52309	(14121724)
650063.90	4204498.18	83.25394	(14121724)
650103.90	4204498.18	87.45278	(14121724)
650123.90	4204498.18	87.43686	(15012424)
650143.90	4204498.18	88.07152	(15110924)
650163.90	4204498.18	88.33299	(15110924)
650183.90	4204498.18	85.68617	(15110924)
650203.90	4204498.18	81.95781	(17010224)

649923.90   4204518.18   55.32387 (15120924)
        649943.90   4204518.18   58.32071 (15120924)
649963.90   4204518.18   61.11921 (15120924)
        649983.90   4204518.18   64.26039 (14121724)
650003.90   4204518.18   68.07497 (14121724)
        650023.90   4204518.18   71.59863 (14121724)
650043.90   4204518.18   74.62900 (14121724)
        650063.90   4204518.18   76.94044 (14121724)
650103.90   4204518.18   78.56019 (15012424)
        650123.90   4204518.18   78.27054 (15110924)
650143.90   4204518.18   79.19052 (15110924)
        650163.90   4204518.18   77.89446 (15110924)
650183.90   4204518.18   74.51076 (15110924)
        650203.90   4204518.18   72.26585 (17010224)
650172.55   4204361.09   213.68683 (14121724)
        650181.70   4204363.65   227.14449 (14121724)
650191.23   4204366.71   237.98348 (14121724)
        650200.63   4204370.00   243.01906 (14121724)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD (43824 HRS) RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

NETWORK GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	58.64743 AT (650177.74, 4204157.98, 5.37, 5.37, 0.00)	DC	
	2ND HIGHEST VALUE IS	53.32201 AT (650182.31, 4204112.08, 5.42, 5.42, 0.00)	DC	
	3RD HIGHEST VALUE IS	48.45422 AT (650156.35, 4204185.33, 5.31, 5.31, 0.00)	DC	
	4TH HIGHEST VALUE IS	44.52997 AT (650163.90, 4204118.18, 5.38, 5.38, 0.00)	DC	
	5TH HIGHEST VALUE IS	44.33326 AT (650156.64, 4204142.19, 5.35, 5.35, 0.00)	DC	
	6TH HIGHEST VALUE IS	44.15258 AT (650143.90, 4204258.18, 5.22, 5.22, 0.00)	DC	
	7TH HIGHEST VALUE IS	43.88259 AT (650200.63, 4204370.00, 4.52, 4.52, 0.00)	DC	
	8TH HIGHEST VALUE IS	43.36502 AT (650143.90, 4204198.18, 5.28, 5.28, 0.00)	DC	
	9TH HIGHEST VALUE IS	42.95373 AT (650191.23, 4204366.71, 4.54, 4.54, 0.00)	DC	
	10TH HIGHEST VALUE IS	42.16594 AT (650143.90, 4204178.18, 5.30, 5.30, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

NETWORK GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	585.95748	ON 14021209:	AT (650177.74, 4204157.98, 5.37, 5.37, 0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

NETWORK GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	243.01906	ON 14121724: AT (650200.63, 4204370.00, 4.52, 4.52, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 11 Warning Message(s)
A Total of 971 Informational Message(s)

A Total of 43824 Hours Were Processed

A Total of 442 Calm Hours Identified

A Total of 529 Missing Hours Identified (1.21 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
ME W186 553 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used 0.50
ME W187 553 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
MX W420 34276 METQA: Wind Speed Out-of-Range. KURDAT = 16112904
MX W420 34282 METQA: Wind Speed Out-of-Range. KURDAT = 16112910
MX W420 34288 METQA: Wind Speed Out-of-Range. KURDAT = 16112916
MX W420 34294 METQA: Wind Speed Out-of-Range. KURDAT = 16112922
MX W420 34300 METQA: Wind Speed Out-of-Range. KURDAT = 16113004
MX W420 40768 METQA: Wind Speed Out-of-Range. KURDAT = 17082616
MX W420 40792 METQA: Wind Speed Out-of-Range. KURDAT = 17082716
MX W420 40798 METQA: Wind Speed Out-of-Range. KURDAT = 17082722
MX W420 40804 METQA: Wind Speed Out-of-Range. KURDAT = 17082804

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************************************
*** AERMOD Finishes Successfully ***
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*HARP - HRACalc v22118 3/28/2023 9:29:03 AM - Cancer Risk - Inp

REC	GRP	NETID	X	Y	RISK_SUM
565	ALL		650177.7	4204158	5.17E-05
521	ALL		650182.3	4204112	4.70E-05
588	ALL		650156.4	4204185	4.27E-05
520	ALL		650163.9	4204118	3.93E-05
543	ALL		650156.6	4204142	3.91E-05
672	ALL		650143.9	4204258	3.89E-05
835	ALL		650200.6	4204370	3.87E-05
611	ALL		650143.9	4204198	3.82E-05
834	ALL		650191.2	4204367	3.79E-05
587	ALL		650143.9	4204178	3.72E-05
498	ALL		650163.9	4204098	3.67E-05
833	ALL		650181.7	4204364	3.66E-05
564	ALL		650143.9	4204158	3.58E-05
832	ALL		650172.6	4204361	3.51E-05
542	ALL		650143.9	4204138	3.41E-05
652	ALL		650123.9	4204238	3.26E-05
671	ALL		650123.9	4204258	3.25E-05
519	ALL		650143.9	4204118	3.23E-05
633	ALL		650123.9	4204218	3.23E-05
687	ALL		650123.9	4204278	3.21E-05
610	ALL		650123.9	4204198	3.18E-05
715	ALL		650127.7	4204307	3.14E-05
702	ALL		650123.9	4204298	3.11E-05
586	ALL		650123.9	4204178	3.09E-05
497	ALL		650143.9	4204098	3.04E-05
563	ALL		650123.9	4204158	2.98E-05
541	ALL		650123.9	4204138	2.86E-05
651	ALL		650103.9	4204238	2.76E-05
670	ALL		650103.9	4204258	2.76E-05
632	ALL		650103.9	4204218	2.74E-05
686	ALL		650103.9	4204278	2.73E-05
518	ALL		650123.9	4204118	2.72E-05
609	ALL		650103.9	4204198	2.69E-05
701	ALL		650103.9	4204298	2.66E-05
585	ALL		650103.9	4204178	2.62E-05
496	ALL		650123.9	4204098	2.57E-05
562	ALL		650103.9	4204158	2.53E-05
540	ALL		650103.9	4204138	2.43E-05
477	ALL		650123.9	4204078	2.42E-05
669	ALL		650083.9	4204258	2.37E-05
650	ALL		650083.9	4204238	2.37E-05
685	ALL		650083.9	4204278	2.35E-05
631	ALL		650083.9	4204218	2.35E-05
517	ALL		650103.9	4204118	2.33E-05
608	ALL		650083.9	4204198	2.31E-05

700	ALL	650083.9	4204298	2.30E-05
458	ALL	650123.9	4204058	2.27E-05
584	ALL	650083.9	4204178	2.25E-05
781	ALL	650209.7	4204429	2.23E-05
714	ALL	650083.9	4204318	2.23E-05
782	ALL	650229.7	4204429	2.22E-05
495	ALL	650103.9	4204098	2.21E-05
561	ALL	650083.9	4204158	2.18E-05
750	ALL	650103.9	4204378	2.12E-05
439	ALL	650123.9	4204038	2.11E-05
539	ALL	650083.9	4204138	2.10E-05
476	ALL	650103.9	4204078	2.09E-05
668	ALL	650063.9	4204258	2.07E-05
649	ALL	650063.9	4204238	2.06E-05
684	ALL	650063.9	4204278	2.05E-05
630	ALL	650063.9	4204218	2.04E-05
699	ALL	650063.9	4204298	2.02E-05
516	ALL	650083.9	4204118	2.02E-05
607	ALL	650063.9	4204198	2.01E-05
713	ALL	650063.9	4204318	1.97E-05
457	ALL	650103.9	4204058	1.96E-05
583	ALL	650063.9	4204178	1.96E-05
420	ALL	650123.9	4204018	1.96E-05
762	ALL	650103.9	4204398	1.95E-05
494	ALL	650083.9	4204098	1.92E-05
544	ALL	650643.9	4204138	1.91E-05
560	ALL	650063.9	4204158	1.90E-05
749	ALL	650083.9	4204378	1.90E-05
726	ALL	650063.9	4204338	1.90E-05
566	ALL	650643.9	4204158	1.87E-05
634	ALL	650623.9	4204218	1.87E-05
780	ALL	650143.9	4204438	1.86E-05
538	ALL	650063.9	4204138	1.84E-05
438	ALL	650103.9	4204038	1.84E-05
589	ALL	650643.9	4204178	1.83E-05
475	ALL	650083.9	4204078	1.82E-05
667	ALL	650043.9	4204258	1.82E-05
737	ALL	650063.9	4204358	1.81E-05
648	ALL	650043.9	4204238	1.81E-05
683	ALL	650043.9	4204278	1.81E-05
401	ALL	650123.9	4203998	1.80E-05
499	ALL	650663.9	4204098	1.79E-05
629	ALL	650043.9	4204218	1.79E-05
770	ALL	650103.9	4204418	1.79E-05
653	ALL	650623.9	4204238	1.79E-05
698	ALL	650043.9	4204298	1.78E-05
522	ALL	650663.9	4204118	1.78E-05

761	ALL	650083.9	4204398	1.78E-05
612	ALL	650643.9	4204198	1.77E-05
515	ALL	650063.9	4204118	1.77E-05
606	ALL	650043.9	4204198	1.76E-05
545	ALL	650663.9	4204138	1.76E-05
712	ALL	650043.9	4204318	1.75E-05
793	ALL	650203.9	4204458	1.74E-05
582	ALL	650043.9	4204178	1.72E-05
567	ALL	650663.9	4204158	1.72E-05
456	ALL	650083.9	4204058	1.72E-05
748	ALL	650063.9	4204378	1.72E-05
794	ALL	650223.9	4204458	1.72E-05
419	ALL	650103.9	4204018	1.71E-05
364	ALL	650143.9	4203958	1.71E-05
635	ALL	650643.9	4204218	1.71E-05
673	ALL	650623.9	4204258	1.70E-05
725	ALL	650043.9	4204338	1.69E-05
493	ALL	650063.9	4204098	1.69E-05
590	ALL	650663.9	4204178	1.68E-05
559	ALL	650043.9	4204158	1.68E-05
478	ALL	650683.9	4204078	1.66E-05
382	ALL	650123.9	4203978	1.66E-05
459	ALL	650683.9	4204058	1.66E-05
500	ALL	650683.9	4204098	1.66E-05
440	ALL	650683.9	4204038	1.65E-05
523	ALL	650683.9	4204118	1.64E-05
654	ALL	650643.9	4204238	1.64E-05
792	ALL	650143.9	4204458	1.64E-05
613	ALL	650663.9	4204198	1.63E-05
736	ALL	650043.9	4204358	1.63E-05
537	ALL	650043.9	4204138	1.62E-05
546	ALL	650683.9	4204138	1.62E-05
437	ALL	650083.9	4204038	1.62E-05
760	ALL	650063.9	4204398	1.62E-05
666	ALL	650023.9	4204258	1.61E-05
474	ALL	650063.9	4204078	1.61E-05
682	ALL	650023.9	4204278	1.61E-05
647	ALL	650023.9	4204238	1.60E-05
688	ALL	650623.9	4204278	1.60E-05
400	ALL	650103.9	4203998	1.59E-05
568	ALL	650683.9	4204158	1.59E-05
697	ALL	650023.9	4204298	1.59E-05
628	ALL	650023.9	4204218	1.59E-05
605	ALL	650023.9	4204198	1.56E-05
674	ALL	650643.9	4204258	1.56E-05
711	ALL	650023.9	4204318	1.56E-05
514	ALL	650043.9	4204118	1.56E-05

345	ALL	650143.9	4203938	1.56E-05
747	ALL	650043.9	4204378	1.56E-05
591	ALL	650683.9	4204178	1.55E-05
479	ALL	650703.9	4204078	1.54E-05
460	ALL	650703.9	4204058	1.54E-05
501	ALL	650703.9	4204098	1.54E-05
441	ALL	650703.9	4204038	1.53E-05
581	ALL	650023.9	4204178	1.53E-05
363	ALL	650123.9	4203958	1.53E-05
455	ALL	650063.9	4204058	1.52E-05
724	ALL	650023.9	4204338	1.52E-05
524	ALL	650703.9	4204118	1.52E-05
779	ALL	650083.9	4204438	1.52E-05
418	ALL	650083.9	4204018	1.52E-05
421	ALL	650703.9	4204018	1.52E-05
614	ALL	650683.9	4204198	1.51E-05
547	ALL	650703.9	4204138	1.50E-05
492	ALL	650043.9	4204098	1.50E-05
402	ALL	650703.9	4203998	1.49E-05
803	ALL	650203.9	4204478	1.49E-05
558	ALL	650023.9	4204158	1.49E-05
381	ALL	650103.9	4203978	1.48E-05
689	ALL	650643.9	4204278	1.48E-05
759	ALL	650043.9	4204398	1.48E-05
569	ALL	650703.9	4204158	1.47E-05
735	ALL	650023.9	4204358	1.47E-05
383	ALL	650703.9	4203978	1.47E-05
536	ALL	650023.9	4204138	1.44E-05
436	ALL	650063.9	4204038	1.44E-05
665	ALL	650003.9	4204258	1.44E-05
592	ALL	650703.9	4204178	1.44E-05
681	ALL	650003.9	4204278	1.44E-05
461	ALL	650723.9	4204058	1.44E-05
480	ALL	650723.9	4204078	1.43E-05
646	ALL	650003.9	4204238	1.43E-05
473	ALL	650043.9	4204078	1.43E-05
442	ALL	650723.9	4204038	1.43E-05
502	ALL	650723.9	4204098	1.43E-05
696	ALL	650003.9	4204298	1.43E-05
399	ALL	650083.9	4203998	1.42E-05
627	ALL	650003.9	4204218	1.42E-05
422	ALL	650723.9	4204018	1.42E-05
746	ALL	650023.9	4204378	1.42E-05
525	ALL	650723.9	4204118	1.41E-05
778	ALL	650063.9	4204438	1.41E-05
710	ALL	650003.9	4204318	1.41E-05
344	ALL	650123.9	4203938	1.40E-05

403	ALL	650723.9	4203998	1.40E-05
615	ALL	650703.9	4204198	1.40E-05
604	ALL	650003.9	4204198	1.40E-05
791	ALL	650083.9	4204458	1.40E-05
548	ALL	650723.9	4204138	1.39E-05
769	ALL	650043.9	4204418	1.39E-05
513	ALL	650023.9	4204118	1.39E-05
723	ALL	650003.9	4204338	1.38E-05
384	ALL	650723.9	4203978	1.37E-05
570	ALL	650723.9	4204158	1.37E-05
580	ALL	650003.9	4204178	1.37E-05
362	ALL	650103.9	4203958	1.37E-05
454	ALL	650043.9	4204058	1.36E-05
417	ALL	650063.9	4204018	1.36E-05
636	ALL	650703.9	4204218	1.35E-05
758	ALL	650023.9	4204398	1.35E-05
365	ALL	650723.9	4203958	1.35E-05
462	ALL	650743.9	4204058	1.34E-05
491	ALL	650023.9	4204098	1.34E-05
481	ALL	650743.9	4204078	1.34E-05
593	ALL	650723.9	4204178	1.34E-05
734	ALL	650003.9	4204358	1.34E-05
443	ALL	650743.9	4204038	1.34E-05
557	ALL	650003.9	4204158	1.33E-05
503	ALL	650743.9	4204098	1.33E-05
423	ALL	650743.9	4204018	1.33E-05
380	ALL	650083.9	4203978	1.33E-05
526	ALL	650743.9	4204118	1.32E-05
346	ALL	650723.9	4203938	1.31E-05
404	ALL	650743.9	4203998	1.31E-05
777	ALL	650043.9	4204438	1.31E-05
790	ALL	650063.9	4204458	1.31E-05
816	ALL	650183.9	4204498	1.31E-05
815	ALL	650163.9	4204498	1.31E-05
655	ALL	650703.9	4204238	1.30E-05
616	ALL	650723.9	4204198	1.30E-05
549	ALL	650743.9	4204138	1.30E-05
664	ALL	649983.9	4204258	1.30E-05
680	ALL	649983.9	4204278	1.30E-05
535	ALL	650003.9	4204138	1.29E-05
817	ALL	650203.9	4204498	1.29E-05
745	ALL	650003.9	4204378	1.29E-05
385	ALL	650743.9	4203978	1.29E-05
814	ALL	650143.9	4204498	1.29E-05
645	ALL	649983.9	4204238	1.29E-05
435	ALL	650043.9	4204038	1.29E-05
695	ALL	649983.9	4204298	1.29E-05

768	ALL	650023.9	4204418	1.28E-05
472	ALL	650023.9	4204078	1.28E-05
626	ALL	649983.9	4204218	1.28E-05
326	ALL	650723.9	4203918	1.28E-05
571	ALL	650743.9	4204158	1.27E-05
398	ALL	650063.9	4203998	1.27E-05
709	ALL	649983.9	4204318	1.27E-05
366	ALL	650743.9	4203958	1.27E-05
343	ALL	650103.9	4203938	1.27E-05
813	ALL	650123.9	4204498	1.26E-05
637	ALL	650723.9	4204218	1.26E-05
603	ALL	649983.9	4204198	1.26E-05
463	ALL	650763.9	4204058	1.25E-05
512	ALL	650003.9	4204118	1.25E-05
482	ALL	650763.9	4204078	1.25E-05
444	ALL	650763.9	4204038	1.25E-05
722	ALL	649983.9	4204338	1.25E-05
594	ALL	650743.9	4204178	1.25E-05
424	ALL	650763.9	4204018	1.24E-05
504	ALL	650763.9	4204098	1.24E-05
757	ALL	650003.9	4204398	1.24E-05
347	ALL	650743.9	4203938	1.24E-05
361	ALL	650083.9	4203958	1.23E-05
579	ALL	649983.9	4204178	1.23E-05
405	ALL	650763.9	4203998	1.23E-05
527	ALL	650763.9	4204118	1.23E-05
789	ALL	650043.9	4204458	1.23E-05
275	ALL	650216.1	4203831	1.22E-05
453	ALL	650023.9	4204058	1.22E-05
812	ALL	650103.9	4204498	1.22E-05
416	ALL	650043.9	4204018	1.22E-05
733	ALL	649983.9	4204358	1.22E-05
776	ALL	650023.9	4204438	1.22E-05
386	ALL	650763.9	4203978	1.21E-05
656	ALL	650723.9	4204238	1.21E-05
617	ALL	650743.9	4204198	1.21E-05
550	ALL	650763.9	4204138	1.21E-05
802	ALL	650063.9	4204478	1.21E-05
327	ALL	650743.9	4203918	1.21E-05
490	ALL	650003.9	4204098	1.21E-05
556	ALL	649983.9	4204158	1.20E-05
379	ALL	650063.9	4203978	1.20E-05
367	ALL	650763.9	4203958	1.19E-05
572	ALL	650763.9	4204158	1.19E-05
767	ALL	650003.9	4204418	1.19E-05
744	ALL	649983.9	4204378	1.18E-05
638	ALL	650743.9	4204218	1.18E-05

663	ALL	649963.9	4204258	1.17E-05
679	ALL	649963.9	4204278	1.17E-05
464	ALL	650783.9	4204058	1.17E-05
445	ALL	650783.9	4204038	1.17E-05
310	ALL	650743.9	4203898	1.17E-05
483	ALL	650783.9	4204078	1.17E-05
348	ALL	650763.9	4203938	1.17E-05
694	ALL	649963.9	4204298	1.17E-05
534	ALL	649983.9	4204138	1.17E-05
644	ALL	649963.9	4204238	1.17E-05
425	ALL	650783.9	4204018	1.17E-05
595	ALL	650763.9	4204178	1.17E-05
434	ALL	650023.9	4204038	1.16E-05
505	ALL	650783.9	4204098	1.16E-05
708	ALL	649963.9	4204318	1.16E-05
406	ALL	650783.9	4203998	1.16E-05
471	ALL	650003.9	4204078	1.16E-05
625	ALL	649963.9	4204218	1.16E-05
829	ALL	650163.9	4204518	1.16E-05
528	ALL	650783.9	4204118	1.15E-05
397	ALL	650043.9	4203998	1.15E-05
828	ALL	650143.9	4204518	1.15E-05
342	ALL	650083.9	4203938	1.15E-05
274	ALL	650196.1	4203831	1.15E-05
830	ALL	650183.9	4204518	1.15E-05
788	ALL	650023.9	4204458	1.15E-05
387	ALL	650783.9	4203978	1.14E-05
801	ALL	650043.9	4204478	1.14E-05
328	ALL	650763.9	4203918	1.14E-05
756	ALL	649983.9	4204398	1.14E-05
721	ALL	649963.9	4204338	1.14E-05
602	ALL	649963.9	4204198	1.14E-05
294	ALL	650743.9	4203878	1.14E-05
551	ALL	650783.9	4204138	1.14E-05
618	ALL	650763.9	4204198	1.13E-05
657	ALL	650743.9	4204238	1.13E-05
827	ALL	650123.9	4204518	1.13E-05
831	ALL	650203.9	4204518	1.13E-05
511	ALL	649983.9	4204118	1.13E-05
775	ALL	650003.9	4204438	1.13E-05
368	ALL	650783.9	4203958	1.13E-05
811	ALL	650063.9	4204498	1.12E-05
360	ALL	650063.9	4203958	1.12E-05
573	ALL	650783.9	4204158	1.12E-05
578	ALL	649963.9	4204178	1.12E-05
732	ALL	649963.9	4204358	1.12E-05
311	ALL	650763.9	4203898	1.11E-05

826	ALL	650103.9	4204518	1.11E-05
452	ALL	650003.9	4204058	1.11E-05
349	ALL	650783.9	4203938	1.11E-05
415	ALL	650023.9	4204018	1.10E-05
264	ALL	650216.1	4203811	1.10E-05
465	ALL	650803.9	4204058	1.10E-05
446	ALL	650803.9	4204038	1.10E-05
639	ALL	650763.9	4204218	1.10E-05
484	ALL	650803.9	4204078	1.10E-05
426	ALL	650803.9	4204018	1.10E-05
766	ALL	649983.9	4204418	1.10E-05
506	ALL	650803.9	4204098	1.09E-05
489	ALL	649983.9	4204098	1.09E-05
596	ALL	650783.9	4204178	1.09E-05
407	ALL	650803.9	4203998	1.09E-05
555	ALL	649963.9	4204158	1.09E-05
743	ALL	649963.9	4204378	1.09E-05
378	ALL	650043.9	4203978	1.09E-05
329	ALL	650783.9	4203918	1.08E-05
529	ALL	650803.9	4204118	1.08E-05
295	ALL	650763.9	4203878	1.08E-05
388	ALL	650803.9	4203978	1.08E-05
800	ALL	650023.9	4204478	1.08E-05
787	ALL	650003.9	4204458	1.07E-05
678	ALL	649943.9	4204278	1.07E-05
325	ALL	650083.9	4203918	1.07E-05
662	ALL	649943.9	4204258	1.07E-05
693	ALL	649943.9	4204298	1.07E-05
552	ALL	650803.9	4204138	1.07E-05
810	ALL	650043.9	4204498	1.06E-05
619	ALL	650783.9	4204198	1.06E-05
369	ALL	650803.9	4203958	1.06E-05
658	ALL	650763.9	4204238	1.06E-05
643	ALL	649943.9	4204238	1.06E-05
533	ALL	649963.9	4204138	1.06E-05
707	ALL	649943.9	4204318	1.06E-05
433	ALL	650003.9	4204038	1.06E-05
312	ALL	650783.9	4203898	1.06E-05
755	ALL	649963.9	4204398	1.05E-05
624	ALL	649943.9	4204218	1.05E-05
470	ALL	649983.9	4204078	1.05E-05
774	ALL	649983.9	4204438	1.05E-05
341	ALL	650063.9	4203938	1.05E-05
574	ALL	650803.9	4204158	1.05E-05
350	ALL	650803.9	4203938	1.05E-05
396	ALL	650023.9	4203998	1.05E-05
263	ALL	650196.1	4203811	1.04E-05

720	ALL	649943.9	4204338	1.04E-05
447	ALL	650823.9	4204038	1.04E-05
466	ALL	650823.9	4204058	1.04E-05
427	ALL	650823.9	4204018	1.04E-05
601	ALL	649943.9	4204198	1.03E-05
485	ALL	650823.9	4204078	1.03E-05
825	ALL	650063.9	4204518	1.03E-05
408	ALL	650823.9	4203998	1.03E-05
510	ALL	649963.9	4204118	1.03E-05
296	ALL	650783.9	4203878	1.03E-05
507	ALL	650823.9	4204098	1.03E-05
330	ALL	650803.9	4203918	1.03E-05
597	ALL	650803.9	4204178	1.03E-05
731	ALL	649943.9	4204358	1.02E-05
359	ALL	650043.9	4203958	1.02E-05
389	ALL	650823.9	4203978	1.02E-05
530	ALL	650823.9	4204118	1.02E-05
765	ALL	649963.9	4204418	1.02E-05
577	ALL	649943.9	4204178	1.02E-05
799	ALL	650003.9	4204478	1.01E-05
809	ALL	650023.9	4204498	1.01E-05
451	ALL	649983.9	4204058	1.01E-05
370	ALL	650823.9	4203958	1.01E-05
414	ALL	650003.9	4204018	1.01E-05
313	ALL	650803.9	4203898	1.00E-05
620	ALL	650803.9	4204198	1.00E-05
742	ALL	649943.9	4204378	1.00E-05
786	ALL	649983.9	4204458	1.00E-05
309	ALL	650083.9	4203898	9.97E-06
488	ALL	649963.9	4204098	9.95E-06
554	ALL	649943.9	4204158	9.92E-06
351	ALL	650823.9	4203938	9.92E-06
377	ALL	650023.9	4203978	9.90E-06
824	ALL	650043.9	4204518	9.90E-06
324	ALL	650063.9	4203918	9.81E-06
677	ALL	649923.9	4204278	9.80E-06
262	ALL	650163.9	4203818	9.80E-06
297	ALL	650803.9	4203878	9.79E-06
661	ALL	649923.9	4204258	9.78E-06
428	ALL	650843.9	4204018	9.77E-06
692	ALL	649923.9	4204298	9.77E-06
773	ALL	649963.9	4204438	9.76E-06
331	ALL	650823.9	4203918	9.74E-06
754	ALL	649943.9	4204398	9.73E-06
409	ALL	650843.9	4203998	9.72E-06
642	ALL	649923.9	4204238	9.71E-06
706	ALL	649923.9	4204318	9.70E-06

532	ALL	649943.9	4204138	9.67E-06
432	ALL	649983.9	4204038	9.64E-06
390	ALL	650843.9	4203978	9.64E-06
340	ALL	650043.9	4203938	9.60E-06
623	ALL	649923.9	4204218	9.60E-06
719	ALL	649923.9	4204338	9.59E-06
469	ALL	649963.9	4204078	9.59E-06
395	ALL	650003.9	4203998	9.56E-06
808	ALL	650003.9	4204498	9.55E-06
314	ALL	650823.9	4203898	9.55E-06
371	ALL	650843.9	4203958	9.54E-06
798	ALL	649983.9	4204478	9.51E-06
600	ALL	649923.9	4204198	9.46E-06
823	ALL	650023.9	4204518	9.44E-06
730	ALL	649923.9	4204358	9.44E-06
764	ALL	649943.9	4204418	9.43E-06
352	ALL	650843.9	4203938	9.41E-06
509	ALL	649943.9	4204118	9.40E-06
785	ALL	649963.9	4204458	9.36E-06
358	ALL	650023.9	4203958	9.35E-06
298	ALL	650823.9	4203878	9.33E-06
293	ALL	650083.9	4203878	9.30E-06
576	ALL	649923.9	4204178	9.28E-06
332	ALL	650843.9	4203918	9.26E-06
741	ALL	649923.9	4204378	9.25E-06
450	ALL	649963.9	4204058	9.22E-06
413	ALL	649983.9	4204018	9.21E-06
261	ALL	650143.9	4203818	9.20E-06
308	ALL	650063.9	4203898	9.19E-06
487	ALL	649943.9	4204098	9.10E-06
772	ALL	649943.9	4204438	9.10E-06
315	ALL	650843.9	4203898	9.09E-06
553	ALL	649923.9	4204158	9.08E-06
376	ALL	650003.9	4203978	9.07E-06
323	ALL	650043.9	4203918	9.03E-06
807	ALL	649983.9	4204498	9.02E-06
753	ALL	649923.9	4204398	9.02E-06
822	ALL	650003.9	4204518	8.99E-06
797	ALL	649963.9	4204478	8.94E-06
299	ALL	650843.9	4203878	8.90E-06
531	ALL	649923.9	4204138	8.86E-06
431	ALL	649963.9	4204038	8.84E-06
339	ALL	650023.9	4203938	8.83E-06
333	ALL	650863.9	4203918	8.81E-06
468	ALL	649943.9	4204078	8.79E-06
394	ALL	649983.9	4203998	8.78E-06
763	ALL	649923.9	4204418	8.77E-06

784	ALL	649943.9	4204458	8.76E-06
284	ALL	650083.9	4203858	8.68E-06
316	ALL	650863.9	4203898	8.66E-06
260	ALL	650123.9	4203818	8.64E-06
508	ALL	649923.9	4204118	8.62E-06
292	ALL	650063.9	4203878	8.62E-06
357	ALL	650003.9	4203958	8.61E-06
821	ALL	649983.9	4204518	8.54E-06
806	ALL	649963.9	4204498	8.52E-06
307	ALL	650043.9	4203898	8.50E-06
771	ALL	649923.9	4204438	8.50E-06
300	ALL	650863.9	4203878	8.49E-06
449	ALL	649943.9	4204058	8.47E-06
412	ALL	649963.9	4204018	8.47E-06
227	ALL	650203.9	4203758	8.44E-06
796	ALL	649943.9	4204478	8.41E-06
486	ALL	649923.9	4204098	8.37E-06
375	ALL	649983.9	4203978	8.36E-06
322	ALL	650023.9	4203918	8.34E-06
173	ALL	650403.9	4203678	8.22E-06
783	ALL	649923.9	4204458	8.21E-06
338	ALL	650003.9	4203938	8.15E-06
430	ALL	649943.9	4204038	8.14E-06
273	ALL	650083.9	4203838	8.12E-06
820	ALL	649963.9	4204518	8.10E-06
259	ALL	650103.9	4203818	8.10E-06
467	ALL	649923.9	4204078	8.10E-06
393	ALL	649963.9	4203998	8.09E-06
283	ALL	650063.9	4203858	8.08E-06
226	ALL	650183.9	4203758	8.08E-06
805	ALL	649943.9	4204498	8.05E-06
249	ALL	650123.9	4203798	8.03E-06
172	ALL	650383.9	4203678	8.03E-06
291	ALL	650043.9	4203878	8.00E-06
356	ALL	649983.9	4203958	7.95E-06
795	ALL	649923.9	4204478	7.91E-06
306	ALL	650023.9	4203898	7.88E-06
171	ALL	650363.9	4203678	7.83E-06
411	ALL	649943.9	4204018	7.82E-06
448	ALL	649923.9	4204058	7.82E-06
212	ALL	650203.9	4203738	7.79E-06
156	ALL	650643.9	4203658	7.78E-06
598	ALL	650903.9	4204178	7.73E-06
321	ALL	650003.9	4203918	7.73E-06
374	ALL	649963.9	4203978	7.72E-06
225	ALL	650163.9	4203758	7.71E-06
819	ALL	649943.9	4204518	7.69E-06

157	ALL	650663.9	4203658	7.66E-06
258	ALL	650083.9	4203818	7.61E-06
804	ALL	649923.9	4204498	7.60E-06
272	ALL	650063.9	4203838	7.59E-06
155	ALL	650403.9	4203658	7.57E-06
248	ALL	650103.9	4203798	7.57E-06
130	ALL	650563.9	4203638	7.57E-06
621	ALL	650903.9	4204198	7.57E-06
337	ALL	649983.9	4203938	7.55E-06
282	ALL	650043.9	4203858	7.54E-06
131	ALL	650583.9	4203638	7.54E-06
158	ALL	650683.9	4203658	7.53E-06
429	ALL	649923.9	4204038	7.53E-06
392	ALL	649943.9	4203998	7.49E-06
238	ALL	650123.9	4203778	7.49E-06
132	ALL	650603.9	4203638	7.48E-06
575	ALL	650923.9	4204158	7.48E-06
211	ALL	650183.9	4203738	7.48E-06
290	ALL	650023.9	4203878	7.44E-06
133	ALL	650623.9	4203638	7.41E-06
154	ALL	650383.9	4203658	7.40E-06
640	ALL	650903.9	4204218	7.39E-06
355	ALL	649963.9	4203958	7.37E-06
224	ALL	650143.9	4203758	7.35E-06
599	ALL	650923.9	4204178	7.35E-06
134	ALL	650643.9	4203638	7.33E-06
305	ALL	650003.9	4203898	7.32E-06
818	ALL	649923.9	4204518	7.29E-06
410	ALL	649923.9	4204018	7.24E-06
135	ALL	650663.9	4203638	7.23E-06
153	ALL	650363.9	4203658	7.22E-06
622	ALL	650923.9	4204198	7.19E-06
659	ALL	650903.9	4204238	7.19E-06
320	ALL	649983.9	4203918	7.18E-06
210	ALL	650163.9	4203738	7.17E-06
373	ALL	649943.9	4203978	7.16E-06
257	ALL	650063.9	4203818	7.14E-06
247	ALL	650083.9	4203798	7.14E-06
136	ALL	650683.9	4203638	7.12E-06
271	ALL	650043.9	4203838	7.11E-06
237	ALL	650103.9	4203778	7.09E-06
106	ALL	650563.9	4203618	7.08E-06
105	ALL	650543.9	4203618	7.08E-06
107	ALL	650583.9	4203618	7.06E-06
104	ALL	650523.9	4203618	7.06E-06
281	ALL	650023.9	4203858	7.04E-06
641	ALL	650923.9	4204218	7.03E-06

108	ALL	650603.9	4203618	7.03E-06
336	ALL	649963.9	4203938	7.02E-06
223	ALL	650123.9	4203758	7.00E-06
109	ALL	650623.9	4203618	6.97E-06
675	ALL	650903.9	4204258	6.97E-06
391	ALL	649923.9	4203998	6.95E-06
289	ALL	650003.9	4203878	6.94E-06
110	ALL	650643.9	4203618	6.91E-06
209	ALL	650143.9	4203738	6.86E-06
354	ALL	649943.9	4203958	6.85E-06
660	ALL	650923.9	4204238	6.84E-06
304	ALL	649983.9	4203898	6.83E-06
703	ALL	650883.9	4204298	6.81E-06
690	ALL	650903.9	4204278	6.74E-06
246	ALL	650063.9	4203798	6.72E-06
256	ALL	650043.9	4203818	6.71E-06
236	ALL	650083.9	4203778	6.71E-06
319	ALL	649963.9	4203918	6.69E-06
129	ALL	650363.9	4203638	6.69E-06
152	ALL	650303.9	4203658	6.67E-06
372	ALL	649923.9	4203978	6.67E-06
270	ALL	650023.9	4203838	6.66E-06
222	ALL	650103.9	4203758	6.65E-06
676	ALL	650923.9	4204258	6.64E-06
91	ALL	650563.9	4203598	6.63E-06
92	ALL	650583.9	4203598	6.63E-06
90	ALL	650543.9	4203598	6.62E-06
89	ALL	650523.9	4203598	6.59E-06
280	ALL	650003.9	4203858	6.59E-06
208	ALL	650123.9	4203738	6.55E-06
335	ALL	649943.9	4203938	6.55E-06
716	ALL	650883.9	4204318	6.53E-06
151	ALL	650283.9	4203658	6.49E-06
704	ALL	650903.9	4204298	6.49E-06
288	ALL	649983.9	4203878	6.49E-06
691	ALL	650923.9	4204278	6.43E-06
197	ALL	650143.9	4203718	6.41E-06
353	ALL	649923.9	4203958	6.39E-06
303	ALL	649963.9	4203898	6.38E-06
128	ALL	650323.9	4203638	6.36E-06
235	ALL	650063.9	4203778	6.34E-06
245	ALL	650043.9	4203798	6.34E-06
150	ALL	650263.9	4203658	6.32E-06
221	ALL	650083.9	4203758	6.31E-06
255	ALL	650023.9	4203818	6.31E-06
318	ALL	649943.9	4203918	6.25E-06
269	ALL	650003.9	4203838	6.25E-06

207	ALL	650103.9	4203738	6.25E-06
727	ALL	650883.9	4204338	6.24E-06
717	ALL	650903.9	4204318	6.24E-06
75	ALL	650583.9	4203578	6.23E-06
74	ALL	650563.9	4203578	6.23E-06
73	ALL	650543.9	4203578	6.21E-06
705	ALL	650923.9	4204298	6.20E-06
127	ALL	650303.9	4203638	6.20E-06
72	ALL	650523.9	4203578	6.17E-06
279	ALL	649983.9	4203858	6.17E-06
149	ALL	650243.9	4203658	6.16E-06
196	ALL	650123.9	4203718	6.15E-06
334	ALL	649923.9	4203938	6.12E-06
287	ALL	649963.9	4203878	6.08E-06
126	ALL	650283.9	4203638	6.05E-06
185	ALL	650143.9	4203698	6.01E-06
234	ALL	650043.9	4203778	6.00E-06
148	ALL	650223.9	4203658	5.99E-06
220	ALL	650063.9	4203758	5.99E-06
244	ALL	650023.9	4203798	5.98E-06
302	ALL	649943.9	4203898	5.98E-06
728	ALL	650903.9	4204338	5.97E-06
718	ALL	650923.9	4204318	5.97E-06
738	ALL	650883.9	4204358	5.95E-06
206	ALL	650083.9	4203738	5.95E-06
254	ALL	650003.9	4203818	5.94E-06
103	ALL	650323.9	4203618	5.92E-06
125	ALL	650263.9	4203638	5.90E-06
195	ALL	650103.9	4203718	5.88E-06
268	ALL	649983.9	4203838	5.88E-06
55	ALL	650583.9	4203558	5.87E-06
317	ALL	649923.9	4203918	5.86E-06
54	ALL	650563.9	4203558	5.86E-06
53	ALL	650543.9	4203558	5.83E-06
278	ALL	649963.9	4203858	5.80E-06
52	ALL	650523.9	4203558	5.79E-06
102	ALL	650303.9	4203618	5.78E-06
184	ALL	650123.9	4203698	5.78E-06
124	ALL	650243.9	4203638	5.75E-06
729	ALL	650923.9	4204338	5.72E-06
286	ALL	649943.9	4203878	5.71E-06
739	ALL	650903.9	4204358	5.71E-06
219	ALL	650043.9	4203758	5.68E-06
233	ALL	650023.9	4203778	5.67E-06
205	ALL	650063.9	4203738	5.66E-06
170	ALL	650143.9	4203678	5.65E-06
101	ALL	650283.9	4203618	5.65E-06

243	ALL	650003.9	4203798	5.64E-06
194	ALL	650083.9	4203718	5.62E-06
301	ALL	649923.9	4203898	5.61E-06
123	ALL	650223.9	4203638	5.61E-06
253	ALL	649983.9	4203818	5.60E-06
183	ALL	650103.9	4203698	5.55E-06
88	ALL	650323.9	4203598	5.53E-06
267	ALL	649963.9	4203838	5.53E-06
36	ALL	650583.9	4203538	5.53E-06
35	ALL	650563.9	4203538	5.52E-06
100	ALL	650263.9	4203618	5.51E-06
34	ALL	650543.9	4203538	5.49E-06
37	ALL	650663.9	4203538	5.48E-06
740	ALL	650923.9	4204358	5.47E-06
122	ALL	650203.9	4203638	5.46E-06
277	ALL	649943.9	4203858	5.46E-06
33	ALL	650523.9	4203538	5.45E-06
38	ALL	650683.9	4203538	5.45E-06
169	ALL	650123.9	4203678	5.44E-06
751	ALL	650903.9	4204378	5.43E-06
87	ALL	650303.9	4203598	5.41E-06
218	ALL	650023.9	4203758	5.39E-06
204	ALL	650043.9	4203738	5.39E-06
99	ALL	650243.9	4203618	5.39E-06
285	ALL	649923.9	4203878	5.37E-06
232	ALL	650003.9	4203778	5.37E-06
193	ALL	650063.9	4203718	5.36E-06
242	ALL	649983.9	4203798	5.33E-06
121	ALL	650183.9	4203638	5.32E-06
182	ALL	650083.9	4203698	5.31E-06
86	ALL	650283.9	4203598	5.29E-06
252	ALL	649963.9	4203818	5.28E-06
98	ALL	650223.9	4203618	5.26E-06
168	ALL	650103.9	4203678	5.24E-06
752	ALL	650923.9	4204378	5.22E-06
266	ALL	649943.9	4203838	5.22E-06
17	ALL	650663.9	4203518	5.20E-06
71	ALL	650323.9	4203578	5.19E-06
18	ALL	650683.9	4203518	5.17E-06
85	ALL	650263.9	4203598	5.17E-06
120	ALL	650163.9	4203638	5.17E-06
276	ALL	649923.9	4203858	5.15E-06
147	ALL	650123.9	4203658	5.14E-06
97	ALL	650203.9	4203618	5.13E-06
203	ALL	650023.9	4203738	5.12E-06
192	ALL	650043.9	4203718	5.12E-06
217	ALL	650003.9	4203758	5.11E-06

231	ALL	649983.9	4203778	5.09E-06
181	ALL	650063.9	4203698	5.09E-06
70	ALL	650303.9	4203578	5.07E-06
84	ALL	650243.9	4203598	5.06E-06
241	ALL	649963.9	4203798	5.05E-06
167	ALL	650083.9	4203678	5.03E-06
119	ALL	650143.9	4203638	5.01E-06
96	ALL	650183.9	4203618	5.01E-06
251	ALL	649943.9	4203818	4.99E-06
69	ALL	650283.9	4203578	4.97E-06
146	ALL	650103.9	4203658	4.96E-06
83	ALL	650223.9	4203598	4.95E-06
265	ALL	649923.9	4203838	4.93E-06
191	ALL	650023.9	4203718	4.88E-06
202	ALL	650003.9	4203738	4.87E-06
95	ALL	650163.9	4203618	4.87E-06
51	ALL	650323.9	4203558	4.87E-06
180	ALL	650043.9	4203698	4.86E-06
68	ALL	650263.9	4203578	4.86E-06
118	ALL	650123.9	4203638	4.86E-06
216	ALL	649983.9	4203758	4.86E-06
82	ALL	650203.9	4203598	4.83E-06
166	ALL	650063.9	4203678	4.83E-06
230	ALL	649963.9	4203778	4.82E-06
240	ALL	649943.9	4203798	4.78E-06
145	ALL	650083.9	4203658	4.77E-06
50	ALL	650303.9	4203558	4.77E-06
67	ALL	650243.9	4203578	4.76E-06
94	ALL	650143.9	4203618	4.74E-06
250	ALL	649923.9	4203818	4.73E-06
81	ALL	650183.9	4203598	4.72E-06
49	ALL	650283.9	4203558	4.67E-06
66	ALL	650223.9	4203578	4.66E-06
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179	ALL	650023.9	4203698	4.65E-06
201	ALL	649983.9	4203738	4.64E-06
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48	ALL	650263.9	4203558	4.58E-06
229	ALL	649943.9	4203778	4.58E-06
65	ALL	650203.9	4203578	4.56E-06
117	ALL	650083.9	4203638	4.53E-06
239	ALL	649923.9	4203798	4.53E-06

31	ALL	650303.9	4203538	4.50E-06
47	ALL	650243.9	4203558	4.49E-06
79	ALL	650143.9	4203598	4.49E-06
64	ALL	650183.9	4203578	4.46E-06
178	ALL	650003.9	4203698	4.44E-06
189	ALL	649983.9	4203718	4.43E-06
164	ALL	650023.9	4203678	4.43E-06
200	ALL	649963.9	4203738	4.42E-06
30	ALL	650283.9	4203538	4.41E-06
143	ALL	650043.9	4203658	4.41E-06
46	ALL	650223.9	4203558	4.40E-06
214	ALL	649943.9	4203758	4.39E-06
116	ALL	650063.9	4203638	4.37E-06
78	ALL	650123.9	4203598	4.36E-06
63	ALL	650163.9	4203578	4.36E-06
228	ALL	649923.9	4203778	4.35E-06
16	ALL	650323.9	4203518	4.33E-06
29	ALL	650263.9	4203538	4.33E-06
45	ALL	650203.9	4203558	4.31E-06
62	ALL	650143.9	4203578	4.25E-06
15	ALL	650303.9	4203518	4.25E-06
163	ALL	650003.9	4203678	4.25E-06
28	ALL	650243.9	4203538	4.24E-06
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142	ALL	650023.9	4203658	4.23E-06
188	ALL	649963.9	4203718	4.23E-06
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115	ALL	650043.9	4203638	4.21E-06
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213	ALL	649923.9	4203758	4.17E-06
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27	ALL	650223.9	4203538	4.16E-06
61	ALL	650123.9	4203578	4.14E-06
43	ALL	650163.9	4203558	4.13E-06
77	ALL	650083.9	4203598	4.10E-06
13	ALL	650263.9	4203518	4.09E-06
26	ALL	650203.9	4203538	4.09E-06
162	ALL	649983.9	4203678	4.06E-06
141	ALL	650003.9	4203658	4.06E-06
176	ALL	649963.9	4203698	4.05E-06
114	ALL	650023.9	4203638	4.05E-06
42	ALL	650143.9	4203558	4.04E-06
187	ALL	649943.9	4203718	4.04E-06
12	ALL	650243.9	4203518	4.02E-06
198	ALL	649923.9	4203738	4.01E-06
25	ALL	650183.9	4203538	4.01E-06
76	ALL	650063.9	4203598	3.97E-06

11	ALL	650223.9	4203518	3.95E-06
24	ALL	650163.9	4203538	3.92E-06
60	ALL	650083.9	4203578	3.91E-06
140	ALL	649983.9	4203658	3.89E-06
161	ALL	649963.9	4203678	3.89E-06
113	ALL	650003.9	4203638	3.89E-06
10	ALL	650203.9	4203518	3.88E-06
175	ALL	649943.9	4203698	3.88E-06
186	ALL	649923.9	4203718	3.85E-06
23	ALL	650143.9	4203538	3.84E-06
41	ALL	650103.9	4203558	3.84E-06
9	ALL	650183.9	4203518	3.80E-06
59	ALL	650063.9	4203578	3.79E-06
112	ALL	649983.9	4203638	3.74E-06
139	ALL	649963.9	4203658	3.73E-06
40	ALL	650083.9	4203558	3.73E-06
8	ALL	650163.9	4203518	3.73E-06
160	ALL	649943.9	4203678	3.72E-06
174	ALL	649923.9	4203698	3.71E-06
58	ALL	650043.9	4203578	3.67E-06
22	ALL	650103.9	4203538	3.66E-06
7	ALL	650143.9	4203518	3.66E-06
39	ALL	650063.9	4203558	3.62E-06
111	ALL	649963.9	4203638	3.59E-06
138	ALL	649943.9	4203658	3.58E-06
159	ALL	649923.9	4203678	3.57E-06
21	ALL	650083.9	4203538	3.56E-06
57	ALL	650023.9	4203578	3.55E-06
6	ALL	650103.9	4203518	3.49E-06
20	ALL	650063.9	4203538	3.47E-06
137	ALL	649923.9	4203658	3.43E-06
56	ALL	650003.9	4203578	3.43E-06
5	ALL	650083.9	4203518	3.41E-06
19	ALL	650043.9	4203538	3.37E-06
4	ALL	650063.9	4203518	3.32E-06
3	ALL	650043.9	4203518	3.23E-06
2	ALL	649918.4	4203526	2.69E-06
1	ALL	649898.4	4203526	2.60E-06

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*HARP - HRACalc v22118 3/28/2023 9:31:44 AM - Cancer Risk - Inpu

REC	GRP	NETID	X	Y	RISK_SUM
565	ALL		650177.7	4204158	8.77E-06
521	ALL		650182.3	4204112	7.98E-06
588	ALL		650156.4	4204185	7.25E-06
520	ALL		650163.9	4204118	6.66E-06
543	ALL		650156.6	4204142	6.63E-06
672	ALL		650143.9	4204258	6.61E-06
835	ALL		650200.6	4204370	6.57E-06
611	ALL		650143.9	4204198	6.49E-06
834	ALL		650191.2	4204367	6.43E-06
587	ALL		650143.9	4204178	6.31E-06
498	ALL		650163.9	4204098	6.23E-06
833	ALL		650181.7	4204364	6.21E-06
564	ALL		650143.9	4204158	6.07E-06
832	ALL		650172.6	4204361	5.95E-06
542	ALL		650143.9	4204138	5.79E-06
652	ALL		650123.9	4204238	5.53E-06
671	ALL		650123.9	4204258	5.52E-06
519	ALL		650143.9	4204118	5.49E-06
633	ALL		650123.9	4204218	5.49E-06
687	ALL		650123.9	4204278	5.44E-06
610	ALL		650123.9	4204198	5.39E-06
715	ALL		650127.7	4204307	5.33E-06
702	ALL		650123.9	4204298	5.27E-06
586	ALL		650123.9	4204178	5.25E-06
497	ALL		650143.9	4204098	5.16E-06
563	ALL		650123.9	4204158	5.06E-06
541	ALL		650123.9	4204138	4.85E-06
651	ALL		650103.9	4204238	4.69E-06
670	ALL		650103.9	4204258	4.68E-06
632	ALL		650103.9	4204218	4.64E-06
686	ALL		650103.9	4204278	4.63E-06
518	ALL		650123.9	4204118	4.61E-06
609	ALL		650103.9	4204198	4.56E-06
701	ALL		650103.9	4204298	4.51E-06
585	ALL		650103.9	4204178	4.45E-06
496	ALL		650123.9	4204098	4.36E-06
562	ALL		650103.9	4204158	4.30E-06
540	ALL		650103.9	4204138	4.13E-06
477	ALL		650123.9	4204078	4.11E-06
669	ALL		650083.9	4204258	4.03E-06
650	ALL		650083.9	4204238	4.02E-06
685	ALL		650083.9	4204278	3.99E-06
631	ALL		650083.9	4204218	3.99E-06
517	ALL		650103.9	4204118	3.94E-06
608	ALL		650083.9	4204198	3.92E-06

700	ALL	650083.9	4204298	3.91E-06
458	ALL	650123.9	4204058	3.84E-06
584	ALL	650083.9	4204178	3.82E-06
781	ALL	650209.7	4204429	3.79E-06
714	ALL	650083.9	4204318	3.78E-06
782	ALL	650229.7	4204429	3.77E-06
495	ALL	650103.9	4204098	3.75E-06
561	ALL	650083.9	4204158	3.71E-06
750	ALL	650103.9	4204378	3.59E-06
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476	ALL	650103.9	4204078	3.54E-06
668	ALL	650063.9	4204258	3.50E-06
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684	ALL	650063.9	4204278	3.48E-06
630	ALL	650063.9	4204218	3.46E-06
699	ALL	650063.9	4204298	3.42E-06
516	ALL	650083.9	4204118	3.42E-06
607	ALL	650063.9	4204198	3.41E-06
713	ALL	650063.9	4204318	3.33E-06
457	ALL	650103.9	4204058	3.33E-06
583	ALL	650063.9	4204178	3.33E-06
420	ALL	650123.9	4204018	3.32E-06
762	ALL	650103.9	4204398	3.31E-06
494	ALL	650083.9	4204098	3.26E-06
544	ALL	650643.9	4204138	3.24E-06
560	ALL	650063.9	4204158	3.23E-06
749	ALL	650083.9	4204378	3.23E-06
726	ALL	650063.9	4204338	3.22E-06
566	ALL	650643.9	4204158	3.18E-06
634	ALL	650623.9	4204218	3.17E-06
780	ALL	650143.9	4204438	3.15E-06
538	ALL	650063.9	4204138	3.12E-06
438	ALL	650103.9	4204038	3.12E-06
589	ALL	650643.9	4204178	3.10E-06
475	ALL	650083.9	4204078	3.09E-06
667	ALL	650043.9	4204258	3.08E-06
737	ALL	650063.9	4204358	3.07E-06
648	ALL	650043.9	4204238	3.07E-06
683	ALL	650043.9	4204278	3.06E-06
401	ALL	650123.9	4203998	3.06E-06
499	ALL	650663.9	4204098	3.04E-06
629	ALL	650043.9	4204218	3.04E-06
770	ALL	650103.9	4204418	3.04E-06
653	ALL	650623.9	4204238	3.03E-06
698	ALL	650043.9	4204298	3.03E-06
522	ALL	650663.9	4204118	3.02E-06

761	ALL	650083.9	4204398	3.01E-06
612	ALL	650643.9	4204198	3.01E-06
515	ALL	650063.9	4204118	3.00E-06
606	ALL	650043.9	4204198	2.99E-06
545	ALL	650663.9	4204138	2.98E-06
712	ALL	650043.9	4204318	2.96E-06
793	ALL	650203.9	4204458	2.95E-06
582	ALL	650043.9	4204178	2.93E-06
567	ALL	650663.9	4204158	2.92E-06
456	ALL	650083.9	4204058	2.92E-06
748	ALL	650063.9	4204378	2.91E-06
794	ALL	650223.9	4204458	2.91E-06
419	ALL	650103.9	4204018	2.91E-06
364	ALL	650143.9	4203958	2.91E-06
635	ALL	650643.9	4204218	2.90E-06
673	ALL	650623.9	4204258	2.88E-06
725	ALL	650043.9	4204338	2.87E-06
493	ALL	650063.9	4204098	2.86E-06
590	ALL	650663.9	4204178	2.85E-06
559	ALL	650043.9	4204158	2.85E-06
478	ALL	650683.9	4204078	2.82E-06
382	ALL	650123.9	4203978	2.82E-06
459	ALL	650683.9	4204058	2.82E-06
500	ALL	650683.9	4204098	2.81E-06
440	ALL	650683.9	4204038	2.80E-06
523	ALL	650683.9	4204118	2.79E-06
654	ALL	650643.9	4204238	2.78E-06
792	ALL	650143.9	4204458	2.78E-06
613	ALL	650663.9	4204198	2.77E-06
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437	ALL	650083.9	4204038	2.75E-06
760	ALL	650063.9	4204398	2.74E-06
666	ALL	650023.9	4204258	2.73E-06
474	ALL	650063.9	4204078	2.73E-06
682	ALL	650023.9	4204278	2.72E-06
647	ALL	650023.9	4204238	2.72E-06
688	ALL	650623.9	4204278	2.72E-06
400	ALL	650103.9	4203998	2.70E-06
568	ALL	650683.9	4204158	2.70E-06
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674	ALL	650643.9	4204258	2.65E-06
711	ALL	650023.9	4204318	2.65E-06
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479	ALL	650703.9	4204078	2.62E-06
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501	ALL	650703.9	4204098	2.61E-06
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581	ALL	650023.9	4204178	2.60E-06
363	ALL	650123.9	4203958	2.59E-06
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524	ALL	650703.9	4204118	2.58E-06
779	ALL	650083.9	4204438	2.58E-06
418	ALL	650083.9	4204018	2.58E-06
421	ALL	650703.9	4204018	2.57E-06
614	ALL	650683.9	4204198	2.56E-06
547	ALL	650703.9	4204138	2.55E-06
492	ALL	650043.9	4204098	2.54E-06
402	ALL	650703.9	4203998	2.54E-06
803	ALL	650203.9	4204478	2.53E-06
558	ALL	650023.9	4204158	2.53E-06
381	ALL	650103.9	4203978	2.51E-06
689	ALL	650643.9	4204278	2.51E-06
759	ALL	650043.9	4204398	2.51E-06
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735	ALL	650023.9	4204358	2.50E-06
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536	ALL	650023.9	4204138	2.45E-06
436	ALL	650063.9	4204038	2.44E-06
665	ALL	650003.9	4204258	2.44E-06
592	ALL	650703.9	4204178	2.44E-06
681	ALL	650003.9	4204278	2.44E-06
461	ALL	650723.9	4204058	2.43E-06
480	ALL	650723.9	4204078	2.43E-06
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473	ALL	650043.9	4204078	2.43E-06
442	ALL	650723.9	4204038	2.42E-06
502	ALL	650723.9	4204098	2.42E-06
696	ALL	650003.9	4204298	2.42E-06
399	ALL	650083.9	4203998	2.41E-06
627	ALL	650003.9	4204218	2.41E-06
422	ALL	650723.9	4204018	2.40E-06
746	ALL	650023.9	4204378	2.40E-06
525	ALL	650723.9	4204118	2.40E-06
778	ALL	650063.9	4204438	2.39E-06
710	ALL	650003.9	4204318	2.39E-06
344	ALL	650123.9	4203938	2.38E-06

615	ALL	650703.9	4204198	2.37E-06
403	ALL	650723.9	4203998	2.37E-06
604	ALL	650003.9	4204198	2.37E-06
791	ALL	650083.9	4204458	2.37E-06
548	ALL	650723.9	4204138	2.36E-06
769	ALL	650043.9	4204418	2.36E-06
513	ALL	650023.9	4204118	2.36E-06
723	ALL	650003.9	4204338	2.33E-06
384	ALL	650723.9	4203978	2.33E-06
580	ALL	650003.9	4204178	2.32E-06
362	ALL	650103.9	4203958	2.32E-06
570	ALL	650723.9	4204158	2.32E-06
454	ALL	650043.9	4204058	2.31E-06
417	ALL	650063.9	4204018	2.30E-06
636	ALL	650703.9	4204218	2.29E-06
758	ALL	650023.9	4204398	2.29E-06
365	ALL	650723.9	4203958	2.28E-06
462	ALL	650743.9	4204058	2.27E-06
491	ALL	650023.9	4204098	2.27E-06
481	ALL	650743.9	4204078	2.27E-06
593	ALL	650723.9	4204178	2.27E-06
734	ALL	650003.9	4204358	2.27E-06
443	ALL	650743.9	4204038	2.26E-06
557	ALL	650003.9	4204158	2.26E-06
503	ALL	650743.9	4204098	2.26E-06
423	ALL	650743.9	4204018	2.25E-06
380	ALL	650083.9	4203978	2.25E-06
526	ALL	650743.9	4204118	2.23E-06
346	ALL	650723.9	4203938	2.23E-06
404	ALL	650743.9	4203998	2.22E-06
777	ALL	650043.9	4204438	2.22E-06
790	ALL	650063.9	4204458	2.22E-06
816	ALL	650183.9	4204498	2.22E-06
815	ALL	650163.9	4204498	2.22E-06
655	ALL	650703.9	4204238	2.21E-06
616	ALL	650723.9	4204198	2.21E-06
549	ALL	650743.9	4204138	2.20E-06
664	ALL	649983.9	4204258	2.20E-06
680	ALL	649983.9	4204278	2.20E-06
535	ALL	650003.9	4204138	2.20E-06
817	ALL	650203.9	4204498	2.19E-06
745	ALL	650003.9	4204378	2.19E-06
385	ALL	650743.9	4203978	2.19E-06
814	ALL	650143.9	4204498	2.19E-06
645	ALL	649983.9	4204238	2.19E-06
435	ALL	650043.9	4204038	2.19E-06
695	ALL	649983.9	4204298	2.19E-06

768	ALL	650023.9	4204418	2.18E-06
472	ALL	650023.9	4204078	2.17E-06
626	ALL	649983.9	4204218	2.17E-06
326	ALL	650723.9	4203918	2.17E-06
571	ALL	650743.9	4204158	2.16E-06
398	ALL	650063.9	4203998	2.16E-06
709	ALL	649983.9	4204318	2.16E-06
366	ALL	650743.9	4203958	2.15E-06
343	ALL	650103.9	4203938	2.15E-06
813	ALL	650123.9	4204498	2.14E-06
637	ALL	650723.9	4204218	2.14E-06
603	ALL	649983.9	4204198	2.13E-06
463	ALL	650763.9	4204058	2.13E-06
512	ALL	650003.9	4204118	2.12E-06
482	ALL	650763.9	4204078	2.12E-06
444	ALL	650763.9	4204038	2.12E-06
722	ALL	649983.9	4204338	2.12E-06
594	ALL	650743.9	4204178	2.11E-06
424	ALL	650763.9	4204018	2.11E-06
504	ALL	650763.9	4204098	2.11E-06
757	ALL	650003.9	4204398	2.10E-06
347	ALL	650743.9	4203938	2.10E-06
361	ALL	650083.9	4203958	2.09E-06
579	ALL	649983.9	4204178	2.09E-06
405	ALL	650763.9	4203998	2.09E-06
527	ALL	650763.9	4204118	2.09E-06
789	ALL	650043.9	4204458	2.08E-06
275	ALL	650216.1	4203831	2.08E-06
453	ALL	650023.9	4204058	2.08E-06
812	ALL	650103.9	4204498	2.07E-06
416	ALL	650043.9	4204018	2.07E-06
733	ALL	649983.9	4204358	2.07E-06
776	ALL	650023.9	4204438	2.06E-06
386	ALL	650763.9	4203978	2.06E-06
656	ALL	650723.9	4204238	2.06E-06
617	ALL	650743.9	4204198	2.06E-06
550	ALL	650763.9	4204138	2.06E-06
802	ALL	650063.9	4204478	2.06E-06
327	ALL	650743.9	4203918	2.05E-06
490	ALL	650003.9	4204098	2.05E-06
556	ALL	649983.9	4204158	2.04E-06
379	ALL	650063.9	4203978	2.03E-06
367	ALL	650763.9	4203958	2.02E-06
572	ALL	650763.9	4204158	2.02E-06
767	ALL	650003.9	4204418	2.01E-06
744	ALL	649983.9	4204378	2.01E-06
638	ALL	650743.9	4204218	1.99E-06

663	ALL	649963.9	4204258	1.99E-06
679	ALL	649963.9	4204278	1.99E-06
464	ALL	650783.9	4204058	1.99E-06
445	ALL	650783.9	4204038	1.99E-06
310	ALL	650743.9	4203898	1.99E-06
483	ALL	650783.9	4204078	1.99E-06
348	ALL	650763.9	4203938	1.98E-06
694	ALL	649963.9	4204298	1.98E-06
534	ALL	649983.9	4204138	1.98E-06
644	ALL	649963.9	4204238	1.98E-06
425	ALL	650783.9	4204018	1.98E-06
595	ALL	650763.9	4204178	1.98E-06
434	ALL	650023.9	4204038	1.97E-06
505	ALL	650783.9	4204098	1.97E-06
708	ALL	649963.9	4204318	1.96E-06
406	ALL	650783.9	4203998	1.96E-06
471	ALL	650003.9	4204078	1.96E-06
625	ALL	649963.9	4204218	1.96E-06
829	ALL	650163.9	4204518	1.96E-06
528	ALL	650783.9	4204118	1.95E-06
397	ALL	650043.9	4203998	1.95E-06
828	ALL	650143.9	4204518	1.95E-06
342	ALL	650083.9	4203938	1.95E-06
274	ALL	650196.1	4203831	1.95E-06
830	ALL	650183.9	4204518	1.95E-06
788	ALL	650023.9	4204458	1.94E-06
387	ALL	650783.9	4203978	1.94E-06
801	ALL	650043.9	4204478	1.94E-06
328	ALL	650763.9	4203918	1.94E-06
756	ALL	649983.9	4204398	1.94E-06
721	ALL	649963.9	4204338	1.93E-06
602	ALL	649963.9	4204198	1.93E-06
294	ALL	650743.9	4203878	1.93E-06
551	ALL	650783.9	4204138	1.93E-06
618	ALL	650763.9	4204198	1.93E-06
657	ALL	650743.9	4204238	1.92E-06
827	ALL	650123.9	4204518	1.92E-06
831	ALL	650203.9	4204518	1.92E-06
511	ALL	649983.9	4204118	1.92E-06
775	ALL	650003.9	4204438	1.91E-06
368	ALL	650783.9	4203958	1.91E-06
811	ALL	650063.9	4204498	1.90E-06
360	ALL	650063.9	4203958	1.90E-06
573	ALL	650783.9	4204158	1.89E-06
578	ALL	649963.9	4204178	1.89E-06
732	ALL	649963.9	4204358	1.89E-06
311	ALL	650763.9	4203898	1.89E-06

826	ALL	650103.9	4204518	1.88E-06
452	ALL	650003.9	4204058	1.88E-06
349	ALL	650783.9	4203938	1.88E-06
415	ALL	650023.9	4204018	1.87E-06
264	ALL	650216.1	4203811	1.87E-06
465	ALL	650803.9	4204058	1.87E-06
446	ALL	650803.9	4204038	1.87E-06
639	ALL	650763.9	4204218	1.87E-06
484	ALL	650803.9	4204078	1.87E-06
426	ALL	650803.9	4204018	1.86E-06
766	ALL	649983.9	4204418	1.86E-06
506	ALL	650803.9	4204098	1.85E-06
489	ALL	649983.9	4204098	1.85E-06
596	ALL	650783.9	4204178	1.85E-06
407	ALL	650803.9	4203998	1.85E-06
555	ALL	649963.9	4204158	1.85E-06
743	ALL	649963.9	4204378	1.84E-06
378	ALL	650043.9	4203978	1.84E-06
329	ALL	650783.9	4203918	1.84E-06
529	ALL	650803.9	4204118	1.83E-06
295	ALL	650763.9	4203878	1.83E-06
388	ALL	650803.9	4203978	1.83E-06
800	ALL	650023.9	4204478	1.83E-06
787	ALL	650003.9	4204458	1.82E-06
678	ALL	649943.9	4204278	1.82E-06
325	ALL	650083.9	4203918	1.82E-06
662	ALL	649943.9	4204258	1.81E-06
693	ALL	649943.9	4204298	1.81E-06
552	ALL	650803.9	4204138	1.81E-06
810	ALL	650043.9	4204498	1.81E-06
619	ALL	650783.9	4204198	1.81E-06
369	ALL	650803.9	4203958	1.81E-06
658	ALL	650763.9	4204238	1.80E-06
643	ALL	649943.9	4204238	1.80E-06
533	ALL	649963.9	4204138	1.80E-06
707	ALL	649943.9	4204318	1.79E-06
433	ALL	650003.9	4204038	1.79E-06
312	ALL	650783.9	4203898	1.79E-06
755	ALL	649963.9	4204398	1.79E-06
624	ALL	649943.9	4204218	1.78E-06
470	ALL	649983.9	4204078	1.78E-06
774	ALL	649983.9	4204438	1.78E-06
341	ALL	650063.9	4203938	1.78E-06
574	ALL	650803.9	4204158	1.78E-06
350	ALL	650803.9	4203938	1.78E-06
396	ALL	650023.9	4203998	1.78E-06
263	ALL	650196.1	4203811	1.77E-06

720	ALL	649943.9	4204338	1.77E-06
447	ALL	650823.9	4204038	1.76E-06
466	ALL	650823.9	4204058	1.76E-06
427	ALL	650823.9	4204018	1.76E-06
601	ALL	649943.9	4204198	1.76E-06
485	ALL	650823.9	4204078	1.75E-06
825	ALL	650063.9	4204518	1.75E-06
408	ALL	650823.9	4203998	1.75E-06
510	ALL	649963.9	4204118	1.74E-06
296	ALL	650783.9	4203878	1.74E-06
507	ALL	650823.9	4204098	1.74E-06
330	ALL	650803.9	4203918	1.74E-06
597	ALL	650803.9	4204178	1.74E-06
731	ALL	649943.9	4204358	1.74E-06
359	ALL	650043.9	4203958	1.73E-06
389	ALL	650823.9	4203978	1.73E-06
530	ALL	650823.9	4204118	1.72E-06
765	ALL	649963.9	4204418	1.72E-06
577	ALL	649943.9	4204178	1.72E-06
799	ALL	650003.9	4204478	1.72E-06
809	ALL	650023.9	4204498	1.71E-06
451	ALL	649983.9	4204058	1.71E-06
370	ALL	650823.9	4203958	1.71E-06
414	ALL	650003.9	4204018	1.71E-06
313	ALL	650803.9	4203898	1.70E-06
742	ALL	649943.9	4204378	1.70E-06
620	ALL	650803.9	4204198	1.70E-06
786	ALL	649983.9	4204458	1.70E-06
309	ALL	650083.9	4203898	1.69E-06
488	ALL	649963.9	4204098	1.69E-06
554	ALL	649943.9	4204158	1.68E-06
351	ALL	650823.9	4203938	1.68E-06
377	ALL	650023.9	4203978	1.68E-06
824	ALL	650043.9	4204518	1.68E-06
324	ALL	650063.9	4203918	1.66E-06
677	ALL	649923.9	4204278	1.66E-06
262	ALL	650163.9	4203818	1.66E-06
297	ALL	650803.9	4203878	1.66E-06
661	ALL	649923.9	4204258	1.66E-06
428	ALL	650843.9	4204018	1.66E-06
692	ALL	649923.9	4204298	1.66E-06
773	ALL	649963.9	4204438	1.66E-06
331	ALL	650823.9	4203918	1.65E-06
754	ALL	649943.9	4204398	1.65E-06
409	ALL	650843.9	4203998	1.65E-06
642	ALL	649923.9	4204238	1.65E-06
706	ALL	649923.9	4204318	1.65E-06

532	ALL	649943.9	4204138	1.64E-06
432	ALL	649983.9	4204038	1.64E-06
390	ALL	650843.9	4203978	1.64E-06
340	ALL	650043.9	4203938	1.63E-06
623	ALL	649923.9	4204218	1.63E-06
719	ALL	649923.9	4204338	1.63E-06
469	ALL	649963.9	4204078	1.63E-06
395	ALL	650003.9	4203998	1.62E-06
808	ALL	650003.9	4204498	1.62E-06
314	ALL	650823.9	4203898	1.62E-06
371	ALL	650843.9	4203958	1.62E-06
798	ALL	649983.9	4204478	1.61E-06
600	ALL	649923.9	4204198	1.60E-06
823	ALL	650023.9	4204518	1.60E-06
730	ALL	649923.9	4204358	1.60E-06
764	ALL	649943.9	4204418	1.60E-06
352	ALL	650843.9	4203938	1.60E-06
509	ALL	649943.9	4204118	1.59E-06
785	ALL	649963.9	4204458	1.59E-06
358	ALL	650023.9	4203958	1.59E-06
298	ALL	650823.9	4203878	1.58E-06
293	ALL	650083.9	4203878	1.58E-06
576	ALL	649923.9	4204178	1.57E-06
332	ALL	650843.9	4203918	1.57E-06
741	ALL	649923.9	4204378	1.57E-06
450	ALL	649963.9	4204058	1.56E-06
413	ALL	649983.9	4204018	1.56E-06
261	ALL	650143.9	4203818	1.56E-06
308	ALL	650063.9	4203898	1.56E-06
487	ALL	649943.9	4204098	1.54E-06
772	ALL	649943.9	4204438	1.54E-06
315	ALL	650843.9	4203898	1.54E-06
553	ALL	649923.9	4204158	1.54E-06
376	ALL	650003.9	4203978	1.54E-06
323	ALL	650043.9	4203918	1.53E-06
807	ALL	649983.9	4204498	1.53E-06
753	ALL	649923.9	4204398	1.53E-06
822	ALL	650003.9	4204518	1.52E-06
797	ALL	649963.9	4204478	1.52E-06
299	ALL	650843.9	4203878	1.51E-06
531	ALL	649923.9	4204138	1.50E-06
431	ALL	649963.9	4204038	1.50E-06
339	ALL	650023.9	4203938	1.50E-06
333	ALL	650863.9	4203918	1.49E-06
468	ALL	649943.9	4204078	1.49E-06
394	ALL	649983.9	4203998	1.49E-06
763	ALL	649923.9	4204418	1.49E-06

784	ALL	649943.9	4204458	1.49E-06
284	ALL	650083.9	4203858	1.47E-06
316	ALL	650863.9	4203898	1.47E-06
260	ALL	650123.9	4203818	1.46E-06
508	ALL	649923.9	4204118	1.46E-06
292	ALL	650063.9	4203878	1.46E-06
357	ALL	650003.9	4203958	1.46E-06
821	ALL	649983.9	4204518	1.45E-06
806	ALL	649963.9	4204498	1.45E-06
307	ALL	650043.9	4203898	1.44E-06
771	ALL	649923.9	4204438	1.44E-06
300	ALL	650863.9	4203878	1.44E-06
449	ALL	649943.9	4204058	1.44E-06
412	ALL	649963.9	4204018	1.44E-06
227	ALL	650203.9	4203758	1.43E-06
796	ALL	649943.9	4204478	1.43E-06
486	ALL	649923.9	4204098	1.42E-06
375	ALL	649983.9	4203978	1.42E-06
322	ALL	650023.9	4203918	1.41E-06
173	ALL	650403.9	4203678	1.39E-06
783	ALL	649923.9	4204458	1.39E-06
338	ALL	650003.9	4203938	1.38E-06
430	ALL	649943.9	4204038	1.38E-06
273	ALL	650083.9	4203838	1.38E-06
820	ALL	649963.9	4204518	1.37E-06
259	ALL	650103.9	4203818	1.37E-06
467	ALL	649923.9	4204078	1.37E-06
393	ALL	649963.9	4203998	1.37E-06
283	ALL	650063.9	4203858	1.37E-06
226	ALL	650183.9	4203758	1.37E-06
805	ALL	649943.9	4204498	1.36E-06
249	ALL	650123.9	4203798	1.36E-06
172	ALL	650383.9	4203678	1.36E-06
291	ALL	650043.9	4203878	1.36E-06
356	ALL	649983.9	4203958	1.35E-06
795	ALL	649923.9	4204478	1.34E-06
306	ALL	650023.9	4203898	1.34E-06
171	ALL	650363.9	4203678	1.33E-06
411	ALL	649943.9	4204018	1.33E-06
448	ALL	649923.9	4204058	1.33E-06
212	ALL	650203.9	4203738	1.32E-06
156	ALL	650643.9	4203658	1.32E-06
598	ALL	650903.9	4204178	1.31E-06
321	ALL	650003.9	4203918	1.31E-06
374	ALL	649963.9	4203978	1.31E-06
225	ALL	650163.9	4203758	1.31E-06
819	ALL	649943.9	4204518	1.30E-06

157	ALL	650663.9	4203658	1.30E-06
258	ALL	650083.9	4203818	1.29E-06
804	ALL	649923.9	4204498	1.29E-06
272	ALL	650063.9	4203838	1.29E-06
155	ALL	650403.9	4203658	1.28E-06
248	ALL	650103.9	4203798	1.28E-06
130	ALL	650563.9	4203638	1.28E-06
621	ALL	650903.9	4204198	1.28E-06
337	ALL	649983.9	4203938	1.28E-06
282	ALL	650043.9	4203858	1.28E-06
131	ALL	650583.9	4203638	1.28E-06
158	ALL	650683.9	4203658	1.28E-06
429	ALL	649923.9	4204038	1.28E-06
392	ALL	649943.9	4203998	1.27E-06
238	ALL	650123.9	4203778	1.27E-06
132	ALL	650603.9	4203638	1.27E-06
575	ALL	650923.9	4204158	1.27E-06
211	ALL	650183.9	4203738	1.27E-06
290	ALL	650023.9	4203878	1.26E-06
133	ALL	650623.9	4203638	1.26E-06
154	ALL	650383.9	4203658	1.26E-06
640	ALL	650903.9	4204218	1.25E-06
355	ALL	649963.9	4203958	1.25E-06
224	ALL	650143.9	4203758	1.25E-06
599	ALL	650923.9	4204178	1.25E-06
134	ALL	650643.9	4203638	1.24E-06
305	ALL	650003.9	4203898	1.24E-06
818	ALL	649923.9	4204518	1.24E-06
410	ALL	649923.9	4204018	1.23E-06
135	ALL	650663.9	4203638	1.23E-06
153	ALL	650363.9	4203658	1.22E-06
622	ALL	650923.9	4204198	1.22E-06
659	ALL	650903.9	4204238	1.22E-06
320	ALL	649983.9	4203918	1.22E-06
210	ALL	650163.9	4203738	1.22E-06
373	ALL	649943.9	4203978	1.22E-06
257	ALL	650063.9	4203818	1.21E-06
247	ALL	650083.9	4203798	1.21E-06
136	ALL	650683.9	4203638	1.21E-06
271	ALL	650043.9	4203838	1.21E-06
237	ALL	650103.9	4203778	1.20E-06
106	ALL	650563.9	4203618	1.20E-06
105	ALL	650543.9	4203618	1.20E-06
107	ALL	650583.9	4203618	1.20E-06
104	ALL	650523.9	4203618	1.20E-06
281	ALL	650023.9	4203858	1.19E-06
108	ALL	650603.9	4203618	1.19E-06

641	ALL	650923.9	4204218	1.19E-06
336	ALL	649963.9	4203938	1.19E-06
223	ALL	650123.9	4203758	1.19E-06
109	ALL	650623.9	4203618	1.18E-06
675	ALL	650903.9	4204258	1.18E-06
391	ALL	649923.9	4203998	1.18E-06
289	ALL	650003.9	4203878	1.18E-06
110	ALL	650643.9	4203618	1.17E-06
209	ALL	650143.9	4203738	1.16E-06
354	ALL	649943.9	4203958	1.16E-06
660	ALL	650923.9	4204238	1.16E-06
304	ALL	649983.9	4203898	1.16E-06
703	ALL	650883.9	4204298	1.15E-06
690	ALL	650903.9	4204278	1.14E-06
246	ALL	650063.9	4203798	1.14E-06
256	ALL	650043.9	4203818	1.14E-06
236	ALL	650083.9	4203778	1.14E-06
319	ALL	649963.9	4203918	1.14E-06
129	ALL	650363.9	4203638	1.13E-06
152	ALL	650303.9	4203658	1.13E-06
372	ALL	649923.9	4203978	1.13E-06
270	ALL	650023.9	4203838	1.13E-06
222	ALL	650103.9	4203758	1.13E-06
676	ALL	650923.9	4204258	1.13E-06
91	ALL	650563.9	4203598	1.13E-06
92	ALL	650583.9	4203598	1.12E-06
90	ALL	650543.9	4203598	1.12E-06
89	ALL	650523.9	4203598	1.12E-06
280	ALL	650003.9	4203858	1.12E-06
208	ALL	650123.9	4203738	1.11E-06
335	ALL	649943.9	4203938	1.11E-06
716	ALL	650883.9	4204318	1.11E-06
151	ALL	650283.9	4203658	1.10E-06
704	ALL	650903.9	4204298	1.10E-06
288	ALL	649983.9	4203878	1.10E-06
691	ALL	650923.9	4204278	1.09E-06
197	ALL	650143.9	4203718	1.09E-06
353	ALL	649923.9	4203958	1.08E-06
303	ALL	649963.9	4203898	1.08E-06
128	ALL	650323.9	4203638	1.08E-06
235	ALL	650063.9	4203778	1.08E-06
245	ALL	650043.9	4203798	1.08E-06
150	ALL	650263.9	4203658	1.07E-06
221	ALL	650083.9	4203758	1.07E-06
255	ALL	650023.9	4203818	1.07E-06
318	ALL	649943.9	4203918	1.06E-06
269	ALL	650003.9	4203838	1.06E-06

207	ALL	650103.9	4203738	1.06E-06
727	ALL	650883.9	4204338	1.06E-06
717	ALL	650903.9	4204318	1.06E-06
75	ALL	650583.9	4203578	1.06E-06
74	ALL	650563.9	4203578	1.06E-06
73	ALL	650543.9	4203578	1.05E-06
705	ALL	650923.9	4204298	1.05E-06
127	ALL	650303.9	4203638	1.05E-06
72	ALL	650523.9	4203578	1.05E-06
279	ALL	649983.9	4203858	1.05E-06
149	ALL	650243.9	4203658	1.04E-06
196	ALL	650123.9	4203718	1.04E-06
334	ALL	649923.9	4203938	1.04E-06
287	ALL	649963.9	4203878	1.03E-06
126	ALL	650283.9	4203638	1.03E-06
185	ALL	650143.9	4203698	1.02E-06
234	ALL	650043.9	4203778	1.02E-06
148	ALL	650223.9	4203658	1.02E-06
220	ALL	650063.9	4203758	1.02E-06
244	ALL	650023.9	4203798	1.01E-06
302	ALL	649943.9	4203898	1.01E-06
728	ALL	650903.9	4204338	1.01E-06
718	ALL	650923.9	4204318	1.01E-06
738	ALL	650883.9	4204358	1.01E-06
206	ALL	650083.9	4203738	1.01E-06
254	ALL	650003.9	4203818	1.01E-06
103	ALL	650323.9	4203618	1.00E-06
125	ALL	650263.9	4203638	1.00E-06
195	ALL	650103.9	4203718	9.98E-07
268	ALL	649983.9	4203838	9.97E-07
55	ALL	650583.9	4203558	9.95E-07
317	ALL	649923.9	4203918	9.94E-07
54	ALL	650563.9	4203558	9.93E-07
53	ALL	650543.9	4203558	9.89E-07
278	ALL	649963.9	4203858	9.84E-07
52	ALL	650523.9	4203558	9.83E-07
102	ALL	650303.9	4203618	9.81E-07
184	ALL	650123.9	4203698	9.80E-07
124	ALL	650243.9	4203638	9.76E-07
729	ALL	650923.9	4204338	9.71E-07
286	ALL	649943.9	4203878	9.68E-07
739	ALL	650903.9	4204358	9.68E-07
219	ALL	650043.9	4203758	9.64E-07
233	ALL	650023.9	4203778	9.62E-07
205	ALL	650063.9	4203738	9.61E-07
170	ALL	650143.9	4203678	9.58E-07
101	ALL	650283.9	4203618	9.58E-07

243	ALL	650003.9	4203798	9.57E-07
194	ALL	650083.9	4203718	9.53E-07
301	ALL	649923.9	4203898	9.52E-07
123	ALL	650223.9	4203638	9.51E-07
253	ALL	649983.9	4203818	9.49E-07
183	ALL	650103.9	4203698	9.41E-07
88	ALL	650323.9	4203598	9.39E-07
267	ALL	649963.9	4203838	9.39E-07
36	ALL	650583.9	4203538	9.38E-07
35	ALL	650563.9	4203538	9.36E-07
100	ALL	650263.9	4203618	9.35E-07
34	ALL	650543.9	4203538	9.31E-07
37	ALL	650663.9	4203538	9.30E-07
740	ALL	650923.9	4204358	9.29E-07
122	ALL	650203.9	4203638	9.27E-07
277	ALL	649943.9	4203858	9.26E-07
33	ALL	650523.9	4203538	9.24E-07
38	ALL	650683.9	4203538	9.24E-07
169	ALL	650123.9	4203678	9.24E-07
751	ALL	650903.9	4204378	9.22E-07
87	ALL	650303.9	4203598	9.17E-07
218	ALL	650023.9	4203758	9.14E-07
204	ALL	650043.9	4203738	9.14E-07
99	ALL	650243.9	4203618	9.14E-07
285	ALL	649923.9	4203878	9.11E-07
232	ALL	650003.9	4203778	9.11E-07
193	ALL	650063.9	4203718	9.10E-07
242	ALL	649983.9	4203798	9.05E-07
121	ALL	650183.9	4203638	9.02E-07
182	ALL	650083.9	4203698	9.01E-07
86	ALL	650283.9	4203598	8.97E-07
252	ALL	649963.9	4203818	8.96E-07
98	ALL	650223.9	4203618	8.92E-07
168	ALL	650103.9	4203678	8.89E-07
752	ALL	650923.9	4204378	8.86E-07
266	ALL	649943.9	4203838	8.85E-07
17	ALL	650663.9	4203518	8.83E-07
71	ALL	650323.9	4203578	8.80E-07
18	ALL	650683.9	4203518	8.78E-07
85	ALL	650263.9	4203598	8.77E-07
120	ALL	650163.9	4203638	8.77E-07
276	ALL	649923.9	4203858	8.73E-07
147	ALL	650123.9	4203658	8.72E-07
97	ALL	650203.9	4203618	8.71E-07
203	ALL	650023.9	4203738	8.69E-07
192	ALL	650043.9	4203718	8.68E-07
217	ALL	650003.9	4203758	8.67E-07

231	ALL	649983.9	4203778	8.63E-07
181	ALL	650063.9	4203698	8.63E-07
70	ALL	650303.9	4203578	8.61E-07
84	ALL	650243.9	4203598	8.58E-07
241	ALL	649963.9	4203798	8.56E-07
167	ALL	650083.9	4203678	8.54E-07
119	ALL	650143.9	4203638	8.51E-07
96	ALL	650183.9	4203618	8.49E-07
251	ALL	649943.9	4203818	8.47E-07
69	ALL	650283.9	4203578	8.42E-07
146	ALL	650103.9	4203658	8.41E-07
83	ALL	650223.9	4203598	8.39E-07
265	ALL	649923.9	4203838	8.36E-07
191	ALL	650023.9	4203718	8.27E-07
202	ALL	650003.9	4203738	8.27E-07
95	ALL	650163.9	4203618	8.27E-07
51	ALL	650323.9	4203558	8.27E-07
180	ALL	650043.9	4203698	8.25E-07
68	ALL	650263.9	4203578	8.25E-07
118	ALL	650123.9	4203638	8.24E-07
216	ALL	649983.9	4203758	8.24E-07
82	ALL	650203.9	4203598	8.20E-07
166	ALL	650063.9	4203678	8.19E-07
230	ALL	649963.9	4203778	8.18E-07
240	ALL	649943.9	4203798	8.11E-07
145	ALL	650083.9	4203658	8.10E-07
50	ALL	650303.9	4203558	8.10E-07
67	ALL	650243.9	4203578	8.07E-07
94	ALL	650143.9	4203618	8.04E-07
250	ALL	649923.9	4203818	8.02E-07
81	ALL	650183.9	4203598	8.01E-07
49	ALL	650283.9	4203558	7.93E-07
66	ALL	650223.9	4203578	7.91E-07
190	ALL	650003.9	4203718	7.89E-07
179	ALL	650023.9	4203698	7.88E-07
201	ALL	649983.9	4203738	7.87E-07
165	ALL	650043.9	4203678	7.85E-07
215	ALL	649963.9	4203758	7.82E-07
80	ALL	650163.9	4203598	7.81E-07
93	ALL	650123.9	4203618	7.80E-07
32	ALL	650323.9	4203538	7.79E-07
144	ALL	650063.9	4203658	7.79E-07
48	ALL	650263.9	4203558	7.77E-07
229	ALL	649943.9	4203778	7.76E-07
65	ALL	650203.9	4203578	7.74E-07
117	ALL	650083.9	4203638	7.69E-07
239	ALL	649923.9	4203798	7.69E-07

31	ALL	650303.9	4203538	7.63E-07
47	ALL	650243.9	4203558	7.62E-07
79	ALL	650143.9	4203598	7.61E-07
64	ALL	650183.9	4203578	7.57E-07
178	ALL	650003.9	4203698	7.53E-07
189	ALL	649983.9	4203718	7.52E-07
164	ALL	650023.9	4203678	7.52E-07
200	ALL	649963.9	4203738	7.49E-07
30	ALL	650283.9	4203538	7.48E-07
143	ALL	650043.9	4203658	7.48E-07
46	ALL	650223.9	4203558	7.47E-07
214	ALL	649943.9	4203758	7.44E-07
116	ALL	650063.9	4203638	7.41E-07
78	ALL	650123.9	4203598	7.40E-07
63	ALL	650163.9	4203578	7.39E-07
228	ALL	649923.9	4203778	7.38E-07
16	ALL	650323.9	4203518	7.35E-07
29	ALL	650263.9	4203538	7.34E-07
45	ALL	650203.9	4203558	7.32E-07
62	ALL	650143.9	4203578	7.21E-07
15	ALL	650303.9	4203518	7.21E-07
163	ALL	650003.9	4203678	7.20E-07
28	ALL	650243.9	4203538	7.20E-07
177	ALL	649983.9	4203698	7.20E-07
142	ALL	650023.9	4203658	7.18E-07
188	ALL	649963.9	4203718	7.17E-07
44	ALL	650183.9	4203558	7.16E-07
115	ALL	650043.9	4203638	7.14E-07
199	ALL	649943.9	4203738	7.13E-07
213	ALL	649923.9	4203758	7.08E-07
14	ALL	650283.9	4203518	7.07E-07
27	ALL	650223.9	4203538	7.06E-07
61	ALL	650123.9	4203578	7.03E-07
43	ALL	650163.9	4203558	7.01E-07
77	ALL	650083.9	4203598	6.96E-07
13	ALL	650263.9	4203518	6.94E-07
26	ALL	650203.9	4203538	6.93E-07
162	ALL	649983.9	4203678	6.89E-07
141	ALL	650003.9	4203658	6.89E-07
176	ALL	649963.9	4203698	6.88E-07
114	ALL	650023.9	4203638	6.86E-07
42	ALL	650143.9	4203558	6.85E-07
187	ALL	649943.9	4203718	6.85E-07
12	ALL	650243.9	4203518	6.82E-07
198	ALL	649923.9	4203738	6.80E-07
25	ALL	650183.9	4203538	6.79E-07
76	ALL	650063.9	4203598	6.74E-07

11	ALL	650223.9	4203518	6.70E-07
24	ALL	650163.9	4203538	6.66E-07
60	ALL	650083.9	4203578	6.64E-07
140	ALL	649983.9	4203658	6.61E-07
161	ALL	649963.9	4203678	6.60E-07
113	ALL	650003.9	4203638	6.60E-07
10	ALL	650203.9	4203518	6.58E-07
175	ALL	649943.9	4203698	6.57E-07
186	ALL	649923.9	4203718	6.54E-07
23	ALL	650143.9	4203538	6.51E-07
41	ALL	650103.9	4203558	6.51E-07
9	ALL	650183.9	4203518	6.45E-07
59	ALL	650063.9	4203578	6.43E-07
112	ALL	649983.9	4203638	6.34E-07
139	ALL	649963.9	4203658	6.33E-07
40	ALL	650083.9	4203558	6.33E-07
8	ALL	650163.9	4203518	6.33E-07
160	ALL	649943.9	4203678	6.32E-07
174	ALL	649923.9	4203698	6.29E-07
58	ALL	650043.9	4203578	6.23E-07
22	ALL	650103.9	4203538	6.21E-07
7	ALL	650143.9	4203518	6.20E-07
39	ALL	650063.9	4203558	6.15E-07
111	ALL	649963.9	4203638	6.09E-07
138	ALL	649943.9	4203658	6.07E-07
159	ALL	649923.9	4203678	6.05E-07
21	ALL	650083.9	4203538	6.05E-07
57	ALL	650023.9	4203578	6.02E-07
6	ALL	650103.9	4203518	5.93E-07
20	ALL	650063.9	4203538	5.88E-07
137	ALL	649923.9	4203658	5.83E-07
56	ALL	650003.9	4203578	5.82E-07
5	ALL	650083.9	4203518	5.78E-07
19	ALL	650043.9	4203538	5.71E-07
4	ALL	650063.9	4203518	5.63E-07
3	ALL	650043.9	4203518	5.48E-07
2	ALL	649918.4	4203526	4.56E-07
1	ALL	649898.4	4203526	4.41E-07

t File: C:\Users\imcintire\Desktop\HARP2\SJMC_CON_HRA_\hra\Con_Mit_HRAInput.hra

SCENARIO

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

7.9YrCancerRMP_InhSoilDermMMilk_FAH16to70

*HARP - HRACalc v22118 3/28/2023 9:32:07 AM - Chronic Risk - Input File: C:\Users\imcintire\Desktop\HARP2\S

REC	GRP	NETID	X	Y	SCENARIO
565	ALL		650177.7	4204158	NonCancerChronicDerived_InhSoilDermMMilk
521	ALL		650182.3	4204112	NonCancerChronicDerived_InhSoilDermMMilk
588	ALL		650156.4	4204185	NonCancerChronicDerived_InhSoilDermMMilk
520	ALL		650163.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
543	ALL		650156.6	4204142	NonCancerChronicDerived_InhSoilDermMMilk
672	ALL		650143.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
835	ALL		650200.6	4204370	NonCancerChronicDerived_InhSoilDermMMilk
611	ALL		650143.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
834	ALL		650191.2	4204367	NonCancerChronicDerived_InhSoilDermMMilk
587	ALL		650143.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
498	ALL		650163.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
833	ALL		650181.7	4204364	NonCancerChronicDerived_InhSoilDermMMilk
564	ALL		650143.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
832	ALL		650172.6	4204361	NonCancerChronicDerived_InhSoilDermMMilk
542	ALL		650143.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
652	ALL		650123.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
671	ALL		650123.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
633	ALL		650123.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
519	ALL		650143.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
687	ALL		650123.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
610	ALL		650123.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
715	ALL		650127.7	4204307	NonCancerChronicDerived_InhSoilDermMMilk
702	ALL		650123.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
586	ALL		650123.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
497	ALL		650143.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
563	ALL		650123.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
541	ALL		650123.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
651	ALL		650103.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
670	ALL		650103.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
632	ALL		650103.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
686	ALL		650103.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
518	ALL		650123.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
609	ALL		650103.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
701	ALL		650103.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
585	ALL		650103.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
496	ALL		650123.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
562	ALL		650103.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
540	ALL		650103.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
477	ALL		650123.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
669	ALL		650083.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
650	ALL		650083.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
685	ALL		650083.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
631	ALL		650083.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
517	ALL		650103.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
608	ALL		650083.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk

700	ALL	650083.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
458	ALL	650123.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
584	ALL	650083.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
781	ALL	650209.7	4204429	NonCancerChronicDerived_InhSoilDermMMilk
714	ALL	650083.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
782	ALL	650229.7	4204429	NonCancerChronicDerived_InhSoilDermMMilk
495	ALL	650103.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
561	ALL	650083.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
750	ALL	650103.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
439	ALL	650123.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
539	ALL	650083.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
476	ALL	650103.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
668	ALL	650063.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
649	ALL	650063.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
684	ALL	650063.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
630	ALL	650063.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
699	ALL	650063.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
516	ALL	650083.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
607	ALL	650063.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
713	ALL	650063.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
457	ALL	650103.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
583	ALL	650063.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
420	ALL	650123.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
762	ALL	650103.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
494	ALL	650083.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
544	ALL	650643.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
560	ALL	650063.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
749	ALL	650083.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
726	ALL	650063.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
566	ALL	650643.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
634	ALL	650623.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
780	ALL	650143.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
438	ALL	650103.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
538	ALL	650063.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
589	ALL	650643.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
475	ALL	650083.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
667	ALL	650043.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
737	ALL	650063.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
648	ALL	650043.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
683	ALL	650043.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
401	ALL	650123.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
499	ALL	650663.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
629	ALL	650043.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
770	ALL	650103.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk
653	ALL	650623.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
698	ALL	650043.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
522	ALL	650663.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk

761	ALL	650083.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
612	ALL	650643.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
515	ALL	650063.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
606	ALL	650043.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
545	ALL	650663.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
712	ALL	650043.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
793	ALL	650203.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
582	ALL	650043.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
567	ALL	650663.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
456	ALL	650083.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
748	ALL	650063.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
794	ALL	650223.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
419	ALL	650103.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
364	ALL	650143.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
635	ALL	650643.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
673	ALL	650623.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
725	ALL	650043.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
493	ALL	650063.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
590	ALL	650663.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
559	ALL	650043.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
478	ALL	650683.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
382	ALL	650123.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
459	ALL	650683.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
500	ALL	650683.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
440	ALL	650683.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
523	ALL	650683.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
654	ALL	650643.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
792	ALL	650143.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
613	ALL	650663.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
736	ALL	650043.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
537	ALL	650043.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
546	ALL	650683.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
437	ALL	650083.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
760	ALL	650063.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
666	ALL	650023.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
474	ALL	650063.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
682	ALL	650023.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
647	ALL	650023.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
688	ALL	650623.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
400	ALL	650103.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
568	ALL	650683.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
697	ALL	650023.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
628	ALL	650023.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
605	ALL	650023.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
674	ALL	650643.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
514	ALL	650043.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
711	ALL	650023.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk

345	ALL	650143.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
747	ALL	650043.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
591	ALL	650683.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
479	ALL	650703.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
460	ALL	650703.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
501	ALL	650703.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
441	ALL	650703.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
581	ALL	650023.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
363	ALL	650123.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
455	ALL	650063.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
724	ALL	650023.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
524	ALL	650703.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
779	ALL	650083.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
418	ALL	650083.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
421	ALL	650703.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
614	ALL	650683.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
547	ALL	650703.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
492	ALL	650043.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
402	ALL	650703.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
803	ALL	650203.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
558	ALL	650023.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
381	ALL	650103.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
689	ALL	650643.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
759	ALL	650043.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
569	ALL	650703.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
735	ALL	650023.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
383	ALL	650703.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
536	ALL	650023.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
436	ALL	650063.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
665	ALL	650003.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
592	ALL	650703.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
681	ALL	650003.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
461	ALL	650723.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
480	ALL	650723.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
646	ALL	650003.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
473	ALL	650043.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
442	ALL	650723.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
502	ALL	650723.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
696	ALL	650003.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
399	ALL	650083.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
627	ALL	650003.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
422	ALL	650723.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
746	ALL	650023.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
525	ALL	650723.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
778	ALL	650063.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
710	ALL	650003.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
344	ALL	650123.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk

403	ALL	650723.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
615	ALL	650703.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
604	ALL	650003.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
791	ALL	650083.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
548	ALL	650723.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
769	ALL	650043.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk
513	ALL	650023.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
723	ALL	650003.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
384	ALL	650723.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
580	ALL	650003.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
570	ALL	650723.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
362	ALL	650103.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
454	ALL	650043.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
417	ALL	650063.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
636	ALL	650703.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
758	ALL	650023.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
365	ALL	650723.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
462	ALL	650743.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
491	ALL	650023.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
481	ALL	650743.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
593	ALL	650723.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
734	ALL	650003.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
443	ALL	650743.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
557	ALL	650003.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
503	ALL	650743.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
423	ALL	650743.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
380	ALL	650083.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
526	ALL	650743.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
346	ALL	650723.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
404	ALL	650743.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
777	ALL	650043.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
790	ALL	650063.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
816	ALL	650183.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
815	ALL	650163.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
655	ALL	650703.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
616	ALL	650723.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
549	ALL	650743.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
664	ALL	649983.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
680	ALL	649983.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
535	ALL	650003.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
817	ALL	650203.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
745	ALL	650003.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
385	ALL	650743.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
814	ALL	650143.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
645	ALL	649983.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
435	ALL	650043.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
695	ALL	649983.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk

768	ALL	650023.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk
472	ALL	650023.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
626	ALL	649983.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
326	ALL	650723.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
571	ALL	650743.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
398	ALL	650063.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
709	ALL	649983.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
366	ALL	650743.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
343	ALL	650103.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
813	ALL	650123.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
637	ALL	650723.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
603	ALL	649983.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
463	ALL	650763.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
512	ALL	650003.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
482	ALL	650763.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
444	ALL	650763.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
722	ALL	649983.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
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424	ALL	650763.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
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757	ALL	650003.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
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579	ALL	649983.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
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527	ALL	650763.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
789	ALL	650043.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
275	ALL	650216.1	4203831	NonCancerChronicDerived_InhSoilDermMMilk
453	ALL	650023.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
812	ALL	650103.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
416	ALL	650043.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
733	ALL	649983.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
776	ALL	650023.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
386	ALL	650763.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
656	ALL	650723.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
617	ALL	650743.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
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490	ALL	650003.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
556	ALL	649983.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
379	ALL	650063.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
367	ALL	650763.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
572	ALL	650763.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
767	ALL	650003.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk
744	ALL	649983.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
638	ALL	650743.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk

663	ALL	649963.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
679	ALL	649963.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
464	ALL	650783.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
445	ALL	650783.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
310	ALL	650743.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
483	ALL	650783.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
348	ALL	650763.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
694	ALL	649963.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
534	ALL	649983.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
644	ALL	649963.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
425	ALL	650783.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
595	ALL	650763.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
434	ALL	650023.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
505	ALL	650783.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
708	ALL	649963.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
406	ALL	650783.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
471	ALL	650003.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
625	ALL	649963.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
829	ALL	650163.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
528	ALL	650783.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
397	ALL	650043.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
828	ALL	650143.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
342	ALL	650083.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
274	ALL	650196.1	4203831	NonCancerChronicDerived_InhSoilDermMMilk
830	ALL	650183.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
788	ALL	650023.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
387	ALL	650783.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
801	ALL	650043.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
328	ALL	650763.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
756	ALL	649983.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
721	ALL	649963.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
602	ALL	649963.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
294	ALL	650743.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
551	ALL	650783.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
618	ALL	650763.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
657	ALL	650743.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
827	ALL	650123.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
831	ALL	650203.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
511	ALL	649983.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
775	ALL	650003.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
368	ALL	650783.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
811	ALL	650063.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
360	ALL	650063.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
573	ALL	650783.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
578	ALL	649963.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
732	ALL	649963.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
311	ALL	650763.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk

826	ALL	650103.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
452	ALL	650003.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
349	ALL	650783.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
415	ALL	650023.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
264	ALL	650216.1	4203811	NonCancerChronicDerived_InhSoilDermMMilk
465	ALL	650803.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
446	ALL	650803.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
639	ALL	650763.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
484	ALL	650803.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
426	ALL	650803.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
766	ALL	649983.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk
506	ALL	650803.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
489	ALL	649983.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
596	ALL	650783.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
407	ALL	650803.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
555	ALL	649963.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
743	ALL	649963.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
378	ALL	650043.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
329	ALL	650783.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
529	ALL	650803.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
295	ALL	650763.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
388	ALL	650803.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
800	ALL	650023.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
787	ALL	650003.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
678	ALL	649943.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
325	ALL	650083.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
662	ALL	649943.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
693	ALL	649943.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
552	ALL	650803.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
810	ALL	650043.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
619	ALL	650783.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
369	ALL	650803.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
658	ALL	650763.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
643	ALL	649943.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
533	ALL	649963.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
707	ALL	649943.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
433	ALL	650003.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
312	ALL	650783.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
755	ALL	649963.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
624	ALL	649943.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
470	ALL	649983.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
774	ALL	649983.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
341	ALL	650063.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
574	ALL	650803.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
350	ALL	650803.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
396	ALL	650023.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
263	ALL	650196.1	4203811	NonCancerChronicDerived_InhSoilDermMMilk

720	ALL	649943.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
447	ALL	650823.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
466	ALL	650823.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
427	ALL	650823.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
601	ALL	649943.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
485	ALL	650823.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
825	ALL	650063.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
408	ALL	650823.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
510	ALL	649963.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
296	ALL	650783.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
507	ALL	650823.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
330	ALL	650803.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
597	ALL	650803.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
731	ALL	649943.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
359	ALL	650043.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
389	ALL	650823.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
530	ALL	650823.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
765	ALL	649963.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk
577	ALL	649943.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
799	ALL	650003.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
809	ALL	650023.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
451	ALL	649983.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
370	ALL	650823.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
414	ALL	650003.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
313	ALL	650803.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
742	ALL	649943.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
786	ALL	649983.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
620	ALL	650803.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
309	ALL	650083.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
488	ALL	649963.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
554	ALL	649943.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
351	ALL	650823.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
377	ALL	650023.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
824	ALL	650043.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
324	ALL	650063.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
677	ALL	649923.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
262	ALL	650163.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
297	ALL	650803.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
661	ALL	649923.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
428	ALL	650843.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
692	ALL	649923.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
773	ALL	649963.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
331	ALL	650823.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
754	ALL	649943.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
409	ALL	650843.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
642	ALL	649923.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
706	ALL	649923.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk

532	ALL	649943.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
432	ALL	649983.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
390	ALL	650843.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
340	ALL	650043.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
623	ALL	649923.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
719	ALL	649923.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
469	ALL	649963.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
395	ALL	650003.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
808	ALL	650003.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
314	ALL	650823.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
371	ALL	650843.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
798	ALL	649983.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
600	ALL	649923.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
823	ALL	650023.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
730	ALL	649923.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
764	ALL	649943.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk
352	ALL	650843.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
509	ALL	649943.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
785	ALL	649963.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
358	ALL	650023.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
298	ALL	650823.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
293	ALL	650083.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
576	ALL	649923.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
332	ALL	650843.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
741	ALL	649923.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
450	ALL	649963.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
413	ALL	649983.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
261	ALL	650143.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
308	ALL	650063.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
487	ALL	649943.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
772	ALL	649943.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
315	ALL	650843.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
553	ALL	649923.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
376	ALL	650003.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
323	ALL	650043.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
807	ALL	649983.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
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797	ALL	649963.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
299	ALL	650843.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
531	ALL	649923.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
431	ALL	649963.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
339	ALL	650023.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
333	ALL	650863.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
468	ALL	649943.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
394	ALL	649983.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
763	ALL	649923.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk

784	ALL	649943.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
284	ALL	650083.9	4203858	NonCancerChronicDerived_InhSoilDermMMilk
316	ALL	650863.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
260	ALL	650123.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
508	ALL	649923.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
292	ALL	650063.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
357	ALL	650003.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
821	ALL	649983.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
806	ALL	649963.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
307	ALL	650043.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
771	ALL	649923.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
300	ALL	650863.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
449	ALL	649943.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
412	ALL	649963.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
227	ALL	650203.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
796	ALL	649943.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
486	ALL	649923.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
375	ALL	649983.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
322	ALL	650023.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
173	ALL	650403.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
783	ALL	649923.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
338	ALL	650003.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
430	ALL	649943.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
273	ALL	650083.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
820	ALL	649963.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
259	ALL	650103.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
467	ALL	649923.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
393	ALL	649963.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
283	ALL	650063.9	4203858	NonCancerChronicDerived_InhSoilDermMMilk
226	ALL	650183.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
805	ALL	649943.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
249	ALL	650123.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
172	ALL	650383.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
291	ALL	650043.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
356	ALL	649983.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
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306	ALL	650023.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
171	ALL	650363.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
411	ALL	649943.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
448	ALL	649923.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
212	ALL	650203.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
156	ALL	650643.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
598	ALL	650903.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
321	ALL	650003.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
374	ALL	649963.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
225	ALL	650163.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
819	ALL	649943.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk

157	ALL	650663.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
258	ALL	650083.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
804	ALL	649923.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
272	ALL	650063.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
155	ALL	650403.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
248	ALL	650103.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
130	ALL	650563.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
621	ALL	650903.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
337	ALL	649983.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
282	ALL	650043.9	4203858	NonCancerChronicDerived_InhSoilDermMMilk
131	ALL	650583.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
158	ALL	650683.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
429	ALL	649923.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
392	ALL	649943.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
238	ALL	650123.9	4203778	NonCancerChronicDerived_InhSoilDermMMilk
132	ALL	650603.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
575	ALL	650923.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
211	ALL	650183.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
290	ALL	650023.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
133	ALL	650623.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
154	ALL	650383.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
640	ALL	650903.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
355	ALL	649963.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
224	ALL	650143.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
599	ALL	650923.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
134	ALL	650643.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
305	ALL	650003.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
818	ALL	649923.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
410	ALL	649923.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
135	ALL	650663.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
153	ALL	650363.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
622	ALL	650923.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
659	ALL	650903.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
320	ALL	649983.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
210	ALL	650163.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
373	ALL	649943.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
257	ALL	650063.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
247	ALL	650083.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
136	ALL	650683.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
271	ALL	650043.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
237	ALL	650103.9	4203778	NonCancerChronicDerived_InhSoilDermMMilk
106	ALL	650563.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
105	ALL	650543.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
107	ALL	650583.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
104	ALL	650523.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
281	ALL	650023.9	4203858	NonCancerChronicDerived_InhSoilDermMMilk
641	ALL	650923.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk

108	ALL	650603.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
336	ALL	649963.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
223	ALL	650123.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
109	ALL	650623.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
675	ALL	650903.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
391	ALL	649923.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
289	ALL	650003.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
110	ALL	650643.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
209	ALL	650143.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
354	ALL	649943.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
660	ALL	650923.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
304	ALL	649983.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
703	ALL	650883.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
690	ALL	650903.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
246	ALL	650063.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
256	ALL	650043.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
236	ALL	650083.9	4203778	NonCancerChronicDerived_InhSoilDermMMilk
319	ALL	649963.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
129	ALL	650363.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
152	ALL	650303.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
372	ALL	649923.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
270	ALL	650023.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
222	ALL	650103.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
676	ALL	650923.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
91	ALL	650563.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
92	ALL	650583.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
90	ALL	650543.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
89	ALL	650523.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
280	ALL	650003.9	4203858	NonCancerChronicDerived_InhSoilDermMMilk
208	ALL	650123.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
335	ALL	649943.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
716	ALL	650883.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
151	ALL	650283.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
704	ALL	650903.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
288	ALL	649983.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
691	ALL	650923.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
197	ALL	650143.9	4203718	NonCancerChronicDerived_InhSoilDermMMilk
353	ALL	649923.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
303	ALL	649963.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
128	ALL	650323.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
235	ALL	650063.9	4203778	NonCancerChronicDerived_InhSoilDermMMilk
245	ALL	650043.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
150	ALL	650263.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
221	ALL	650083.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
255	ALL	650023.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
318	ALL	649943.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
269	ALL	650003.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk

207	ALL	650103.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
727	ALL	650883.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
717	ALL	650903.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
75	ALL	650583.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
74	ALL	650563.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
73	ALL	650543.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
705	ALL	650923.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
127	ALL	650303.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
72	ALL	650523.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
279	ALL	649983.9	4203858	NonCancerChronicDerived_InhSoilDermMMilk
149	ALL	650243.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
196	ALL	650123.9	4203718	NonCancerChronicDerived_InhSoilDermMMilk
334	ALL	649923.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
287	ALL	649963.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
126	ALL	650283.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
185	ALL	650143.9	4203698	NonCancerChronicDerived_InhSoilDermMMilk
234	ALL	650043.9	4203778	NonCancerChronicDerived_InhSoilDermMMilk
148	ALL	650223.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
220	ALL	650063.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
244	ALL	650023.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
302	ALL	649943.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
728	ALL	650903.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
718	ALL	650923.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
738	ALL	650883.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
206	ALL	650083.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
254	ALL	650003.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
103	ALL	650323.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
125	ALL	650263.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
195	ALL	650103.9	4203718	NonCancerChronicDerived_InhSoilDermMMilk
268	ALL	649983.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
55	ALL	650583.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
317	ALL	649923.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
54	ALL	650563.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
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278	ALL	649963.9	4203858	NonCancerChronicDerived_InhSoilDermMMilk
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102	ALL	650303.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
184	ALL	650123.9	4203698	NonCancerChronicDerived_InhSoilDermMMilk
124	ALL	650243.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
729	ALL	650923.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
286	ALL	649943.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
739	ALL	650903.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
219	ALL	650043.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
233	ALL	650023.9	4203778	NonCancerChronicDerived_InhSoilDermMMilk
205	ALL	650063.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
170	ALL	650143.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
101	ALL	650283.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk

243	ALL	650003.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
194	ALL	650083.9	4203718	NonCancerChronicDerived_InhSoilDermMMilk
301	ALL	649923.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
123	ALL	650223.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
253	ALL	649983.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
183	ALL	650103.9	4203698	NonCancerChronicDerived_InhSoilDermMMilk
88	ALL	650323.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
267	ALL	649963.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
36	ALL	650583.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
35	ALL	650563.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
100	ALL	650263.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
34	ALL	650543.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
37	ALL	650663.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
740	ALL	650923.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
122	ALL	650203.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
277	ALL	649943.9	4203858	NonCancerChronicDerived_InhSoilDermMMilk
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38	ALL	650683.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
169	ALL	650123.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
751	ALL	650903.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
87	ALL	650303.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
218	ALL	650023.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
204	ALL	650043.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
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242	ALL	649983.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
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98	ALL	650223.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
168	ALL	650103.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
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71	ALL	650323.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
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231	ALL	649983.9	4203778	NonCancerChronicDerived_InhSoilDermMMilk
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202	ALL	650003.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
51	ALL	650323.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
95	ALL	650163.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
180	ALL	650043.9	4203698	NonCancerChronicDerived_InhSoilDermMMilk
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118	ALL	650123.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
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50	ALL	650303.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
67	ALL	650243.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
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31	ALL	650303.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
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25	ALL	650183.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
76	ALL	650063.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk

11	ALL	650223.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
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9	ALL	650183.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
59	ALL	650063.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
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139	ALL	649963.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
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8	ALL	650163.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
160	ALL	649943.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
174	ALL	649923.9	4203698	NonCancerChronicDerived_InhSoilDermMMilk
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22	ALL	650103.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
7	ALL	650143.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
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6	ALL	650103.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
20	ALL	650063.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
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56	ALL	650003.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
5	ALL	650083.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
19	ALL	650043.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
4	ALL	650063.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
3	ALL	650043.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
2	ALL	649918.4	4203526	NonCancerChronicDerived_InhSoilDermMMilk
1	ALL	649898.4	4203526	NonCancerChronicDerived_InhSoilDermMMilk

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St. Joseph's Medical Center - Construction (Phase 3) - HRA Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Construction (Phase 3) - HRA
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.97041376041882, -121.28841921708326
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hospital	331	1000sqft	7.60	331,000	0.00	0.00	—	—
Unrefrigerated Warehouse-No Rail	37.0	1000sqft	0.85	37,000	0.00	0.00	—	—

Other Asphalt Surfaces	4.00	1000sqft	0.09	0.00	0.00	0.00	—	—
Parking Lot	86.0	Space	0.77	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.64	1.37	12.9	18.4	0.03	0.43	0.01	0.44	0.39	< 0.005	0.40	—	3,269	3,269	0.14	0.04	0.13	3,285
Mit.	0.62	0.56	4.71	20.7	0.03	0.11	0.01	0.12	0.10	< 0.005	0.11	—	3,269	3,269	0.14	0.04	0.13	3,285
% Reduced	62%	59%	64%	-13%	—	75%	—	72%	74%	—	73%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.21	82.2	17.8	20.5	0.03	0.76	7.09	7.85	0.70	3.43	4.13	—	3,381	3,381	0.14	0.04	< 0.005	3,394
Mit.	0.63	81.9	4.80	20.7	0.03	0.11	2.77	2.83	0.11	1.34	1.40	—	3,381	3,381	0.14	0.04	< 0.005	3,394
% Reduced	71%	< 0.5%	73%	-1%	—	85%	61%	64%	84%	61%	66%	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.05	5.58	8.30	11.8	0.02	0.27	0.39	0.47	0.25	0.19	0.26	—	2,085	2,085	0.09	0.03	0.04	2,096
Mit.	0.40	5.06	3.03	13.2	0.02	0.08	0.15	0.17	0.07	0.07	0.09	—	2,085	2,085	0.09	0.03	0.04	2,096
% Reduced	61%	9%	63%	-13%	—	72%	61%	65%	71%	61%	67%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.19	1.02	1.51	2.15	< 0.005	0.05	0.07	0.09	0.05	0.03	0.05	—	345	345	0.01	< 0.005	0.01	347
Mit.	0.07	0.92	0.55	2.42	< 0.005	0.01	0.03	0.03	0.01	0.01	0.02	—	345	345	0.01	< 0.005	0.01	347
% Reduced	61%	9%	63%	-13%	—	72%	61%	65%	71%	61%	67%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.33	1.10	10.6	13.4	0.02	0.38	0.01	0.39	0.35	< 0.005	0.35	—	2,518	2,518	0.11	0.04	0.13	2,532
2027	1.28	1.06	10.1	13.4	0.02	0.34	0.01	0.35	0.31	< 0.005	0.31	—	2,515	2,515	0.11	0.04	0.11	2,530
2028	1.64	1.37	12.9	18.4	0.03	0.43	0.01	0.44	0.39	< 0.005	0.40	—	3,269	3,269	0.14	0.04	0.10	3,285
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.21	1.86	17.8	20.5	0.03	0.76	7.09	7.85	0.70	3.43	4.13	—	3,381	3,381	0.14	0.04	< 0.005	3,394
2026	1.32	1.10	10.6	13.5	0.02	0.38	0.01	0.39	0.35	< 0.005	0.35	—	2,519	2,519	0.11	0.04	< 0.005	2,534
2027	1.71	1.44	13.6	18.4	0.03	0.49	0.01	0.50	0.45	< 0.005	0.45	—	3,273	3,273	0.14	0.04	< 0.005	3,289
2028	1.64	82.2	13.0	18.4	0.03	0.43	0.01	0.44	0.39	< 0.005	0.40	—	3,271	3,271	0.14	0.04	< 0.005	3,287

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.24	0.20	1.96	2.31	< 0.005	0.08	0.39	0.47	0.07	0.19	0.26	—	407	407	0.02	0.01	0.01	409
2026	0.95	0.79	7.57	9.61	0.02	0.27	0.01	0.28	0.25	< 0.005	0.25	—	1,799	1,799	0.08	0.03	0.04	1,809
2027	0.95	0.79	7.56	10.0	0.02	0.25	0.01	0.26	0.23	< 0.005	0.24	—	1,868	1,868	0.08	0.03	0.03	1,879
2028	1.05	5.58	8.30	11.8	0.02	0.27	0.01	0.28	0.25	< 0.005	0.26	—	2,085	2,085	0.09	0.03	0.03	2,096
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.04	0.04	0.36	0.42	< 0.005	0.01	0.07	0.09	0.01	0.03	0.05	—	67.4	67.4	< 0.005	< 0.005	< 0.005	67.8
2026	0.17	0.14	1.38	1.75	< 0.005	0.05	< 0.005	0.05	0.05	< 0.005	0.05	—	298	298	0.01	< 0.005	0.01	300
2027	0.17	0.14	1.38	1.83	< 0.005	0.05	< 0.005	0.05	0.04	< 0.005	0.04	—	309	309	0.01	< 0.005	0.01	311
2028	0.19	1.02	1.51	2.15	< 0.005	0.05	< 0.005	0.05	0.05	< 0.005	0.05	—	345	345	0.01	< 0.005	< 0.005	347

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.57	0.50	3.85	15.4	0.02	0.11	0.01	0.12	0.10	< 0.005	0.11	—	2,518	2,518	0.11	0.04	0.13	2,532
2027	0.55	0.49	3.79	15.4	0.02	0.10	0.01	0.11	0.10	< 0.005	0.10	—	2,515	2,515	0.11	0.04	0.11	2,530
2028	0.62	0.56	4.71	20.7	0.03	0.11	0.01	0.12	0.10	< 0.005	0.11	—	3,269	3,269	0.14	0.04	0.10	3,285
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.58	0.51	3.94	20.6	0.03	0.11	2.77	2.83	0.11	1.34	1.40	—	3,381	3,381	0.14	0.04	< 0.005	3,394
2026	0.56	0.50	3.89	15.5	0.02	0.11	0.01	0.12	0.10	< 0.005	0.11	—	2,519	2,519	0.11	0.04	< 0.005	2,534
2027	0.63	0.57	4.80	20.7	0.03	0.11	0.01	0.13	0.11	< 0.005	0.11	—	3,273	3,273	0.14	0.04	< 0.005	3,289
2028	0.62	81.9	4.75	20.7	0.03	0.11	0.01	0.12	0.10	< 0.005	0.11	—	3,271	3,271	0.14	0.04	< 0.005	3,287

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.07	0.06	0.48	2.49	< 0.005	0.01	0.15	0.17	0.01	0.07	0.09	—	407	407	0.02	0.01	0.01	409
2026	0.40	0.36	2.76	11.0	0.02	0.08	0.01	0.09	0.07	< 0.005	0.08	—	1,799	1,799	0.08	0.03	0.04	1,809
2027	0.40	0.35	2.82	11.5	0.02	0.07	0.01	0.08	0.07	< 0.005	0.07	—	1,868	1,868	0.08	0.03	0.03	1,879
2028	0.39	5.06	3.03	13.2	0.02	0.07	0.01	0.08	0.07	< 0.005	0.07	—	2,085	2,085	0.09	0.03	0.03	2,096
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.01	0.01	0.09	0.45	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.02	—	67.4	67.4	< 0.005	< 0.005	< 0.005	67.8
2026	0.07	0.07	0.50	2.01	< 0.005	0.01	< 0.005	0.02	0.01	< 0.005	0.01	—	298	298	0.01	< 0.005	0.01	300
2027	0.07	0.06	0.51	2.10	< 0.005	0.01	< 0.005	0.02	0.01	< 0.005	0.01	—	309	309	0.01	< 0.005	0.01	311
2028	0.07	0.92	0.55	2.42	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	345	345	0.01	< 0.005	< 0.005	347

3. Construction Emissions Details

3.1. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.20	1.85	17.6	20.3	0.03	0.76	—	0.76	0.70	—	0.70	—	3,342	3,342	0.14	0.03	—	3,353
Dust From Material Movemen	—	—	—	—	—	—	7.09	7.09	—	3.43	3.43	—	—	—	—	—	—	—

Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.96	1.11	< 0.005	0.04	—	0.04	0.04	—	0.04	—	183	183	0.01	< 0.005	—	184
Dust From Material Movemen	—	—	—	—	—	—	0.39	0.39	—	0.19	0.19	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.18	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.3	30.3	< 0.005	< 0.005	—	30.4
Dust From Material Movemen	—	—	—	—	—	—	0.07	0.07	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.42	7.42	< 0.005	< 0.005	< 0.005	7.78
Hauling	0.01	0.01	0.20	0.14	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	31.5	31.5	< 0.005	0.01	< 0.005	33.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.42
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.71	1.71	< 0.005	< 0.005	< 0.005	1.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.07	0.07	< 0.005	< 0.005	< 0.005	0.07
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.30

3.2. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.32	2.23	20.5	0.03	0.06	—	0.06	0.06	—	0.06	—	3,342	3,342	0.14	0.03	—	3,353
Dust From Material Movemen	—	—	—	—	—	—	2.77	2.77	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	1.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	183	183	0.01	< 0.005	—	184

Dust From Material Movemen	—	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	30.3	30.3	< 0.005	< 0.005	—	30.4
Dust From Material Movemen	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.05	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.42	7.42	< 0.005	< 0.005	< 0.005	7.78
Hauling	0.01	0.01	0.20	0.14	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	31.5	31.5	< 0.005	0.01	< 0.005	33.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.42
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.71	1.71	< 0.005	< 0.005	< 0.005	1.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.07	0.07	< 0.005	< 0.005	< 0.005	0.07

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.30

3.3. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.92	1.15	< 0.005	0.04	—	0.04	0.03	—	0.03	—	211	211	0.01	< 0.005	—	212
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.0	35.0	< 0.005	< 0.005	—	35.1
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.04	0.03	0.78	0.51	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	124	124	0.01	0.02	< 0.005	130
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.07	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.9	10.9	< 0.005	< 0.005	0.01	11.4
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.80	1.80	< 0.005	< 0.005	< 0.005	1.89
Hauling	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	0.00

3.4. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.48	3.16	15.0	0.02	0.11	—	0.11	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.28	1.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	211	211	0.01	< 0.005	—	212
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	35.0	35.0	< 0.005	< 0.005	—	35.1
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.04	0.03	0.78	0.51	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	124	124	0.01	0.02	< 0.005	130
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.07	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.9	10.9	< 0.005	< 0.005	0.01	11.4
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.80	1.80	< 0.005	< 0.005	< 0.005	1.89
Hauling	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	0.00

3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.77	7.04	9.26	0.02	0.27	—	0.27	0.25	—	0.25	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.28	1.69	< 0.005	0.05	—	0.05	0.05	—	0.05	—	283	283	0.01	< 0.005	—	284
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.05	0.03	0.73	0.47	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	121	121	0.01	0.02	0.13	127
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.04	0.03	0.77	0.50	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	122	122	0.01	0.02	< 0.005	128
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.03	0.02	0.53	0.34	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	86.6	86.6	0.01	0.01	0.04	90.9
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.3	14.3	< 0.005	< 0.005	0.01	15.0
Hauling	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	0.00

3.6. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.52	0.47	3.12	15.0	0.02	0.11	—	0.11	0.10	—	0.10	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.47	3.12	15.0	0.02	0.11	—	0.11	0.10	—	0.10	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.33	2.23	10.7	0.02	0.08	—	0.08	0.07	—	0.07	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.41	1.95	< 0.005	0.01	—	0.01	0.01	—	0.01	—	283	283	0.01	< 0.005	—	284
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.05	0.03	0.73	0.47	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	121	121	0.01	0.02	0.13	127
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00

Vendor	0.04	0.03	0.77	0.50	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	122	122	0.01	0.02	< 0.005	128
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.03	0.02	0.53	0.34	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	86.6	86.6	0.01	0.01	0.04	90.9
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.3	14.3	< 0.005	< 0.005	0.01	15.0
Hauling	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	0.00

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.88	0.74	6.71	9.24	0.02	0.24	—	0.24	0.22	—	0.22	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.22	1.69	< 0.005	0.04	—	0.04	0.04	—	0.04	—	283	283	0.01	< 0.005	—	284
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.05	0.03	0.72	0.47	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	118	118	0.01	0.02	0.11	124
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.04	0.03	0.76	0.49	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	120	120	0.01	0.02	< 0.005	126
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.03	0.02	0.53	0.34	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	85.0	85.0	0.01	0.01	0.03	89.3
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00

Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.1	14.1	< 0.005	< 0.005	0.01	14.8
Hauling	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	0.00

3.8. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.45	3.08	15.0	0.02	0.10	—	0.10	0.09	—	0.09	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.45	3.08	15.0	0.02	0.10	—	0.10	0.09	—	0.09	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.32	2.20	10.7	0.02	0.07	—	0.07	0.07	—	0.07	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.40	1.95	< 0.005	0.01	—	0.01	0.01	—	0.01	—	283	283	0.01	< 0.005	—	284
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.05	0.03	0.72	0.47	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	118	118	0.01	0.02	0.11	124
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.04	0.03	0.76	0.49	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	120	120	0.01	0.02	< 0.005	126
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.03	0.02	0.53	0.34	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	85.0	85.0	0.01	0.01	0.03	89.3
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.1	14.1	< 0.005	< 0.005	0.01	14.8
Hauling	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	0.00

3.9. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18	0.99	8.92	12.9	0.02	0.30	—	0.30	0.28	—	0.28	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	0.62	5.55	8.05	0.01	0.19	—	0.19	0.17	—	0.17	—	1,492	1,492	0.06	0.01	—	1,497
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.01	1.47	< 0.005	0.03	—	0.03	0.03	—	0.03	—	247	247	0.01	< 0.005	—	248
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.04	0.03	0.70	0.46	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	116	116	0.01	0.02	0.10	122
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00

Vendor	0.04	0.03	0.74	0.49	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	118	118	0.01	0.02	< 0.005	124
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.03	0.02	0.45	0.29	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	72.6	72.6	0.01	0.01	0.03	76.0
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	< 0.005	12.6
Hauling	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	0.00

3.10. Building Construction (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.44	3.04	14.9	0.02	0.09	—	0.09	0.09	—	0.09	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.44	3.04	14.9	0.02	0.09	—	0.09	0.09	—	0.09	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.28	1.89	9.30	0.01	0.06	—	0.06	0.06	—	0.06	—	1,492	1,492	0.06	0.01	—	1,497
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.35	1.70	< 0.005	0.01	—	0.01	0.01	—	0.01	—	247	247	0.01	< 0.005	—	248
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.04	0.03	0.70	0.46	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	116	116	0.01	0.02	0.10	122
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.04	0.03	0.74	0.49	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	118	118	0.01	0.02	< 0.005	124
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.03	0.02	0.45	0.29	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	72.6	72.6	0.01	0.01	0.03	76.0
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00

Vendor	< 0.005	< 0.005	0.08	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	< 0.005	12.6
Hauling	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	0.00

3.11. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.47	4.98	0.01	0.15	—	0.15	0.14	—	0.14	—	756	756	0.03	0.01	—	758
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.33	0.47	< 0.005	0.01	—	0.01	0.01	—	0.01	—	71.0	71.0	< 0.005	< 0.005	—	71.2
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.8	11.8	< 0.005	< 0.005	—	11.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00

3.12. Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.08	0.97	5.30	0.01	0.01	—	0.01	0.01	—	0.01	—	756	756	0.03	0.01	—	758
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.50	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	71.0	71.0	< 0.005	< 0.005	—	71.2
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.8	11.8	< 0.005	< 0.005	—	11.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00

3.13. Paving (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.31	4.95	0.01	0.13	—	0.13	0.12	—	0.12	—	756	756	0.03	0.01	—	758
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.41	0.34	3.31	4.95	0.01	0.13	—	0.13	0.12	—	0.12	—	756	756	0.03	0.01	—	758
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28	0.23	2.25	3.36	< 0.005	0.09	—	0.09	0.08	—	0.08	—	513	513	0.02	< 0.005	—	515
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.41	0.61	< 0.005	0.02	—	0.02	0.01	—	0.01	—	84.9	84.9	< 0.005	< 0.005	—	85.2
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00

3.14. Paving (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.97	5.30	0.01	0.01	—	0.01	0.01	—	0.01	—	756	756	0.03	0.01	—	758
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	0.97	5.30	0.01	0.01	—	0.01	0.01	—	0.01	—	756	756	0.03	0.01	—	758
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.66	3.60	< 0.005	0.01	—	0.01	0.01	—	0.01	—	513	513	0.02	< 0.005	—	515
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.66	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	84.9	84.9	< 0.005	< 0.005	—	85.2
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00

3.15. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	0.81	1.12	< 0.005	0.02	—	0.02	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	81.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.68	7.68	< 0.005	< 0.005	—	7.71
Architectural Coatings	—	4.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.27	1.27	< 0.005	< 0.005	—	1.28
Architectural Coatings	—	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00

3.16. Architectural Coating (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	81.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.68	7.68	< 0.005	< 0.005	—	7.71
Architectural Coatings	—	4.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.27	1.27	< 0.005	< 0.005	—	1.28
Architectural Coatings	—	0.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description

Grading	Grading	10/19/2025	11/16/2025	5.00	20.0	—
Building Construction	Building Construction	11/17/2025	11/13/2028	5.00	781	—
Paving	Paving	11/14/2027	12/12/2028	5.00	282	—
Architectural Coating	Architectural Coating	11/14/2028	12/12/2028	5.00	21.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Grading	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Tier 4 Final	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48
Grading	Bore/Drill Rigs	Diesel	Tier 4 Final	1.00	8.00	83.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	0.00	11.9	LDA,LDT1,LDT2
Grading	Vendor	4.00	0.25	HHDT,MHDT
Grading	Hauling	12.0	0.25	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.00	11.9	LDA,LDT1,LDT2

Building Construction	Vendor	67.0	0.25	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—
Paving	Worker	0.00	11.9	LDA,LDT1,LDT2
Paving	Vendor	0.00	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	0.00	11.9	LDA,LDT1,LDT2
Grading	Vendor	4.00	0.25	HHDT,MHDT
Grading	Hauling	12.0	0.25	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.00	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	67.0	0.25	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—

Paving	Worker	0.00	11.9	LDA,LDT1,LDT2
Paving	Vendor	0.00	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	552,000	184,000	2,263

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	0.00	2,066	20.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.87

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hospital	0.00	0%
Unrefrigerated Warehouse-No Rail	0.00	0%
Other Asphalt Surfaces	0.09	100%
Parking Lot	0.77	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2028	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	23.0	annual days of extreme heat
Extreme Precipitation	2.50	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A

Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	45.0
AQ-PM	59.1
AQ-DPM	24.6
Drinking Water	41.6
Lead Risk Housing	85.3
Pesticides	0.00
Toxic Releases	36.8
Traffic	36.8
Effect Indicators	—

CleanUp Sites	53.4
Groundwater	85.6
Haz Waste Facilities/Generators	85.0
Impaired Water Bodies	58.7
Solid Waste	0.00
Sensitive Population	—
Asthma	85.9
Cardio-vascular	67.6
Low Birth Weights	69.2
Socioeconomic Factor Indicators	—
Education	64.1
Housing	64.5
Linguistic	35.3
Poverty	69.1
Unemployment	32.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	30.37341204
Employed	18.74759399
Median HI	23.23880405
Education	—
Bachelor's or higher	34.71063775
High school enrollment	100
Preschool enrollment	65.63582702

Transportation	—
Auto Access	34.87745413
Active commuting	39.80495316
Social	—
2-parent households	5.915565251
Voting	38.4832542
Neighborhood	—
Alcohol availability	20.44142179
Park access	33.32477865
Retail density	55.80649301
Supermarket access	37.28987553
Tree canopy	87.52726806
Housing	—
Homeownership	44.41165148
Housing habitability	53.07327088
Low-inc homeowner severe housing cost burden	63.67252663
Low-inc renter severe housing cost burden	27.25522905
Uncrowded housing	50.16040036
Health Outcomes	—
Insured adults	36.50712178
Arthritis	4.6
Asthma ER Admissions	25.6
High Blood Pressure	3.3
Cancer (excluding skin)	22.7
Asthma	12.1
Coronary Heart Disease	4.3
Chronic Obstructive Pulmonary Disease	3.9

Diagnosed Diabetes	19.9
Life Expectancy at Birth	1.4
Cognitively Disabled	26.7
Physically Disabled	29.8
Heart Attack ER Admissions	45.3
Mental Health Not Good	21.9
Chronic Kidney Disease	7.4
Obesity	14.4
Pedestrian Injuries	47.5
Physical Health Not Good	16.1
Stroke	6.5
Health Risk Behaviors	—
Binge Drinking	78.7
Current Smoker	20.2
No Leisure Time for Physical Activity	18.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	50.1
Elderly	30.4
English Speaking	48.2
Foreign-born	24.4
Outdoor Workers	25.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	36.9
Traffic Density	55.1
Traffic Access	0.0

Other Indices	—
Hardship	76.2
Other Decision Support	—
2016 Voting	24.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	27.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Phase 3 includes construction of 331 KSF acute care tower, 30 KSF CUP, 3.5 KSF fuel tank yard, 3.5 KSF generator building addition, 16 parking spaces in north lot and 70 parking spaces at emergency department lot.

Construction: Construction Phases	Phase 3 assumed to begin October 2025.
Construction: Off-Road Equipment	Updated equipment per input from applicant.
Construction: Trips and VMT	Assumed 0.25 miles for trip length for HRA.

St. Joseph's Medical Center - Construction (Phase 2) - HRA Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Construction (Phase 2) - HRA
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.970482301349136, -121.2883503386538
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	18.0	1000sqft	0.41	18,000	0.00	0.00	—	—
Enclosed Parking with Elevator	1,980	Space	17.8	800,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.51	3.79	38.2	35.1	0.06	1.70	19.7	21.4	1.57	10.1	11.7	—	6,606	6,606	0.27	0.09	0.29	6,629
Mit.	1.00	0.91	9.18	35.4	0.06	0.18	7.67	7.77	0.17	3.94	4.04	—	6,606	6,606	0.27	0.09	0.29	6,629
% Reduced	78%	76%	76%	-1%	—	90%	61%	64%	89%	61%	65%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.52	21.3	12.8	14.1	0.02	0.50	0.03	0.53	0.46	0.01	0.47	—	2,645	2,645	0.12	0.06	0.01	2,665
Mit.	0.64	21.3	4.74	16.0	0.02	0.20	0.03	0.20	0.19	0.01	0.19	—	2,645	2,645	0.12	0.06	0.01	2,665
% Reduced	58%	—	63%	-13%	—	60%	—	62%	60%	—	60%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.09	2.11	8.91	9.91	0.02	0.34	1.31	1.58	0.31	0.58	0.83	—	1,822	1,822	0.08	0.03	0.07	1,834
Mit.	0.41	1.56	3.24	10.8	0.02	0.08	0.51	0.55	0.08	0.23	0.27	—	1,822	1,822	0.08	0.03	0.07	1,834

% Reduced	62%	26%	64%	-9%	—	76%	61%	65%	75%	61%	68%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.20	0.38	1.63	1.81	< 0.005	0.06	0.24	0.29	0.06	0.11	0.15	—	302	302	0.01	0.01	0.01	304
Mit.	0.08	0.28	0.59	1.97	< 0.005	0.01	0.09	0.10	0.01	0.04	0.05	—	302	302	0.01	0.01	0.01	304
% Reduced	62%	26%	64%	-9%	—	76%	61%	65%	75%	61%	68%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.51	3.79	38.2	35.1	0.06	1.70	19.7	21.4	1.57	10.1	11.7	—	6,606	6,606	0.27	0.06	0.28	6,629
2025	4.30	3.60	34.2	33.9	0.06	1.35	0.29	1.64	1.24	0.05	1.29	—	6,075	6,075	0.26	0.09	0.29	6,108
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.52	1.27	12.8	14.1	0.02	0.50	0.03	0.53	0.46	0.01	0.47	—	2,645	2,645	0.12	0.06	0.01	2,665
2025	1.43	21.3	12.0	14.0	0.02	0.43	0.03	0.46	0.40	0.01	0.41	—	2,641	2,641	0.12	0.06	0.01	2,661
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.81	0.68	6.70	6.59	0.01	0.28	1.31	1.58	0.25	0.58	0.83	—	1,287	1,287	0.05	0.02	0.03	1,294
2025	1.09	2.11	8.91	9.91	0.02	0.34	0.04	0.38	0.31	0.01	0.32	—	1,822	1,822	0.08	0.03	0.07	1,834
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.15	0.12	1.22	1.20	< 0.005	0.05	0.24	0.29	0.05	0.11	0.15	—	213	213	0.01	< 0.005	< 0.005	214
2025	0.20	0.38	1.63	1.81	< 0.005	0.06	0.01	0.07	0.06	< 0.005	0.06	—	302	302	0.01	0.01	0.01	304

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.65	0.64	4.66	35.4	0.06	0.12	7.67	7.77	0.12	3.94	4.04	—	6,606	6,606	0.27	0.06	0.28	6,629
2025	1.00	0.91	9.18	34.1	0.06	0.18	0.29	0.47	0.17	0.05	0.22	—	6,075	6,075	0.26	0.09	0.29	6,108
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.64	0.55	4.74	16.0	0.02	0.12	0.03	0.15	0.12	0.01	0.12	—	2,645	2,645	0.12	0.06	0.01	2,665
2025	0.63	21.3	4.68	16.0	0.02	0.20	0.03	0.20	0.19	0.01	0.19	—	2,641	2,641	0.12	0.06	0.01	2,661
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.21	0.19	1.49	7.25	0.01	0.04	0.51	0.55	0.04	0.23	0.27	—	1,287	1,287	0.05	0.02	0.03	1,294
2025	0.41	1.56	3.24	10.8	0.02	0.08	0.04	0.12	0.08	0.01	0.08	—	1,822	1,822	0.08	0.03	0.07	1,834
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.04	0.03	0.27	1.32	< 0.005	0.01	0.09	0.10	0.01	0.04	0.05	—	213	213	0.01	< 0.005	< 0.005	214
2025	0.08	0.28	0.59	1.97	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.02	—	302	302	0.01	0.01	0.01	304

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.26	0.26	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.23	2.13	1.91	< 0.005	0.09	—	0.09	0.08	—	0.08	—	328	328	0.01	< 0.005	—	330
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.35	< 0.005	0.02	—	0.02	0.01	—	0.01	—	54.4	54.4	< 0.005	< 0.005	—	54.6
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.33	7.33	< 0.005	< 0.005	0.01	7.69

Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.16	5.16	< 0.005	< 0.005	< 0.005	5.41
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.74
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.09

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.26	0.26	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.43	1.74	< 0.005	0.01	—	0.01	0.01	—	0.01	—	328	328	0.01	< 0.005	—	330
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	54.4	54.4	< 0.005	< 0.005	—	54.6
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.33	7.33	< 0.005	< 0.005	0.01	7.69
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.16	5.16	< 0.005	< 0.005	< 0.005	5.41
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.74
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.52
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.12	0.12	< 0.005	< 0.005	< 0.005	0.12
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.09

3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.51	3.79	38.1	35.1	0.05	1.70	—	1.70	1.57	—	1.57	—	5,634	5,634	0.23	0.05	—	5,653
Dust From Material Movemen	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	1.04	0.96	< 0.005	0.05	—	0.05	0.04	—	0.04	—	154	154	0.01	< 0.005	—	155
Dust From Material Movemen	—	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.19	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.6	25.6	< 0.005	< 0.005	—	25.6
Dust From Material Movemen	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.46	7.46	< 0.005	< 0.005	0.01	7.83
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.21	0.21	< 0.005	< 0.005	< 0.005	0.22
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.04
Hauling	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	0.00

3.4. Site Preparation (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,634	5,634	0.23	0.05	—	5,653
Dust From Material Movemen	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	154	154	0.01	< 0.005	—	155
Dust From Material Movemen	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.6	25.6	< 0.005	< 0.005	—	25.6
Dust From Material Movemen	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.46	7.46	< 0.005	< 0.005	0.01	7.83
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.21	0.21	< 0.005	< 0.005	< 0.005	0.22
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.04
Hauling	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	0.00

3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.19	3.52	34.3	30.2	0.06	1.45	—	1.45	1.33	—	1.33	—	6,598	6,598	0.27	0.05	—	6,621

Dust From Material Movemen:	—	—	—	—	—	—	9.26	9.26	—	3.66	3.66	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	0.29	2.82	2.48	0.01	0.12	—	0.12	0.11	—	0.11	—	542	542	0.02	< 0.005	—	544
Dust From Material Movemen:	—	—	—	—	—	—	0.76	0.76	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.51	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movemen:	—	—	—	—	—	—	0.14	0.14	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.46	7.46	< 0.005	< 0.005	0.01	7.83
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.65
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	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	0.00

3.6. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movemen	—	—	—	—	—	—	3.61	3.61	—	1.43	1.43	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.36	2.91	0.01	0.01	—	0.01	0.01	—	0.01	—	542	542	0.02	< 0.005	—	544
Dust From Material Movemen	—	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movemen	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.46	7.46	< 0.005	< 0.005	0.01	7.83
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.62	0.62	< 0.005	< 0.005	< 0.005	0.65

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	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	0.00

3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.27	2.50	2.93	0.01	0.11	—	0.11	0.10	—	0.10	—	535	535	0.02	< 0.005	—	537
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.05	0.46	0.53	< 0.005	0.02	—	0.02	0.02	—	0.02	—	88.6	88.6	< 0.005	< 0.005	—	88.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.10	0.07	1.45	0.94	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	244	244	0.02	0.04	0.28	256
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.08	0.06	1.53	1.00	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	247	247	0.02	0.04	0.01	259
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.02	0.01	0.33	0.22	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	54.8	54.8	< 0.005	0.01	0.03	57.5
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.06	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.07	9.07	< 0.005	< 0.005	< 0.005	9.51
Hauling	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	0.00

3.8. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.49	3.21	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.49	3.21	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.11	0.72	3.35	0.01	0.03	—	0.03	0.03	—	0.03	—	535	535	0.02	< 0.005	—	537
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.61	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	88.6	88.6	< 0.005	< 0.005	—	88.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.10	0.07	1.45	0.94	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	244	244	0.02	0.04	0.28	256
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.08	0.06	1.53	1.00	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	247	247	0.02	0.04	0.01	259
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.02	0.01	0.33	0.22	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	54.8	54.8	< 0.005	0.01	0.03	57.5
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.06	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.07	9.07	< 0.005	< 0.005	< 0.005	9.51
Hauling	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	0.00

3.9. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	0.62	5.70	7.12	0.01	0.24	—	0.24	0.22	—	0.22	—	1,309	1,309	0.05	0.01	—	1,314
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.04	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	217	217	0.01	< 0.005	—	217
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.10	0.07	1.44	0.93	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	240	240	0.02	0.04	0.28	252
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.08	0.06	1.52	0.99	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	243	243	0.02	0.04	0.01	255
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.05	0.04	0.80	0.52	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	132	132	0.01	0.02	0.07	138

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	0.01	0.15	0.10	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	21.8	21.8	< 0.005	< 0.005	0.01	22.9
Hauling	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	0.00

3.10. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.48	3.16	15.0	0.02	0.11	—	0.11	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.48	3.16	15.0	0.02	0.11	—	0.11	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.26	1.73	8.18	0.01	0.06	—	0.06	0.06	—	0.06	—	1,309	1,309	0.05	0.01	—	1,314
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.05	0.32	1.49	< 0.005	0.01	—	0.01	0.01	—	0.01	—	217	217	0.01	< 0.005	—	217
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.10	0.07	1.44	0.93	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	240	240	0.02	0.04	0.28	252
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.08	0.06	1.52	0.99	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	243	243	0.02	0.04	0.01	255
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.05	0.04	0.80	0.52	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	132	132	0.01	0.02	0.07	138
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	0.01	0.15	0.10	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	21.8	21.8	< 0.005	< 0.005	0.01	22.9
Hauling	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	0.00

3.11. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.40	3.73	4.99	0.01	0.17	—	0.17	0.16	—	0.16	—	756	756	0.03	0.01	—	758
Paving	—	2.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.5	43.5	< 0.005	< 0.005	—	43.6
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.20	7.20	< 0.005	< 0.005	—	7.22
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00

Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00

3.12. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.40	3.73	4.99	0.01	0.17	—	0.17	0.16	—	0.16	—	756	756	0.03	0.01	—	758
Paving	—	2.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.02	0.21	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.5	43.5	< 0.005	< 0.005	—	43.6
Paving	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.20	7.20	< 0.005	< 0.005	—	7.22
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00

3.13. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	18.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.68	7.68	< 0.005	< 0.005	—	7.71
Architectural Coatings	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.27	1.27	< 0.005	< 0.005	—	1.28
Architectural Coatings	—	0.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00

3.14. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	18.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.68	7.68	< 0.005	< 0.005	—	7.71
Architectural Coatings	—	1.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.27	1.27	< 0.005	< 0.005	—	1.28
Architectural Coatings	—	0.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00

Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	6/2/2025	7/20/2025	5.00	35.0	—
Site Preparation	Site Preparation	7/13/2024	7/27/2024	5.00	10.0	—
Grading	Grading	7/28/2024	9/8/2024	5.00	30.0	—
Parking Structure, Dietary & Trash Dock, New Engineering Building	Building Construction	9/9/2024	10/6/2025	5.00	281	—
Paving	Paving	10/7/2025	11/4/2025	5.00	21.0	—
Architectural Coating	Architectural Coating	10/7/2025	11/4/2025	5.00	21.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40

Parking Structure, Dietary & Trash Dock, New Engineering Building	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Parking Structure, Dietary & Trash Dock, New Engineering Building	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Parking Structure, Dietary & Trash Dock, New Engineering Building	Cranes	Diesel	Average	1.00	7.00	367	0.29
Parking Structure, Dietary & Trash Dock, New Engineering Building	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Parking Structure, Dietary & Trash Dock, New Engineering Building	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Bore/Drill Rigs	Diesel	Average	1.00	8.00	74.0	0.50

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40

Site Preparation	Tractors/Loaders/Backh	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Parking Structure, Dietary & Trash Dock, New Engineering Building	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Parking Structure, Dietary & Trash Dock, New Engineering Building	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Parking Structure, Dietary & Trash Dock, New Engineering Building	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Parking Structure, Dietary & Trash Dock, New Engineering Building	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Parking Structure, Dietary & Trash Dock, New Engineering Building	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38

Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Site Preparation	Bore/Drill Rigs	Diesel	Tier 4 Final	1.00	8.00	74.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	0.00	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	0.25	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	0.00	11.9	LDA,LDT1,LDT2
Grading	Vendor	4.00	0.25	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	-2.00	HHDT
Parking Structure, Dietary & Trash Dock, New Engineering Building	—	—	—	—
Parking Structure, Dietary & Trash Dock, New Engineering Building	Worker	0.00	11.9	LDA,LDT1,LDT2
Parking Structure, Dietary & Trash Dock, New Engineering Building	Vendor	131	0.25	HHDT,MHDT
Parking Structure, Dietary & Trash Dock, New Engineering Building	Hauling	0.00	20.0	HHDT
Parking Structure, Dietary & Trash Dock, New Engineering Building	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—
Paving	Worker	0.00	11.9	LDA,LDT1,LDT2

Paving	Vendor	0.00	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT
Demolition	—	—	—	—
Demolition	Worker	0.00	11.9	LDA,LDT1,LDT2
Demolition	Vendor	4.00	0.25	HHDT,MHDT
Demolition	Hauling	2.00	0.25	HHDT
Demolition	Onsite truck	0.00	0.00	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	0.00	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	0.25	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	0.00	11.9	LDA,LDT1,LDT2
Grading	Vendor	4.00	0.25	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	-2.00	HHDT

Parking Structure, Dietary & Trash Dock, New Engineering Building	—	—	—	—
Parking Structure, Dietary & Trash Dock, New Engineering Building	Worker	0.00	11.9	LDA,LDT1,LDT2
Parking Structure, Dietary & Trash Dock, New Engineering Building	Vendor	131	0.25	HHDT,MHDT
Parking Structure, Dietary & Trash Dock, New Engineering Building	Hauling	0.00	20.0	HHDT
Parking Structure, Dietary & Trash Dock, New Engineering Building	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—
Paving	Worker	0.00	11.9	LDA,LDT1,LDT2
Paving	Vendor	0.00	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT
Demolition	—	—	—	—
Demolition	Worker	0.00	11.9	LDA,LDT1,LDT2
Demolition	Vendor	4.00	0.25	HHDT,MHDT
Demolition	Hauling	2.00	0.25	HHDT
Demolition	Onsite truck	0.00	0.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	61,931	12,881	46,574

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	8,962	—
Site Preparation	0.00	0.00	15.0	0.00	—
Grading	0.00	20,000	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	17.8

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	0.00	0%
Enclosed Parking with Elevator	17.8	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005

2025	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	23.0	annual days of extreme heat
Extreme Precipitation	2.50	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract

Exposure Indicators	—
AQ-Ozone	45.0
AQ-PM	59.1
AQ-DPM	24.6
Drinking Water	41.6
Lead Risk Housing	85.3
Pesticides	0.00
Toxic Releases	36.8
Traffic	36.8
Effect Indicators	—
CleanUp Sites	53.4
Groundwater	85.6
Haz Waste Facilities/Generators	85.0
Impaired Water Bodies	58.7
Solid Waste	0.00
Sensitive Population	—
Asthma	85.9
Cardio-vascular	67.6
Low Birth Weights	69.2
Socioeconomic Factor Indicators	—
Education	64.1
Housing	64.5
Linguistic	35.3
Poverty	69.1
Unemployment	32.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	30.37341204
Employed	18.74759399
Median HI	23.23880405
Education	—
Bachelor's or higher	34.71063775
High school enrollment	100
Preschool enrollment	65.63582702
Transportation	—
Auto Access	34.87745413
Active commuting	39.80495316
Social	—
2-parent households	5.915565251
Voting	38.4832542
Neighborhood	—
Alcohol availability	20.44142179
Park access	33.32477865
Retail density	55.80649301
Supermarket access	37.28987553
Tree canopy	87.52726806
Housing	—
Homeownership	44.41165148
Housing habitability	53.07327088
Low-inc homeowner severe housing cost burden	63.67252663
Low-inc renter severe housing cost burden	27.25522905
Uncrowded housing	50.16040036

Health Outcomes	—
Insured adults	36.50712178
Arthritis	4.6
Asthma ER Admissions	25.6
High Blood Pressure	3.3
Cancer (excluding skin)	22.7
Asthma	12.1
Coronary Heart Disease	4.3
Chronic Obstructive Pulmonary Disease	3.9
Diagnosed Diabetes	19.9
Life Expectancy at Birth	1.4
Cognitively Disabled	26.7
Physically Disabled	29.8
Heart Attack ER Admissions	45.3
Mental Health Not Good	21.9
Chronic Kidney Disease	7.4
Obesity	14.4
Pedestrian Injuries	47.5
Physical Health Not Good	16.1
Stroke	6.5
Health Risk Behaviors	—
Binge Drinking	78.7
Current Smoker	20.2
No Leisure Time for Physical Activity	18.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	50.1
Elderly	30.4
English Speaking	48.2
Foreign-born	24.4
Outdoor Workers	25.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	36.9
Traffic Density	55.1
Traffic Access	0.0
Other Indices	—
Hardship	76.2
Other Decision Support	—
2016 Voting	24.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	27.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Phase 2 involves construction of parking structure which would be up to 800,000 SF and 1,980 spaces and construction of new engineering building.
Construction: Construction Phases	Phase 2 assumed to July 2024.
Construction: Off-Road Equipment	Updated per input from applicant.
Construction: Trips and VMT	Updated trip length to 0.25 miles for HRA.

St. Joseph's Medical Center - Construction (Phase 4) - HRA Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Construction (Phase 4) - HRA
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.97090013259066, -121.28866353226837
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hospital	5.00	1000sqft	0.11	5,408	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.53	0.45	4.13	6.91	0.01	0.14	< 0.005	0.14	0.13	< 0.005	0.13	—	1,308	1,308	0.05	0.01	< 0.005	1,312
Mit.	0.12	0.12	0.66	8.12	0.01	0.02	< 0.005	0.03	0.02	< 0.005	0.02	—	1,308	1,308	0.05	0.01	< 0.005	1,312
% Reduced	77%	72%	84%	-17%	—	82%	—	82%	80%	—	80%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.55	0.46	4.32	6.92	0.01	0.15	0.26	0.37	0.14	0.04	0.14	—	1,308	1,308	0.05	0.01	< 0.005	1,313
Mit.	0.12	0.12	1.50	8.12	0.01	0.02	0.26	0.28	0.02	0.04	0.06	—	1,308	1,308	0.05	0.01	< 0.005	1,313
% Reduced	77%	73%	65%	-17%	—	83%	—	25%	82%	—	60%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.38	0.32	2.95	4.93	0.01	0.10	0.02	0.10	0.09	< 0.005	0.09	—	934	934	0.04	0.01	< 0.005	937
Mit.	0.09	0.09	0.47	5.80	0.01	0.02	0.02	0.02	0.02	< 0.005	0.02	—	934	934	0.04	0.01	< 0.005	937
% Reduced	77%	72%	84%	-17%	—	82%	—	82%	80%	—	80%	—	—	—	—	—	—	—

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.07	0.06	0.54	0.90	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	—	155	155	0.01	< 0.005	< 0.005	155
Mit.	0.02	0.02	0.09	1.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	155	155	0.01	< 0.005	< 0.005	155
% Reduced	77%	72%	84%	-17%	—	82%	—	82%	80%	—	80%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2029	0.53	0.45	4.13	6.91	0.01	0.14	< 0.005	0.14	0.13	< 0.005	0.13	—	1,308	1,308	0.05	0.01	< 0.005	1,312
2030	0.52	0.44	4.03	6.90	0.01	0.13	< 0.005	0.13	0.12	< 0.005	0.12	—	1,307	1,307	0.05	0.01	< 0.005	1,312
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.55	0.46	4.32	6.92	0.01	0.15	0.26	0.37	0.14	0.04	0.14	—	1,308	1,308	0.05	0.01	< 0.005	1,313
2029	0.53	0.45	4.13	6.91	0.01	0.14	< 0.005	0.14	0.13	< 0.005	0.13	—	1,308	1,308	0.05	0.01	< 0.005	1,312
2030	0.52	0.44	4.03	6.90	0.01	0.13	< 0.005	0.13	0.12	< 0.005	0.12	—	1,307	1,307	0.05	0.01	< 0.005	1,312
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.03	0.03	0.27	0.40	< 0.005	0.01	0.02	0.02	0.01	< 0.005	0.01	—	64.7	64.7	< 0.005	< 0.005	< 0.005	64.9
2029	0.38	0.32	2.95	4.93	0.01	0.10	< 0.005	0.10	0.09	< 0.005	0.09	—	934	934	0.04	0.01	< 0.005	937
2030	0.22	0.18	1.67	2.86	0.01	0.05	< 0.005	0.05	0.05	< 0.005	0.05	—	542	542	0.02	< 0.005	< 0.005	544
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.01	0.01	0.05	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	< 0.005	10.7
2029	0.07	0.06	0.54	0.90	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	—	155	155	0.01	< 0.005	< 0.005	155
2030	0.04	0.03	0.31	0.52	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	89.8	89.8	< 0.005	< 0.005	< 0.005	90.1

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2029	0.12	0.12	0.66	8.12	0.01	0.02	< 0.005	0.03	0.02	< 0.005	0.02	—	1,308	1,308	0.05	0.01	< 0.005	1,312
2030	0.12	0.12	0.66	8.12	0.01	0.02	< 0.005	0.03	0.02	< 0.005	0.02	—	1,307	1,307	0.05	0.01	< 0.005	1,312
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.12	0.12	1.50	8.12	0.01	0.02	0.26	0.28	0.02	0.04	0.06	—	1,308	1,308	0.05	0.01	< 0.005	1,313
2029	0.12	0.12	0.66	8.12	0.01	0.02	< 0.005	0.03	0.02	< 0.005	0.02	—	1,308	1,308	0.05	0.01	< 0.005	1,312
2030	0.12	0.12	0.66	8.12	0.01	0.02	< 0.005	0.03	0.02	< 0.005	0.02	—	1,307	1,307	0.05	0.01	< 0.005	1,312
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	0.01	0.01	0.09	0.42	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	64.7	64.7	< 0.005	< 0.005	< 0.005	64.9
2029	0.09	0.09	0.47	5.80	0.01	0.02	< 0.005	0.02	0.02	< 0.005	0.02	—	934	934	0.04	0.01	< 0.005	937
2030	0.05	0.05	0.27	3.37	0.01	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	542	542	0.02	< 0.005	< 0.005	544
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2028	< 0.005	< 0.005	0.02	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	< 0.005	10.7
2029	0.02	0.02	0.09	1.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	155	155	0.01	< 0.005	< 0.005	155
2030	0.01	0.01	0.05	0.61	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	89.8	89.8	< 0.005	< 0.005	< 0.005	90.1

3. Construction Emissions Details

3.1. Demolition (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	0.41	3.84	5.55	0.01	0.11	—	0.11	0.10	—	0.10	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.26	0.26	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.0	49.0	< 0.005	< 0.005	—	49.2
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.11	8.11	< 0.005	< 0.005	—	8.14
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.94	4.94	< 0.005	< 0.005	< 0.005	5.18
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05

3.2. Demolition (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.10	1.47	5.63	0.01	0.02	—	0.02	0.02	—	0.02	—	852	852	0.03	0.01	—	855
Demolition	—	—	—	—	—	—	0.26	0.26	—	0.04	0.04	—	—	—	—	—	—	—

Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.32	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.0	49.0	< 0.005	< 0.005	—	49.2
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.11	8.11	< 0.005	< 0.005	—	8.14
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.94	4.94	< 0.005	< 0.005	< 0.005	5.18
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.30

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05

3.3. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55	0.46	4.30	6.91	0.01	0.15	—	0.15	0.14	—	0.14	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.51	3.51	< 0.005	< 0.005	< 0.005	3.69
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01
Hauling	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	0.00

3.4. Building Construction (2028) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	0.64	8.10	0.01	0.02	—	0.02	0.02	—	0.02	—	1,305	1,305	0.05	0.01	—	1,309

Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.3	15.3	< 0.005	< 0.005	—	15.4
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.54	2.54	< 0.005	< 0.005	—	2.54
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.51	3.51	< 0.005	< 0.005	< 0.005	3.69
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01
Hauling	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	0.00

3.5. Building Construction (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.45	4.11	6.89	0.01	0.14	—	0.14	0.13	—	0.13	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.45	4.11	6.89	0.01	0.14	—	0.14	0.13	—	0.13	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	0.32	2.94	4.92	0.01	0.10	—	0.10	0.09	—	0.09	—	932	932	0.04	0.01	—	935
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.54	0.90	< 0.005	0.02	—	0.02	0.02	—	0.02	—	154	154	0.01	< 0.005	—	155
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.39	3.39	< 0.005	< 0.005	< 0.005	3.56
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.45	3.45	< 0.005	< 0.005	< 0.005	3.61
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.44	2.44	< 0.005	< 0.005	< 0.005	2.56
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.42
Hauling	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	0.00

3.6. Building Construction (2029) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.12	0.12	0.64	8.10	0.01	0.02	—	0.02	0.02	—	0.02	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	0.64	8.10	0.01	0.02	—	0.02	0.02	—	0.02	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	0.46	5.79	0.01	0.02	—	0.02	0.02	—	0.02	—	932	932	0.04	0.01	—	935
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.08	1.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	154	154	0.01	< 0.005	—	155
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.39	3.39	< 0.005	< 0.005	< 0.005	3.56
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00

Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.45	3.45	< 0.005	< 0.005	< 0.005	3.61
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.44	2.44	< 0.005	< 0.005	< 0.005	2.56
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.40	0.40	< 0.005	< 0.005	< 0.005	0.42
Hauling	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	0.00

3.7. Building Construction (2030) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.44	4.01	6.89	0.01	0.13	—	0.13	0.12	—	0.12	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.44	4.01	6.89	0.01	0.13	—	0.13	0.12	—	0.12	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.66	2.86	< 0.005	0.05	—	0.05	0.05	—	0.05	—	541	541	0.02	< 0.005	—	543
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.30	0.52	< 0.005	0.01	—	0.01	0.01	—	0.01	—	89.6	89.6	< 0.005	< 0.005	—	89.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.33	3.33	< 0.005	< 0.005	< 0.005	3.49
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.38	3.38	< 0.005	< 0.005	< 0.005	3.54
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	1.45
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.24
Hauling	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	0.00

3.8. Building Construction (2030) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	0.64	8.10	0.01	0.02	—	0.02	0.02	—	0.02	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	0.64	8.10	0.01	0.02	—	0.02	0.02	—	0.02	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.27	3.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	541	541	0.02	< 0.005	—	543
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.61	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	89.6	89.6	< 0.005	< 0.005	—	89.9
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.33	3.33	< 0.005	< 0.005	< 0.005	3.49
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.38	3.38	< 0.005	< 0.005	< 0.005	3.54
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.39	1.39	< 0.005	< 0.005	< 0.005	1.45
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.24
Hauling	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	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetatio	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	11/27/2028	12/25/2028	5.00	21.0	—
Facade Improvements and Interior Renovation	Building Construction	12/26/2028	7/31/2030	5.00	417	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73

Facade Improvements and Interior Renovation	Cranes	Diesel	Average	1.00	4.00	367	0.29
Facade Improvements and Interior Renovation	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Facade Improvements and Interior Renovation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	6.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	1.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Facade Improvements and Interior Renovation	Cranes	Diesel	Tier 4 Final	1.00	4.00	367	0.29
Facade Improvements and Interior Renovation	Forklifts	Diesel	Tier 4 Final	2.00	6.00	82.0	0.20
Facade Improvements and Interior Renovation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	0.00	11.9	LDA,LDT1,LDT2
Demolition	Vendor	0.00	9.10	HHDT,MHDT
Demolition	Hauling	2.00	0.25	HHDT
Demolition	Onsite truck	0.00	0.00	HHDT

Facade Improvements and Interior Renovation	—	—	—	—
Facade Improvements and Interior Renovation	Worker	0.00	11.9	LDA,LDT1,LDT2
Facade Improvements and Interior Renovation	Vendor	2.00	0.25	HHDT,MHDT
Facade Improvements and Interior Renovation	Hauling	0.00	20.0	HHDT
Facade Improvements and Interior Renovation	Onsite truck	0.00	0.00	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	0.00	11.9	LDA,LDT1,LDT2
Demolition	Vendor	0.00	9.10	HHDT,MHDT
Demolition	Hauling	2.00	0.25	HHDT
Demolition	Onsite truck	0.00	0.00	HHDT
Facade Improvements and Interior Renovation	—	—	—	—
Facade Improvements and Interior Renovation	Worker	0.00	11.9	LDA,LDT1,LDT2
Facade Improvements and Interior Renovation	Vendor	2.00	0.25	HHDT,MHDT
Facade Improvements and Interior Renovation	Hauling	0.00	20.0	HHDT
Facade Improvements and Interior Renovation	Onsite truck	0.00	0.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	5,408	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hospital	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2028	0.00	204	0.03	< 0.005
2029	0.00	204	0.03	< 0.005
2030	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	23.0	annual days of extreme heat
Extreme Precipitation	2.50	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract

Exposure Indicators	—
AQ-Ozone	45.0
AQ-PM	59.1
AQ-DPM	24.6
Drinking Water	41.6
Lead Risk Housing	85.3
Pesticides	0.00
Toxic Releases	36.8
Traffic	36.8
Effect Indicators	—
CleanUp Sites	53.4
Groundwater	85.6
Haz Waste Facilities/Generators	85.0
Impaired Water Bodies	58.7
Solid Waste	0.00
Sensitive Population	—
Asthma	85.9
Cardio-vascular	67.6
Low Birth Weights	69.2
Socioeconomic Factor Indicators	—
Education	64.1
Housing	64.5
Linguistic	35.3
Poverty	69.1
Unemployment	32.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	30.37341204
Employed	18.74759399
Median HI	23.23880405
Education	—
Bachelor's or higher	34.71063775
High school enrollment	100
Preschool enrollment	65.63582702
Transportation	—
Auto Access	34.87745413
Active commuting	39.80495316
Social	—
2-parent households	5.915565251
Voting	38.4832542
Neighborhood	—
Alcohol availability	20.44142179
Park access	33.32477865
Retail density	55.80649301
Supermarket access	37.28987553
Tree canopy	87.52726806
Housing	—
Homeownership	44.41165148
Housing habitability	53.07327088
Low-inc homeowner severe housing cost burden	63.67252663
Low-inc renter severe housing cost burden	27.25522905
Uncrowded housing	50.16040036

Health Outcomes	—
Insured adults	36.50712178
Arthritis	4.6
Asthma ER Admissions	25.6
High Blood Pressure	3.3
Cancer (excluding skin)	22.7
Asthma	12.1
Coronary Heart Disease	4.3
Chronic Obstructive Pulmonary Disease	3.9
Diagnosed Diabetes	19.9
Life Expectancy at Birth	1.4
Cognitively Disabled	26.7
Physically Disabled	29.8
Heart Attack ER Admissions	45.3
Mental Health Not Good	21.9
Chronic Kidney Disease	7.4
Obesity	14.4
Pedestrian Injuries	47.5
Physical Health Not Good	16.1
Stroke	6.5
Health Risk Behaviors	—
Binge Drinking	78.7
Current Smoker	20.2
No Leisure Time for Physical Activity	18.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0

Children	50.1
Elderly	30.4
English Speaking	48.2
Foreign-born	24.4
Outdoor Workers	25.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	36.9
Traffic Density	55.1
Traffic Access	0.0
Other Indices	—
Hardship	76.2
Other Decision Support	—
2016 Voting	24.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	27.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Phase 4 includes only demolition to 4th floor of the north wing and façade improvements.
Construction: Construction Phases	Phase 4 assumed to begin November 2028.
Construction: Trips and VMT	Assumed trip length of 0.25 miles for HRA.

St. Joseph's Medical Center - Construction (Phase 1) - HRA Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Construction (Phase 1) - HRA
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.97057061841652, -121.28836137076809
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hospital	27,474	1000sqft	631	274,743	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.37	3.69	32.5	34.2	0.05	1.31	1.64	2.95	1.20	0.37	1.57	—	7,000	7,000	0.25	0.34	8.06	7,114
Mit.	1.70	1.57	14.0	49.0	0.09	0.25	1.64	1.89	0.24	0.37	0.61	—	10,425	10,425	0.39	0.36	8.06	10,551
% Reduced	61%	57%	57%	-43%	-59%	81%	—	36%	80%	—	61%	—	-49%	-49%	-55%	-8%	—	-48%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.31	3.63	32.7	33.1	0.05	1.40	19.8	21.2	1.29	10.1	11.4	—	6,919	6,919	0.26	0.34	0.21	7,025
Mit.	1.64	1.51	14.2	48.0	0.09	0.32	7.83	8.16	0.30	3.98	4.28	—	10,344	10,344	0.40	0.36	0.21	10,462
% Reduced	62%	58%	56%	-45%	-59%	77%	60%	62%	77%	61%	63%	—	-50%	-50%	-54%	-8%	—	-49%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.99	1.66	14.6	15.3	0.03	0.57	1.01	1.45	0.53	0.49	0.73	—	3,363	3,363	0.12	0.18	1.99	3,423
Mit.	0.86	0.76	6.73	21.5	0.04	0.12	0.87	1.00	0.12	0.20	0.32	—	4,798	4,798	0.18	0.20	1.99	4,863
% Reduced	57%	54%	54%	-41%	-53%	79%	13%	31%	78%	59%	56%	—	-43%	-43%	-48%	-6%	—	-42%

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.36	0.30	2.66	2.79	< 0.005	0.10	0.18	0.26	0.10	0.09	0.13	—	557	557	0.02	0.03	0.33	567
Mit.	0.16	0.14	1.23	3.92	0.01	0.02	0.16	0.18	0.02	0.04	0.06	—	794	794	0.03	0.03	0.33	805
% Reduced	57%	54%	54%	-41%	-53%	79%	13%	31%	78%	59%	56%	—	-43%	-43%	-48%	-6%	—	-42%

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.37	3.69	32.5	34.2	0.05	1.31	1.64	2.95	1.20	0.37	1.57	—	7,000	7,000	0.25	0.34	8.06	7,114
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.31	3.63	32.7	33.1	0.05	1.31	1.64	2.95	1.20	0.37	1.57	—	6,919	6,919	0.26	0.34	0.21	7,025
2025	4.14	3.48	32.7	32.7	0.05	1.40	19.8	21.2	1.29	10.1	11.4	—	5,717	5,717	0.23	0.10	0.03	5,738
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.99	1.66	14.6	15.3	0.03	0.57	0.87	1.45	0.53	0.20	0.73	—	3,363	3,363	0.12	0.18	1.99	3,423
2025	0.51	0.42	3.97	3.97	0.01	0.17	1.01	1.17	0.15	0.49	0.64	—	712	712	0.03	0.01	0.07	717
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.36	0.30	2.66	2.79	< 0.005	0.10	0.16	0.26	0.10	0.04	0.13	—	557	557	0.02	0.03	0.33	567
2025	0.09	0.08	0.72	0.72	< 0.005	0.03	0.18	0.21	0.03	0.09	0.12	—	118	118	< 0.005	< 0.005	0.01	119

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.70	1.57	14.0	49.0	0.09	0.25	1.64	1.89	0.24	0.37	0.61	—	10,425	10,425	0.39	0.36	8.06	10,551
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.64	1.51	14.2	48.0	0.09	0.25	1.64	1.89	0.24	0.37	0.61	—	10,344	10,344	0.40	0.36	0.21	10,462
2025	0.78	0.77	9.72	38.4	0.07	0.32	7.83	8.16	0.30	3.98	4.28	—	7,568	7,568	0.30	0.13	0.03	7,613
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.86	0.76	6.73	21.5	0.04	0.12	0.87	1.00	0.12	0.20	0.32	—	4,798	4,798	0.18	0.20	1.99	4,863
2025	0.11	0.11	1.21	5.37	0.01	0.02	0.43	0.46	0.02	0.20	0.22	—	1,014	1,014	0.04	0.01	0.07	1,019
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.16	0.14	1.23	3.92	0.01	0.02	0.16	0.18	0.02	0.04	0.06	—	794	794	0.03	0.03	0.33	805
2025	0.02	0.02	0.22	0.98	< 0.005	< 0.005	0.08	0.08	< 0.005	0.04	0.04	—	168	168	0.01	< 0.005	0.01	169

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.62	24.9	21.7	0.03	1.06	—	1.06	0.98	—	0.98	—	3,425	3,425	0.14	0.03	—	3,437

Demolition	—	—	—	—	—	—	0.42	0.42	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.62	24.9	21.7	0.03	1.06	—	1.06	0.98	—	0.98	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.42	0.42	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.31	1.10	10.4	9.10	0.01	0.44	—	0.44	0.41	—	0.41	—	1,434	1,434	0.06	0.01	—	1,439
Demolition	—	—	—	—	—	—	0.18	0.18	—	0.03	0.03	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.90	1.66	< 0.005	0.08	—	0.08	0.07	—	0.07	—	237	237	0.01	< 0.005	—	238
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Architect Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	< 0.005	0.15	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	< 0.005	0.02	0.31	121
Hauling	0.01	0.01	0.41	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	336	336	0.01	0.05	0.81	353
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	< 0.005	0.16	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	< 0.005	0.02	0.01	121
Hauling	0.01	0.01	0.43	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	336	336	0.01	0.05	0.02	352
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.2	48.2	< 0.005	0.01	0.06	50.5
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.15	148
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.99	7.99	< 0.005	< 0.005	0.01	8.36
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.3	23.3	< 0.005	< 0.005	0.02	24.4

3.2. Demolition (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.72	9.01	36.3	0.07	0.13	—	0.13	0.13	—	0.13	—	6,850	6,850	0.28	0.06	—	6,874
Demolition	—	—	—	—	—	—	0.42	0.42	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.72	9.01	36.3	0.07	0.13	—	0.13	0.13	—	0.13	—	6,850	6,850	0.28	0.06	—	6,874
Demolition	—	—	—	—	—	—	0.42	0.42	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	0.30	3.77	15.2	0.03	0.05	—	0.05	0.05	—	0.05	—	2,869	2,869	0.12	0.02	—	2,879
Demolition	—	—	—	—	—	—	0.18	0.18	—	0.03	0.03	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.69	2.78	< 0.005	0.01	—	0.01	0.01	—	0.01	—	475	475	0.02	< 0.005	—	477
Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	< 0.005	0.15	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	< 0.005	0.02	0.31	121
Hauling	0.01	0.01	0.41	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	336	336	0.01	0.05	0.81	353
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	< 0.005	0.16	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	115	115	< 0.005	0.02	0.01	121
Hauling	0.01	0.01	0.43	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	336	336	0.01	0.05	0.02	352
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.2	48.2	< 0.005	0.01	0.06	50.5
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	141	141	< 0.005	0.02	0.15	148
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00

Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.99	7.99	< 0.005	< 0.005	0.01	8.36
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.3	23.3	< 0.005	< 0.005	0.02	24.4

3.3. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.42	0.42	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	0.21	1.95	1.75	< 0.005	0.08	—	0.08	0.07	—	0.07	—	302	302	0.01	< 0.005	—	303
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.36	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.9	49.9	< 0.005	< 0.005	—	50.1
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	< 0.005	0.15	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	113	113	< 0.005	0.02	0.01	118
Hauling	0.01	0.01	0.42	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	330	330	0.01	0.05	0.02	345
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.98	9.98	< 0.005	< 0.005	0.01	10.4
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	29.0	29.0	< 0.005	< 0.005	0.03	30.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.65	1.65	< 0.005	< 0.005	< 0.005	1.73
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.81	4.81	< 0.005	< 0.005	0.01	5.04

3.4. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.72	0.72	9.01	36.3	0.07	0.13	—	0.13	0.13	—	0.13	—	6,850	6,850	0.28	0.06	—	6,873
Demolition	—	—	—	—	—	—	0.42	0.42	—	0.06	0.06	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.79	3.20	0.01	0.01	—	0.01	0.01	—	0.01	—	603	603	0.02	< 0.005	—	605
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.14	0.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	99.9	99.9	< 0.005	< 0.005	—	100
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Architect Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	< 0.005	0.15	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	113	113	< 0.005	0.02	0.01	118
Hauling	0.01	0.01	0.42	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	330	330	0.01	0.05	0.02	345
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.98	9.98	< 0.005	< 0.005	0.01	10.4
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	29.0	29.0	< 0.005	< 0.005	0.03	30.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.65	1.65	< 0.005	< 0.005	< 0.005	1.73
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.81	4.81	< 0.005	< 0.005	0.01	5.04

3.5. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movemen:	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movemen:	—	—	—	—	—	—	0.54	0.54	—	0.28	0.28	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movemen:	—	—	—	—	—	—	0.10	0.10	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.07	0.72	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	146	146	< 0.005	0.01	0.02	148
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.11	4.11	< 0.005	< 0.005	0.01	4.17
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.68	0.68	< 0.005	< 0.005	< 0.005	0.69
Vendor	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	0.00
Hauling	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	0.00

3.6. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.59	8.03	28.3	0.05	0.32	—	0.32	0.30	—	0.30	—	5,295	5,295	0.21	0.04	—	5,314

Dust From Material Movemen	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.22	0.78	< 0.005	0.01	—	0.01	0.01	—	0.01	—	145	145	0.01	< 0.005	—	146
Dust From Material Movemen	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movemen	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.07	0.72	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	146	146	< 0.005	0.01	0.02	148
Vendor	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	0.00
Hauling	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.11	4.11	< 0.005	< 0.005	0.01	4.17
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.68	0.68	< 0.005	< 0.005	< 0.005	0.69
Vendor	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	0.00
Hauling	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	0.00

3.7. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	1.05	1.68	< 0.005	0.05	—	0.05	0.04	—	0.04	—	254	254	0.01	< 0.005	—	255
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	1.05	1.68	< 0.005	0.05	—	0.05	0.04	—	0.04	—	254	254	0.01	< 0.005	—	255

Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.21	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.7	49.7	< 0.005	< 0.005	—	49.9
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.24	8.24	< 0.005	< 0.005	—	8.26
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	23.6	23.6	< 0.005	< 0.005	0.09	24.0
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.3	21.3	< 0.005	< 0.005	< 0.005	21.6
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.28	4.28	< 0.005	< 0.005	0.01	4.35
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.72
Vendor	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	0.00
Hauling	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	0.00

3.8. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	1.77	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	254	254	0.01	< 0.005	—	255
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.12	1.77	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	254	254	0.01	< 0.005	—	255
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	49.7	49.7	< 0.005	< 0.005	—	49.9
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.24	8.24	< 0.005	< 0.005	—	8.26
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	23.6	23.6	< 0.005	< 0.005	0.09	24.0
Vendor	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	0.00
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.3	21.3	< 0.005	< 0.005	< 0.005	21.6
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.28	4.28	< 0.005	< 0.005	0.01	4.35
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.71	0.71	< 0.005	< 0.005	< 0.005	0.72
Vendor	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	0.00
Hauling	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	0.00

3.9. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.96	1.67	< 0.005	0.04	—	0.04	0.03	—	0.03	—	254	254	0.01	< 0.005	—	255

Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	41.3	41.3	< 0.005	< 0.005	—	41.4
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.83	6.83	< 0.005	< 0.005	—	6.86
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	< 0.005	21.2
Vendor	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	0.00
Hauling	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.48	3.48	< 0.005	< 0.005	0.01	3.53
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.58	0.58	< 0.005	< 0.005	< 0.005	0.58
Vendor	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	0.00
Hauling	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	0.00

3.10. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	1.77	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	254	254	0.01	< 0.005	—	255
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.29	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	41.3	41.3	< 0.005	< 0.005	—	41.4

Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.83	6.83	< 0.005	< 0.005	—	6.86
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.9	20.9	< 0.005	< 0.005	< 0.005	21.2
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.48	3.48	< 0.005	< 0.005	0.01	3.53
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.58	0.58	< 0.005	< 0.005	< 0.005	0.58
Vendor	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	0.00

Hauling	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	0.00

3.11. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.07	1.74	16.3	17.9	0.03	0.72	—	0.72	0.66	—	0.66	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movemen	—	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.94	1.03	< 0.005	0.04	—	0.04	0.04	—	0.04	—	170	170	0.01	< 0.005	—	171
Dust From Material Movemen	—	—	—	—	—	—	0.41	0.41	—	0.20	0.20	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	28.2	28.2	< 0.005	< 0.005	—	28.3

Dust From Material Movemen	—	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.62	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	125	125	< 0.005	0.01	0.01	127
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.39	7.39	< 0.005	< 0.005	0.01	7.50
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.22	1.22	< 0.005	< 0.005	< 0.005	1.24
Vendor	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	0.00
Hauling	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	0.00

3.12. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.29	2.04	17.8	0.03	0.06	—	0.06	0.06	—	0.06	—	2,959	2,959	0.12	0.02	—	2,970
Dust From Material Movemen:	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	1.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	170	170	0.01	< 0.005	—	171
Dust From Material Movemen:	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.2	28.2	< 0.005	< 0.005	—	28.3
Dust From Material Movemen:	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.62	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	125	125	< 0.005	0.01	0.01	127
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.39	7.39	< 0.005	< 0.005	0.01	7.50
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.22	1.22	< 0.005	< 0.005	< 0.005	1.24
Vendor	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	0.00
Hauling	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	0.00

3.13. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.48	4.03	4.91	0.01	0.17	—	0.17	0.16	—	0.16	—	718	718	0.03	0.01	—	720
Onsite truck	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.48	4.03	4.91	0.01	0.17	—	0.17	0.16	—	0.16	—	718	718	0.03	0.01	—	720
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	0.29	2.44	2.97	< 0.005	0.10	—	0.10	0.10	—	0.10	—	435	435	0.02	< 0.005	—	436
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.44	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	72.0	72.0	< 0.005	< 0.005	—	72.2
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.41	0.28	5.01	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	831	831	0.04	0.03	3.33	845
Vendor	0.08	0.05	1.65	0.57	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	1,297	1,297	0.02	0.20	3.51	1,360
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.36	0.36	3.96	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	751	751	0.05	0.03	0.09	761
Vendor	0.07	0.05	1.77	0.58	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	1,298	1,298	0.02	0.20	0.09	1,357
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.25	0.22	0.20	2.45	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	466	466	0.03	0.02	0.87	473
Vendor	0.05	0.03	1.04	0.35	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	785	785	0.01	0.12	0.92	822
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.45	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	77.1	77.1	< 0.005	< 0.005	0.14	78.3
Vendor	0.01	0.01	0.19	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	130	130	< 0.005	0.02	0.15	136
Hauling	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	0.00

3.14. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.33	2.38	5.04	0.01	0.09	—	0.09	0.08	—	0.08	—	718	718	0.03	0.01	—	720
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.33	2.38	5.04	0.01	0.09	—	0.09	0.08	—	0.08	—	718	718	0.03	0.01	—	720
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.44	3.05	< 0.005	0.05	—	0.05	0.05	—	0.05	—	435	435	0.02	< 0.005	—	436

Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.26	0.56	< 0.005	0.01	—	0.01	0.01	—	0.01	—	72.0	72.0	< 0.005	< 0.005	—	72.2
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.44	0.41	0.28	5.01	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	831	831	0.04	0.03	3.33	845
Vendor	0.08	0.05	1.65	0.57	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	1,297	1,297	0.02	0.20	3.51	1,360
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.39	0.36	0.36	3.96	0.00	0.00	0.74	0.74	0.00	0.17	0.17	—	751	751	0.05	0.03	0.09	761
Vendor	0.07	0.05	1.77	0.58	0.01	0.02	0.34	0.36	0.02	0.09	0.11	—	1,298	1,298	0.02	0.20	0.09	1,357
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.20	2.45	0.00	0.00	0.44	0.44	0.00	0.10	0.10	—	466	466	0.03	0.02	0.87	473
Vendor	0.05	0.03	1.04	0.35	0.01	0.01	0.21	0.22	0.01	0.06	0.07	—	785	785	0.01	0.12	0.92	822
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.04	0.45	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	77.1	77.1	< 0.005	< 0.005	0.14	78.3
Vendor	0.01	0.01	0.19	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	130	130	< 0.005	0.02	0.15	136
Hauling	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	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	6/1/2024	2/14/2025	5.00	185	—
Site Preparation	Site Preparation	2/16/2025	3/2/2025	5.00	10.0	—
Temporary Utility Lines	Grading	9/23/2024	3/24/2025	5.00	131	—
Grading	Grading	3/3/2025	3/31/2025	5.00	21.0	—

Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Building Construction	1/2/2024	11/5/2024	5.00	221	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Temporary Utility Lines	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Temporary Utility Lines	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	7.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 3	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40

Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Forklifts	Diesel	Tier 4 Final	1.00	8.00	82.0	0.20
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	7.00	84.0	0.37
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	—	—	—	—
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Worker	87.9	11.9	LDA,LDT1,LDT2

Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Vendor	45.0	9.10	HHDT,MHDT
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Hauling	0.00	20.0	HHDT
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Onsite truck	—	—	HHDT
Temporary Utility Lines	—	—	—	—
Temporary Utility Lines	Worker	2.50	11.9	LDA,LDT1,LDT2
Temporary Utility Lines	Vendor	—	9.10	HHDT,MHDT
Temporary Utility Lines	Hauling	0.00	20.0	HHDT
Temporary Utility Lines	Onsite truck	—	—	HHDT
Demolition	—	—	—	—
Demolition	Worker	0.00	11.9	LDA,LDT1,LDT2
Demolition	Vendor	4.00	9.10	HHDT,MHDT
Demolition	Hauling	4.71	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	—	—	—	—
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Worker	87.9	11.9	LDA,LDT1,LDT2
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Vendor	45.0	9.10	HHDT,MHDT
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Hauling	0.00	20.0	HHDT
Temporary RT Construction, Caged Storage Construction, Temporary Trailer Construction	Onsite truck	—	—	HHDT
Temporary Utility Lines	—	—	—	—
Temporary Utility Lines	Worker	2.50	11.9	LDA,LDT1,LDT2
Temporary Utility Lines	Vendor	—	9.10	HHDT,MHDT
Temporary Utility Lines	Hauling	0.00	20.0	HHDT
Temporary Utility Lines	Onsite truck	—	—	HHDT
Demolition	—	—	—	—
Demolition	Worker	0.00	11.9	LDA,LDT1,LDT2
Demolition	Vendor	4.00	9.10	HHDT,MHDT
Demolition	Hauling	4.71	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT

Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Demolition	0.00	0.00	412,115	137,372	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	75,698	—
Site Preparation	—	—	15.0	0.00	—
Temporary Utility Lines	—	—	0.00	0.00	—
Grading	—	—	21.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hospital	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	23.0	annual days of extreme heat
Extreme Precipitation	2.50	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	45.0
AQ-PM	59.1
AQ-DPM	24.6
Drinking Water	41.6
Lead Risk Housing	85.3
Pesticides	0.00
Toxic Releases	36.8
Traffic	36.8
Effect Indicators	—
CleanUp Sites	53.4
Groundwater	85.6
Haz Waste Facilities/Generators	85.0
Impaired Water Bodies	58.7
Solid Waste	0.00

Sensitive Population	—
Asthma	85.9
Cardio-vascular	67.6
Low Birth Weights	69.2
Socioeconomic Factor Indicators	—
Education	64.1
Housing	64.5
Linguistic	35.3
Poverty	69.1
Unemployment	32.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	30.37341204
Employed	18.74759399
Median HI	23.23880405
Education	—
Bachelor's or higher	34.71063775
High school enrollment	100
Preschool enrollment	65.63582702
Transportation	—
Auto Access	34.87745413
Active commuting	39.80495316
Social	—
2-parent households	5.915565251

Voting	38.4832542
Neighborhood	—
Alcohol availability	20.44142179
Park access	33.32477865
Retail density	55.80649301
Supermarket access	37.28987553
Tree canopy	87.52726806
Housing	—
Homeownership	44.41165148
Housing habitability	53.07327088
Low-inc homeowner severe housing cost burden	63.67252663
Low-inc renter severe housing cost burden	27.25522905
Uncrowded housing	50.16040036
Health Outcomes	—
Insured adults	36.50712178
Arthritis	4.6
Asthma ER Admissions	25.6
High Blood Pressure	3.3
Cancer (excluding skin)	22.7
Asthma	12.1
Coronary Heart Disease	4.3
Chronic Obstructive Pulmonary Disease	3.9
Diagnosed Diabetes	19.9
Life Expectancy at Birth	1.4
Cognitively Disabled	26.7
Physically Disabled	29.8
Heart Attack ER Admissions	45.3

Mental Health Not Good	21.9
Chronic Kidney Disease	7.4
Obesity	14.4
Pedestrian Injuries	47.5
Physical Health Not Good	16.1
Stroke	6.5
Health Risk Behaviors	—
Binge Drinking	78.7
Current Smoker	20.2
No Leisure Time for Physical Activity	18.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	50.1
Elderly	30.4
English Speaking	48.2
Foreign-born	24.4
Outdoor Workers	25.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	36.9
Traffic Density	55.1
Traffic Access	0.0
Other Indices	—
Hardship	76.2
Other Decision Support	—
2016 Voting	24.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	27.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Phase 1 involves demolishing existing buildings. 6.31 acres graded after demolition of structures/asphalt.
Construction: Construction Phases	Phase 1 assumed to begin January 2024.
Construction: Off-Road Equipment	Adjusted equipment per applicant input.
Construction: Trips and VMT	Updated trip length to 0.25 miles for construction HRA.

St. Joseph's Medical Center - Construction (Phase 5) - HRA Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	St. Joseph's Medical Center - Construction (Phase 5) - HRA
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	23.4
Location	37.970434669532125, -121.28836929808364
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2040
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Hospital	150	1000sqft	3.44	150,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-10-A	Water Exposed Surfaces

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.68	2.25	17.0	22.3	0.05	0.59	19.7	20.2	0.54	10.1	10.6	—	5,684	5,684	0.23	0.05	< 0.005	5,704
Mit.	0.54	0.54	4.57	31.0	0.05	0.11	7.67	7.77	0.11	3.94	4.05	—	5,684	5,684	0.23	0.05	< 0.005	5,704
% Reduced	80%	76%	73%	-39%	—	82%	61%	62%	80%	61%	62%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.97	0.81	6.94	12.6	0.02	0.14	0.01	0.15	0.13	< 0.005	0.13	—	2,433	2,433	0.10	0.03	< 0.005	2,443
Mit.	0.48	0.43	3.17	15.1	0.02	0.07	0.01	0.08	0.07	< 0.005	0.07	—	2,433	2,433	0.10	0.03	< 0.005	2,443
% Reduced	51%	47%	54%	-20%	—	47%	—	45%	45%	—	44%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.69	0.58	4.91	8.94	0.02	0.10	1.01	1.11	0.09	0.50	0.60	—	1,738	1,738	0.07	0.02	< 0.005	1,745
Mit.	0.34	0.30	2.26	10.8	0.02	0.05	0.40	0.44	0.05	0.20	0.23	—	1,738	1,738	0.07	0.02	< 0.005	1,745
% Reduced	51%	47%	54%	-21%	—	47%	60%	61%	44%	61%	61%	—	—	—	—	—	—	—

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	0.11	0.90	1.63	< 0.005	0.02	0.18	0.20	0.02	0.09	0.11	—	288	288	0.01	< 0.005	< 0.005	289
Mit.	0.06	0.06	0.41	1.97	< 0.005	0.01	0.07	0.08	0.01	0.04	0.04	—	288	288	0.01	< 0.005	< 0.005	289
% Reduced	51%	47%	54%	-21%	—	47%	60%	61%	44%	61%	61%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	2.68	2.25	17.0	22.3	0.05	0.59	19.7	20.2	0.54	10.1	10.6	—	5,684	5,684	0.23	0.05	< 0.005	5,704
2041	0.97	0.81	6.87	12.5	0.02	0.14	0.01	0.14	0.13	< 0.005	0.13	—	2,432	2,432	0.10	0.03	< 0.005	2,442
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	0.97	0.81	6.94	12.6	0.02	0.14	0.01	0.15	0.13	< 0.005	0.13	—	2,433	2,433	0.10	0.03	< 0.005	2,443
2041	0.96	0.80	6.88	12.5	0.02	0.14	0.01	0.14	0.13	< 0.005	0.13	—	2,433	2,433	0.10	0.03	< 0.005	2,443
2042	0.96	0.80	6.84	12.5	0.02	0.13	0.01	0.14	0.12	< 0.005	0.13	—	2,433	2,433	0.10	0.03	< 0.005	2,443
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	0.58	0.48	3.92	6.29	0.01	0.10	1.01	1.11	0.09	0.50	0.60	—	1,320	1,320	0.05	0.01	< 0.005	1,326
2041	0.69	0.58	4.91	8.94	0.02	0.10	< 0.005	0.10	0.09	< 0.005	0.09	—	1,738	1,738	0.07	0.02	< 0.005	1,745
2042	0.04	0.04	0.31	0.56	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	109	109	< 0.005	< 0.005	< 0.005	110
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	0.10	0.09	0.72	1.15	< 0.005	0.02	0.18	0.20	0.02	0.09	0.11	—	219	219	0.01	< 0.005	< 0.005	219
2041	0.13	0.11	0.90	1.63	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	—	288	288	0.01	< 0.005	< 0.005	289
2042	0.01	0.01	0.06	0.10	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.1	18.1	< 0.005	< 0.005	< 0.005	18.2

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	0.54	0.54	4.57	31.0	0.05	0.11	7.67	7.77	0.11	3.94	4.05	—	5,684	5,684	0.23	0.05	< 0.005	5,704
2041	0.48	0.43	3.15	15.1	0.02	0.07	0.01	0.08	0.07	< 0.005	0.07	—	2,432	2,432	0.10	0.03	< 0.005	2,442
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	0.48	0.43	3.17	15.1	0.02	0.07	0.01	0.08	0.07	< 0.005	0.07	—	2,433	2,433	0.10	0.03	< 0.005	2,443
2041	0.48	0.43	3.17	15.1	0.02	0.07	0.01	0.08	0.07	< 0.005	0.07	—	2,433	2,433	0.10	0.03	< 0.005	2,443
2042	0.48	0.43	3.17	15.1	0.02	0.07	0.01	0.08	0.07	< 0.005	0.07	—	2,433	2,433	0.10	0.03	< 0.005	2,443
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	0.21	0.19	1.48	7.86	0.01	0.03	0.40	0.44	0.03	0.20	0.23	—	1,320	1,320	0.05	0.01	< 0.005	1,326
2041	0.34	0.30	2.26	10.8	0.02	0.05	< 0.005	0.06	0.05	< 0.005	0.05	—	1,738	1,738	0.07	0.02	< 0.005	1,745
2042	0.02	0.02	0.14	0.68	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	109	109	< 0.005	< 0.005	< 0.005	110
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2040	0.04	0.03	0.27	1.43	< 0.005	0.01	0.07	0.08	0.01	0.04	0.04	—	219	219	0.01	< 0.005	< 0.005	219
2041	0.06	0.06	0.41	1.97	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	288	288	0.01	< 0.005	< 0.005	289
2042	< 0.005	< 0.005	0.03	0.12	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.1	18.1	< 0.005	< 0.005	< 0.005	18.2

3. Construction Emissions Details

3.1. Demolition (2040) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.85	1.55	12.0	12.9	0.03	0.38	—	0.38	0.35	—	0.35	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.18	0.18	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.66	0.71	< 0.005	0.02	—	0.02	0.02	—	0.02	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	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	0.00
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.73	5.73	< 0.005	< 0.005	< 0.005	6.02
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.19	4.19	< 0.005	< 0.005	< 0.005	4.41
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.24
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04

3.2. Demolition (2040) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.36	4.51	18.2	0.03	0.06	—	0.06	0.06	—	0.06	—	3,426	3,426	0.14	0.03	—	3,438
Demolition	—	—	—	—	—	—	0.18	0.18	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.25	1.00	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	188	188	0.01	< 0.005	—	188
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.1	31.1	< 0.005	< 0.005	—	31.2
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.73	5.73	< 0.005	< 0.005	< 0.005	6.02
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.19	4.19	< 0.005	< 0.005	< 0.005	4.41
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.24

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04

3.3. Site Preparation (2040) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.67	2.25	17.0	22.2	0.05	0.59	—	0.59	0.54	—	0.54	—	5,679	5,679	0.23	0.05	—	5,698
Dust From Material Movemen	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.51	0.67	< 0.005	0.02	—	0.02	0.02	—	0.02	—	171	171	0.01	< 0.005	—	172
Dust From Material Movemen	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.3	28.3	< 0.005	< 0.005	—	28.4
Dust From Material Movemen	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.73	5.73	< 0.005	< 0.005	< 0.005	6.02
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	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	0.00

3.4. Site Preparation (2040) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.53	0.53	2.78	31.0	0.05	0.11	—	0.11	0.11	—	0.11	—	5,679	5,679	0.23	0.05	—	5,698
Dust From Material Movemen	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.08	0.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	171	171	0.01	< 0.005	—	172
Dust From Material Movemen	—	—	—	—	—	—	0.23	0.23	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.3	28.3	< 0.005	< 0.005	—	28.4
Dust From Material Movemen	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.73	5.73	< 0.005	< 0.005	< 0.005	6.02
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.17	0.17	< 0.005	< 0.005	< 0.005	0.18
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.03
Hauling	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	0.00

3.5. Grading (2040) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	8.57	14.4	0.03	0.28	—	0.28	0.26	—	0.26	—	2,959	2,959	0.12	0.02	—	2,969

Dust From Material Movemen	—	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.49	0.83	< 0.005	0.02	—	0.02	0.01	—	0.01	—	170	170	0.01	< 0.005	—	171
Dust From Material Movemen	—	—	—	—	—	—	0.41	0.41	—	0.20	0.20	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.2	28.2	< 0.005	< 0.005	—	28.3
Dust From Material Movemen	—	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.73	5.73	< 0.005	< 0.005	< 0.005	6.02
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.35
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.06
Hauling	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	0.00

3.6. Grading (2040) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.29	2.04	17.8	0.03	0.06	—	0.06	0.06	—	0.06	—	2,959	2,959	0.12	0.02	—	2,969
Dust From Material Movemen	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	1.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	170	170	0.01	< 0.005	—	171
Dust From Material Movemen	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.2	28.2	< 0.005	< 0.005	—	28.3
Dust From Material Movemen	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.73	5.73	< 0.005	< 0.005	< 0.005	6.02
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.35

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.06
Hauling	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	0.00

3.7. Building Construction (2040) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	6.71	12.4	0.02	0.14	—	0.14	0.13	—	0.13	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.96	0.80	6.71	12.4	0.02	0.14	—	0.14	0.13	—	0.13	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.18	4.02	0.01	0.05	—	0.05	0.04	—	0.04	—	779	779	0.03	0.01	—	781
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.05	0.40	0.73	< 0.005	0.01	—	0.01	0.01	—	0.01	—	129	129	0.01	< 0.005	—	129
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.02	0.01	0.22	0.17	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.8	35.8	< 0.005	0.01	< 0.005	37.6
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	0.01	0.24	0.17	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.5	36.5	< 0.005	0.01	< 0.005	38.3
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.07	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	< 0.005	12.3
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.04
Hauling	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	0.00

3.8. Building Construction (2040) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.42	2.93	14.9	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.42	2.93	14.9	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.14	0.95	4.84	0.01	0.02	—	0.02	0.02	—	0.02	—	779	779	0.03	0.01	—	781
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.17	0.88	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	129	129	0.01	< 0.005	—	129
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.02	0.01	0.22	0.17	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.8	35.8	< 0.005	0.01	< 0.005	37.6
Hauling	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	0.01	0.24	0.17	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.5	36.5	< 0.005	0.01	< 0.005	38.3
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.07	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	< 0.005	12.3
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.04
Hauling	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	0.00

3.9. Building Construction (2041) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	6.65	12.3	0.02	0.14	—	0.14	0.13	—	0.13	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.95	0.80	6.65	12.3	0.02	0.14	—	0.14	0.13	—	0.13	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	0.57	4.75	8.81	0.02	0.10	—	0.10	0.09	—	0.09	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.87	1.61	< 0.005	0.02	—	0.02	0.02	—	0.02	—	283	283	0.01	< 0.005	—	284
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.02	0.01	0.22	0.17	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.5	35.5	< 0.005	0.01	< 0.005	37.3
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	0.01	0.23	0.17	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.2	36.2	< 0.005	0.01	< 0.005	38.0
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	0.01	0.16	0.12	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	25.6	25.6	< 0.005	< 0.005	< 0.005	26.9

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.23	4.23	< 0.005	< 0.005	< 0.005	4.45
Hauling	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	0.00

3.10. Building Construction (2041) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.42	2.93	14.9	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.42	2.93	14.9	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.30	2.09	10.6	0.02	0.05	—	0.05	0.05	—	0.05	—	1,712	1,712	0.07	0.01	—	1,718
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.05	0.38	1.94	< 0.005	0.01	—	0.01	0.01	—	0.01	—	283	283	0.01	< 0.005	—	284
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.02	0.01	0.22	0.17	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.5	35.5	< 0.005	0.01	< 0.005	37.3
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	0.01	0.23	0.17	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.2	36.2	< 0.005	0.01	< 0.005	38.0
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	0.01	0.16	0.12	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	25.6	25.6	< 0.005	< 0.005	< 0.005	26.9
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.23	4.23	< 0.005	< 0.005	< 0.005	4.45
Hauling	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	0.00

3.11. Building Construction (2042) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.79	6.60	12.3	0.02	0.13	—	0.13	0.12	—	0.12	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.30	0.55	< 0.005	0.01	—	0.01	0.01	—	0.01	—	108	108	< 0.005	< 0.005	—	108
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.9	17.9	< 0.005	< 0.005	—	17.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	0.01	0.23	0.17	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.0	36.0	< 0.005	0.01	< 0.005	37.7
Hauling	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	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.60	1.60	< 0.005	< 0.005	< 0.005	1.68
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.28
Hauling	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	0.00

3.12. Building Construction (2042) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	0.42	2.93	14.9	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.67	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	108	108	< 0.005	< 0.005	—	108
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.02	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.9	17.9	< 0.005	< 0.005	—	17.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	0.01	0.01	0.23	0.17	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.0	36.0	< 0.005	0.01	< 0.005	37.7
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.60	1.60	< 0.005	< 0.005	< 0.005	1.68
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.28
Hauling	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	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetatio	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	5/7/2040	6/4/2040	5.00	20.0	—
Site Preparation	Site Preparation	6/5/2040	6/19/2040	5.00	11.0	—
Grading	Grading	6/20/2040	7/18/2040	5.00	21.0	—
Building Construction	Building Construction	7/19/2040	1/23/2042	5.00	396	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73

Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Site Preparation	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Final	2.00	8.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Final	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Final	3.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Tier 4 Final	1.00	8.00	36.0	0.38

Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Site Preparation	Bore/Drill Rigs	Diesel	Tier 4 Final	1.00	8.00	83.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	0.00	11.9	LDA,LDT1,LDT2
Demolition	Vendor	4.00	0.25	HHDT,MHDT
Demolition	Hauling	2.00	0.25	HHDT
Demolition	Onsite truck	0.00	0.00	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	0.00	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	0.25	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	0.00	11.9	LDA,LDT1,LDT2
Grading	Vendor	4.00	0.25	HHDT,MHDT

Grading	Hauling	0.00	0.00	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.00	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	25.0	0.25	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	0.00	11.9	LDA,LDT1,LDT2
Demolition	Vendor	4.00	0.25	HHDT,MHDT
Demolition	Hauling	2.00	0.25	HHDT
Demolition	Onsite truck	0.00	0.00	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	0.00	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	4.00	0.25	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	0.00	11.9	LDA,LDT1,LDT2
Grading	Vendor	4.00	0.25	HHDT,MHDT
Grading	Hauling	0.00	0.00	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.00	11.9	LDA,LDT1,LDT2

Building Construction	Vendor	25.0	0.25	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	161	—
Site Preparation	0.00	0.00	16.5	0.00	—
Grading	0.00	0.00	21.0	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hospital	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2040	0.00	204	0.03	< 0.005
2041	0.00	204	0.03	< 0.005
2042	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	23.0	annual days of extreme heat
Extreme Precipitation	2.50	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score

Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	45.0
AQ-PM	59.1
AQ-DPM	24.6
Drinking Water	41.6
Lead Risk Housing	85.3
Pesticides	0.00
Toxic Releases	36.8
Traffic	36.8
Effect Indicators	—
CleanUp Sites	53.4
Groundwater	85.6
Haz Waste Facilities/Generators	85.0
Impaired Water Bodies	58.7
Solid Waste	0.00
Sensitive Population	—
Asthma	85.9
Cardio-vascular	67.6
Low Birth Weights	69.2
Socioeconomic Factor Indicators	—

Education	64.1
Housing	64.5
Linguistic	35.3
Poverty	69.1
Unemployment	32.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	30.37341204
Employed	18.74759399
Median HI	23.23880405
Education	—
Bachelor's or higher	34.71063775
High school enrollment	100
Preschool enrollment	65.63582702
Transportation	—
Auto Access	34.87745413
Active commuting	39.80495316
Social	—
2-parent households	5.915565251
Voting	38.4832542
Neighborhood	—
Alcohol availability	20.44142179
Park access	33.32477865
Retail density	55.80649301

Supermarket access	37.28987553
Tree canopy	87.52726806
Housing	—
Homeownership	44.41165148
Housing habitability	53.07327088
Low-inc homeowner severe housing cost burden	63.67252663
Low-inc renter severe housing cost burden	27.25522905
Uncrowded housing	50.16040036
Health Outcomes	—
Insured adults	36.50712178
Arthritis	4.6
Asthma ER Admissions	25.6
High Blood Pressure	3.3
Cancer (excluding skin)	22.7
Asthma	12.1
Coronary Heart Disease	4.3
Chronic Obstructive Pulmonary Disease	3.9
Diagnosed Diabetes	19.9
Life Expectancy at Birth	1.4
Cognitively Disabled	26.7
Physically Disabled	29.8
Heart Attack ER Admissions	45.3
Mental Health Not Good	21.9
Chronic Kidney Disease	7.4
Obesity	14.4
Pedestrian Injuries	47.5
Physical Health Not Good	16.1

Stroke	6.5
Health Risk Behaviors	—
Binge Drinking	78.7
Current Smoker	20.2
No Leisure Time for Physical Activity	18.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	50.1
Elderly	30.4
English Speaking	48.2
Foreign-born	24.4
Outdoor Workers	25.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	36.9
Traffic Density	55.1
Traffic Access	0.0
Other Indices	—
Hardship	76.2
Other Decision Support	—
2016 Voting	24.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	71.0
Healthy Places Index Score for Project Location (b)	27.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes

Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Phase 5 includes development of 150 KSF expansion to medical center.
Construction: Construction Phases	Phase 5 assumed to begin May 2040.
Construction: Off-Road Equipment	Updated equipment per input from applicant.

SJMC - Emergency Generators and CUP

Operational HRA

Sources	Power Rating (kW)	Power Rating (HP)	Source Type	Stack Height (feet)	Emission Rate (g/s)	Gas Exit Temperature (F)	Stack Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Flow Rate (ft3/min)
Diesel Emergency Generator 1	2000	2681	Point	20	1	752.8	0.61	24.729	15292.8
Diesel Emergency Generator 1	2000	2681	Point	20	1	752.8	0.61	24.729	15292.8
10.5-MMBtu/hr Natural Gas Boiler	N/A	N/A	Point	20	1	200.012	0.3	17.528	2625.2402
10.5-MMBtu/hr Natural Gas Boiler	N/A	N/A	Point	20	1	200.012	0.3	17.528	2625.2402
6.7-MMBtu/hr Natural Gas Heater	N/A	N/A	Point	20	1	200.012	0.3	17.528	2625.2402
6.7-MMBtu/hr Natural Gas Heater	N/A	N/A	Point	20	1	200.012	0.3	17.528	2625.2402

Notes:
Fuel consumption assumes 73% of rated load, similar to CalEEMod assumption

Project Operational Emissions

Pollutant	DPM Emission Factor (g/hp-hr)	Annual Emissions (lb/yr)	Hourly Emissions (lb/hr)
Diesel Emergency Generators	0.02	4.3	0.09

Note: Emission Factors based on EPA final Tier 4 engines

Conversions:

1 ton =	2,000	lb	**Max Assumed Fuel Usage (**	**18**
Operations	50	hours/year		

Boilers and Heaters

Toxic Compound	CAS NO	Emission factor (lb/mmscf)	Annual Emissions (lb/yr)	Hourly Emissions (lb/hr)
Benzene	71432	0.008	0.144	0.000016
Formaldehyde	50000	0.017	0.306	0.000035
PAHs	1151	0.0004	0.007	0.000001
Ammonia	7664417	3.2	57.600	0.006575

Note: Since the boilers are approximately 10 MMBtu/hr and the heaters are approximately 7 MMBtu/hr, the < 10 MMbtu/hr emission factors were selected. Emission Factors from SCAQMD AER.
The PAH value represents a combined default emission factor for toxic compounds within the PAH family.
Ammonia emission factors are for equipment without SNCR or SCR at 3.2 lbs/mmscf

Total Buildout Project TAC Emissions		**Diesel Generators**	**Natural Gas Boilers and He**	**Total**
Toxic Compound	**CAS**	**Annual Emissions (lb/yr)**		
DPM	9901	0.00	0.00	**0.00**
Benzene	71432	0.00	0.14	**0.14**
Formaldehyde	50000	0.00	0.31	**0.31**
PAHs	1151	0.00	0.01	**0.01**
Ammonia	7664417	0.00	57.60	**57.60**

Unmitigated

Receptor	*RecID - 458*
Cancer	*5.81*
Chronic	0.002

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**
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**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.2.0
** Lakes Environmental Software Inc.
** Date: 3/29/2023
** File: C:\Lakes\AERMOD View\SJMC_Op_HRA\SJMC_Op_HRA.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Lakes\AERMOD View\SJMC_Op_HRA\SJMC_Op_HRA.isc
   MODELOPT DFAULT CONC
   AVERTIME 1 24 PERIOD
   URBANOPT 779233 San_Joaquin_County_Population
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL SJMC_Op_HRA.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION STCK1        POINT      650296.578  4204239.184
5.410
** DESCRSRC GEN1
   LOCATION STCK2        POINT      650303.284  4204241.692
5.420
** DESCRSRC GEN2
   LOCATION STCK3        POINT      650348.358  4204101.882
5.600
** DESCRSRC BOIL1
   LOCATION STCK4        POINT      650350.188  4204092.637
5.600
** DESCRSRC BOIL2
   LOCATION STCK5        POINT      650355.815  4204104.441
5.600
** DESCRSRC HEAT1
   LOCATION STCK6        POINT      650357.699  4204094.980
5.610
```

```
** DESCRSRC HEAT2
** Source Parameters **
   SRCPARAM STCK1             1.0     6.096   673.594  24.72900
0.610
   SRCPARAM STCK2             1.0     6.096   673.594  24.72900
0.610
   SRCPARAM STCK3             1.0     6.096   366.490  17.52790
0.300
   SRCPARAM STCK4             1.0     6.096   366.490  17.52790
0.300
   SRCPARAM STCK5             1.0     6.096   366.490  11.18000
0.300
   SRCPARAM STCK6             1.0     6.096   366.490  11.18000
0.300

** Building Downwash **
   BUILDHGT STCK1          35.05    35.05    35.05    35.05
35.05    35.05
   BUILDHGT STCK1          35.05    35.05    35.05    15.24
15.24     7.62
   BUILDHGT STCK1          35.05    35.05    35.05    35.05
35.05    35.05
   BUILDHGT STCK1          35.05    35.05    35.05    35.05
35.05    35.05
   BUILDHGT STCK1          35.05    35.05    35.05    15.24
15.24     7.62
   BUILDHGT STCK1          35.05    35.05    35.05    35.05
35.05    35.05

   BUILDHGT STCK2          35.05    35.05    35.05    35.05
35.05    35.05
   BUILDHGT STCK2          35.05    35.05    15.24    15.24
15.24     7.62
   BUILDHGT STCK2           7.62     7.62     7.62     7.62
35.05    35.05
   BUILDHGT STCK2          35.05    35.05    35.05    35.05
35.05    35.05
   BUILDHGT STCK2          35.05    35.05    15.24    15.24
15.24     7.62
   BUILDHGT STCK2           7.62     7.62     7.62     7.62
35.05    35.05

   BUILDHGT STCK3          18.29    18.29    18.29    18.29
18.29    18.29
   BUILDHGT STCK3          18.29    18.29    18.29    35.05
35.05    35.05
   BUILDHGT STCK3          35.05    35.05    35.05    35.05
18.29    18.29
   BUILDHGT STCK3          18.29    18.29    18.29    18.29
18.29    18.29
   BUILDHGT STCK3          18.29    18.29    18.29    35.05
35.05    35.05
```

```
   BUILDHGT STCK3          35.05    35.05    35.05    35.05
18.29    18.29

   BUILDHGT STCK4          18.29    18.29    18.29    18.29
18.29    18.29
   BUILDHGT STCK4          18.29    18.29    18.29    35.05
35.05    35.05
   BUILDHGT STCK4          35.05    35.05    35.05    35.05
18.29    18.29
   BUILDHGT STCK4          18.29    18.29    18.29    18.29
18.29    18.29
   BUILDHGT STCK4          18.29    18.29    18.29    35.05
35.05    35.05
   BUILDHGT STCK4          35.05    35.05    35.05    35.05
18.29    18.29

   BUILDHGT STCK5          18.29    18.29    18.29    18.29
18.29    18.29
   BUILDHGT STCK5          18.29    18.29    35.05    35.05
35.05    35.05
   BUILDHGT STCK5          35.05    35.05    35.05    18.29
18.29    18.29
   BUILDHGT STCK5          18.29    18.29    18.29    18.29
18.29    18.29
   BUILDHGT STCK5          18.29    18.29    35.05    35.05
35.05    35.05
   BUILDHGT STCK5          35.05    35.05    35.05    18.29
18.29    18.29

   BUILDHGT STCK6          18.29    18.29    18.29    18.29
18.29    18.29
   BUILDHGT STCK6          18.29    18.29    18.29    35.05
35.05    35.05
   BUILDHGT STCK6          35.05    35.05    35.05    18.29
18.29    18.29
   BUILDHGT STCK6          18.29    18.29    18.29    18.29
18.29    18.29
   BUILDHGT STCK6          18.29    18.29    18.29    35.05
35.05    35.05
   BUILDHGT STCK6          35.05    35.05    35.05    18.29
18.29    18.29

   BUILDWID STCK1         115.52   118.45   117.78   113.53
105.83    94.91
   BUILDWID STCK1          81.12    89.52   101.84   136.25
133.86    51.79
   BUILDWID STCK1         117.87   112.96   104.62    93.10
99.33   109.08
   BUILDWID STCK1         115.52   118.45   117.78   113.53
105.83    94.91
   BUILDWID STCK1          81.12    89.52   101.84   136.25
133.86    51.79
```

```
   BUILDWID STCK1          117.87   112.96   104.62    93.10
99.33   109.08

   BUILDWID STCK2          115.52   118.45   117.78   113.53
105.83    94.91
   BUILDWID STCK2           81.12    89.52   134.51   136.25
133.86    51.79
   BUILDWID STCK2           54.66    55.87    55.38    53.21
99.33   109.08
   BUILDWID STCK2          115.52   118.45   117.78   113.53
105.83    94.91
   BUILDWID STCK2           81.12    89.52   134.51   136.25
133.86    51.79
   BUILDWID STCK2           54.66    55.87    55.38   114.56
99.33   109.08

   BUILDWID STCK3          237.23   269.95   294.47   310.03
316.18   312.72
   BUILDWID STCK3          299.76   295.92   301.21   111.06
116.91   119.20
   BUILDWID STCK3          117.87   112.96   104.62    93.10
151.39   197.31
   BUILDWID STCK3          237.23   269.95   294.47   310.03
316.18   312.72
   BUILDWID STCK3          299.76   295.92   301.21   111.06
116.91   119.20
   BUILDWID STCK3          117.87   112.96   104.62    93.10
151.39   197.31

   BUILDWID STCK4          237.23   269.95   294.47   310.03
316.18   312.72
   BUILDWID STCK4          299.76   295.92   301.21   111.06
116.91   119.20
   BUILDWID STCK4          117.87   112.96   104.62    93.10
151.39   197.31
   BUILDWID STCK4          237.23   269.95   294.47   310.03
316.18   312.72
   BUILDWID STCK4          299.76   295.92   301.21   111.06
116.91   119.20
   BUILDWID STCK4          117.87   112.96   104.62    93.10
151.39   197.31

   BUILDWID STCK5          237.23   269.95   294.47   310.03
316.18   312.72
   BUILDWID STCK5          299.76   295.92   101.84   111.06
116.91   119.20
   BUILDWID STCK5          117.87   112.96   104.62   140.74
151.39   197.31
   BUILDWID STCK5          237.23   269.95   294.47   310.03
316.18   312.72
   BUILDWID STCK5          299.76   295.92   101.84   111.06
116.91   119.20
```

BUILDWID STCK5 117.87 112.96 104.62 140.74
151.39 197.31

BUILDWID STCK6 237.23 269.95 294.47 310.03
316.18 312.72
BUILDWID STCK6 299.76 295.92 301.21 111.06
116.91 119.20
BUILDWID STCK6 117.87 112.96 104.62 140.74
151.39 197.31
BUILDWID STCK6 237.23 269.95 294.47 310.03
316.18 312.72
BUILDWID STCK6 299.76 295.92 301.21 111.06
116.91 119.20
BUILDWID STCK6 117.87 112.96 104.62 140.74
151.39 197.31

BUILDLEN STCK1 111.06 116.91 119.20 117.87
112.96 104.62
BUILDLEN STCK1 93.10 99.33 109.08 130.71
140.12 49.55
BUILDLEN STCK1 113.53 105.83 94.91 81.12
89.52 101.84
BUILDLEN STCK1 111.06 116.91 119.20 117.87
112.96 104.62
BUILDLEN STCK1 93.10 99.33 109.08 130.71
140.12 49.55
BUILDLEN STCK1 113.53 105.83 94.91 81.12
89.52 101.84

BUILDLEN STCK2 111.06 116.91 119.20 117.87
112.96 104.62
BUILDLEN STCK2 93.10 99.33 117.32 130.71
140.12 49.55
BUILDLEN STCK2 44.11 37.33 29.42 20.61
89.52 101.84
BUILDLEN STCK2 111.06 116.91 119.20 117.87
112.96 104.62
BUILDLEN STCK2 93.10 99.33 117.32 130.71
140.12 49.55
BUILDLEN STCK2 44.11 37.33 29.42 44.99
89.52 101.84

BUILDLEN STCK3 297.35 284.45 262.92 233.39
196.77 159.76
BUILDLEN STCK3 140.74 151.39 197.31 115.52
118.45 117.78
BUILDLEN STCK3 113.53 105.83 94.91 81.12
295.92 301.21
BUILDLEN STCK3 297.35 284.45 262.92 233.39
196.77 159.76
BUILDLEN STCK3 140.74 151.39 197.31 115.52
118.45 117.78

```
   BUILDLEN STCK3          113.53   105.83    94.91    81.12
295.92   301.21

   BUILDLEN STCK4          297.35   284.45   262.92   233.39
196.77   159.76
   BUILDLEN STCK4          140.74   151.39   197.31   115.52
118.45   117.78
   BUILDLEN STCK4          113.53   105.83    94.91    81.12
295.92   301.21
   BUILDLEN STCK4          297.35   284.45   262.92   233.39
196.77   159.76
   BUILDLEN STCK4          140.74   151.39   197.31   115.52
118.45   117.78
   BUILDLEN STCK4          113.53   105.83    94.91    81.12
295.92   301.21

   BUILDLEN STCK5          297.35   284.45   262.92   233.39
196.77   159.76
   BUILDLEN STCK5          140.74   151.39   109.08   115.52
118.45   117.78
   BUILDLEN STCK5          113.53   105.83    94.91   299.76
295.92   301.21
   BUILDLEN STCK5          297.35   284.45   262.92   233.39
196.77   159.76
   BUILDLEN STCK5          140.74   151.39   109.08   115.52
118.45   117.78
   BUILDLEN STCK5          113.53   105.83    94.91   299.76
295.92   301.21

   BUILDLEN STCK6          297.35   284.45   262.92   233.39
196.77   159.76
   BUILDLEN STCK6          140.74   151.39   197.31   115.52
118.45   117.78
   BUILDLEN STCK6          113.53   105.83    94.91   299.76
295.92   301.21
   BUILDLEN STCK6          297.35   284.45   262.92   233.39
196.77   159.76
   BUILDLEN STCK6          140.74   151.39   197.31   115.52
118.45   117.78
   BUILDLEN STCK6          113.53   105.83    94.91   299.76
295.92   301.21

   XBADJ
STCK1         -128.89  -135.17  -137.34  -135.34  -129.23  -119.2
0
   XBADJ
STCK1         -105.54   -98.15   -91.74   -97.73   -92.52   -50.1
3
   XBADJ    STCK1          -41.40   -24.56    -6.97    10.83
15.36    16.85
   XBADJ    STCK1           17.83    18.26    18.14    17.47
16.27    14.57
```

```
   XBADJ    STCK1
12.43    -1.18   -17.34   -32.97   -47.60     0.58
   XBADJ
STCK1          -72.12   -81.27   -87.95   -91.95  -104.89  -118.6
9

   XBADJ
STCK2         -132.52  -139.82  -142.87  -141.57  -135.98  -126.2
5
   XBADJ
STCK2         -112.69  -105.18  -106.68  -103.90   -97.95   -54.6
8
   XBADJ    STCK2          -52.45   -48.62   -43.32   -36.71
16.67    19.36
   XBADJ    STCK2           21.46    22.91    23.67    23.70
23.02    21.63
   XBADJ    STCK2           19.59
5.85   -10.64   -26.81   -42.17     5.13
   XBADJ    STCK2            8.34    11.29
13.90    -8.28  -106.19  -121.20

   XBADJ
STCK3         -295.63  -285.82  -267.33  -240.71  -206.78  -166.5
6
   XBADJ
STCK3         -122.08  -104.92  -102.78  -157.38  -166.46  -170.4
8
   XBADJ
STCK3         -169.32  -163.02  -151.76  -135.90    -7.64    -4.7
5
   XBADJ    STCK3           -1.72     1.37     4.41     7.32
10.01     6.80
   XBADJ    STCK3          -18.66   -46.47   -94.53    41.86
48.01    52.71
   XBADJ    STCK3           55.80    57.19    56.85
54.78  -288.28  -296.46

   XBADJ
STCK4         -286.85  -277.76  -260.24  -234.81  -202.24  -163.5
3
   XBADJ
STCK4         -120.64  -105.12  -104.61  -160.79  -171.34  -176.6
9
   XBADJ
STCK4         -176.66  -171.27  -160.68  -145.20   -17.06   -13.9
9
   XBADJ    STCK4          -10.50    -6.69    -2.68     1.42
5.47     3.77
   XBADJ    STCK4          -20.10   -46.27   -92.70    45.27
52.89    58.91
   XBADJ    STCK4           63.14    65.45    65.77
64.09  -278.86  -287.22
```

```
   XBADJ
STCK5         -299.45  -290.78  -273.27  -247.46  -214.13  -174.3
0
   XBADJ
STCK5         -129.95  -112.71  -150.97  -164.27  -172.59  -175.6
5
   XBADJ
STCK5         -173.38  -165.85  -153.27   -15.24    -6.41    -2.1
9
   XBADJ    STCK5           2.10     6.32    10.35    14.07
17.36    14.54
   XBADJ    STCK5         -10.79   -38.68    41.89    48.76
54.14    57.88
   XBADJ    STCK5          59.86    60.02
58.36  -284.52  -289.51  -299.02

   XBADJ
STCK6         -290.46  -282.53  -266.02  -241.43  -209.50  -171.2
0
   XBADJ
STCK6         -128.49  -112.92  -112.12  -167.78  -177.60  -182.0
2
   XBADJ
STCK6         -180.91  -174.31  -162.41   -24.78   -16.06   -11.6
5
   XBADJ    STCK6          -6.89    -1.92     3.11     8.04
12.73    11.44
   XBADJ    STCK6         -12.25   -38.47   -85.19    52.26
59.15    64.24
   XBADJ    STCK6          67.39    68.48
67.49  -274.98  -279.86  -289.56

   YBADJ    STCK1          24.79
11.62    -1.90   -15.36   -28.36   -40.49
   YBADJ
STCK1          -51.39   -60.12   -67.77   -60.76   -68.24
11.02
   YBADJ
STCK1          -76.41   -72.75   -66.88   -58.99   -48.48   -37.2
0
   YBADJ    STCK1         -24.79   -11.62     1.90    15.36
28.36    40.49
   YBADJ    STCK1          51.39    60.12    67.77    60.76
68.24   -11.02
   YBADJ    STCK1          76.41    72.75    66.88    58.99
48.48    37.20

   YBADJ    STCK2          30.95    17.06
2.65   -11.84   -25.97   -39.31
   YBADJ
STCK2          -51.46   -61.43   -53.95   -64.40   -72.89
```

```
5.50
   YBADJ    STCK2
0.18    -5.14   -10.31   -15.16   -55.52   -43.90
   YBADJ    STCK2          -30.95   -17.06    -2.65    11.84
25.97    39.31
   YBADJ    STCK2           51.46    61.43    53.95    64.40
72.89    -5.50
   YBADJ    STCK2           -0.18     5.14    10.31    45.84
55.52    43.90

   YBADJ
STCK3          -21.10   -45.69   -68.89   -90.00  -108.37  -123.4
5
   YBADJ    STCK3         -134.78  -140.32  -145.86    52.87
34.59    15.27
   YBADJ
STCK3           -4.51   -24.16   -43.08   -60.68   -29.23    -4.1
2
   YBADJ    STCK3           21.10    45.69    68.89    90.00
108.37   123.45
   YBADJ    STCK3          134.78   140.32
145.86   -52.87   -34.59   -15.27
   YBADJ    STCK3            4.51    24.16    43.08    60.68
29.23     4.12

   YBADJ
STCK4          -17.70   -40.81   -62.69   -82.66  -100.12  -114.5
3
   YBADJ    STCK4         -125.47  -130.90  -136.62    61.65
42.65    22.36
   YBADJ    STCK4
1.39   -19.63   -40.04   -59.24   -29.43    -5.95
   YBADJ    STCK4           17.70    40.81    62.69    82.66
100.12   114.53
   YBADJ    STCK4          125.47   130.90
136.62   -61.65   -42.65   -22.36
   YBADJ    STCK4           -1.39    19.63    40.04    59.24
29.43     5.95

   YBADJ
STCK5          -14.21   -39.57   -63.72   -85.94  -105.54  -121.9
4
   YBADJ    STCK5         -134.64  -141.55    66.97    49.05
29.64     9.33
   YBADJ
STCK5          -11.26   -31.52   -50.81   -59.58   -37.01   -11.5
7
   YBADJ    STCK5           14.21    39.57    63.72    85.94
105.54   121.94
   YBADJ    STCK5          134.64
141.55   -66.97   -49.05   -29.64    -9.33
   YBADJ    STCK5           11.26    31.52    50.81    59.58
```

```
37.01    11.57

   YBADJ
STCK6          -10.71   -34.56   -57.35   -78.41   -97.08  -112.8
0
   YBADJ    STCK6         -125.10  -131.90  -138.96    58.04
37.88    16.58
   YBADJ
STCK6           -5.23   -26.88   -47.72   -58.12   -37.23   -13.4
6
   YBADJ    STCK6           10.71    34.56    57.35    78.41
97.08   112.81
   YBADJ    STCK6          125.10   131.90
138.96   -58.04   -37.88   -16.58
   YBADJ    STCK6            5.23    26.88    47.72    58.12
37.23    13.46

   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
   INCLUDED SJMC_Op_HRA.rou
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE "P:\300.Environmental\13355 St. Joseph's Hospital
\13355.02 - EIR - Dignity Health\DUDEK WORK PRODUCTS\DOCUMENTS
\Dudek Tech Reports\AQ\HRAs\Met Data\Stockton_2013-2017.SFC"
   PROFFILE "P:\300.Environmental\13355 St. Joseph's Hospital
\13355.02 - EIR - Dignity Health\DUDEK WORK PRODUCTS\DOCUMENTS
\Dudek Tech Reports\AQ\HRAs\Met Data\Stockton_2013-2017.PFL"
   SURFDATA 23237 2013
   UAIRDATA 23230 2013 OAKLAND/WSO_AP
   PROFBASE 6.71 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
```

```
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
   RECTABLE 24 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST SJMC_Op_HRA.AD\01H1GALL.PLT 31
   PLOTFILE 24 ALL 1ST SJMC_Op_HRA.AD\24H1GALL.PLT 32
   PLOTFILE PERIOD ALL SJMC_Op_HRA.AD\PE00GALL.PLT 33
   SUMMFILE SJMC_Op_HRA.sum
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 ME W186     291       MEOPEN: THRESH_1MIN 1-min ASOS wind speed
threshold used          0.50
 ME W187     291       MEOPEN: ADJ_U* Option for Stable Low Winds
used in AERMET

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************
```

```
 *** AERMOD - VERSION 21112  ***   *** C:\Lakes\AERMOD View
\SJMC_Op_HRA\SJMC_Op_HRA.isc                      ***
03/29/23
 *** AERMET - VERSION  18081 ***   ***
***        00:56:40

PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                              ***     MODEL SETUP
OPTIONS SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration
Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for     6
Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =    779233.0 ;  Urban Roughness Length =
1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
        ADJ_U*   - Use ADJ_U* option for SBL in AERMET
        CCVR_Sub - Meteorological data includes CCVR
substitutions
        TEMP_Sub - Meteorological data includes TEMP
substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM_10

 **Model Calculates  2 Short Term Average(s) of:   1-HR  24-HR
    and Calculates PERIOD Averages

 **This Run Includes:      6 Source(s);       1 Source Group(s);
```

```
and     860 Receptor(s)

                with:      6 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:      0 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total
of     0 line(s)


 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  18081

 **Output Options Selected:
          Model Outputs Tables of PERIOD Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by
Receptor (RECTABLE Keyword)
          Model Outputs External File(s) of High Values for
Plotting (PLOTFILE Keyword)
          Model Outputs Separate Summary File of High Ranked
Values (SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:
c for Calm Hours

m for Missing Hours

b for Both Calm and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =
6.71 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units =
GRAMS/SEC                                  ;  Emission Rate Unit
Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.6 MB of
RAM.

 **Input Runstream File:          aermod.inp
 **Output Print File:             aermod.out

 **Detailed Error/Message File:   SJMC_Op_HRA.err
 **File for Summary of Results:   SJMC_Op_HRA.sum
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** POINT SOURCE DATA ***

STACK ID	STACK SOURCE ID	NUMBER EMISSION RATE PART. CATS.	STACK (GRAMS/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR	BASE EMIS RATE SCALAR VARY BY
					X (METERS)	Y (METERS)	ELEV. (METERS)	
HEIGHT (METERS)	TEMP. (DEG.K)	EXIT VEL. (M/SEC)						
STCK1		0	0.10000E+01		650296.6	4204239.2		5.4
6.10	673.59	24.73	0.61		YES	YES	NO	
STCK2		0	0.10000E+01		650303.3	4204241.7		5.4
6.10	673.59	24.73	0.61		YES	YES	NO	
STCK3		0	0.10000E+01		650348.4	4204101.9		5.6
6.10	366.49	17.53	0.30		YES	YES	NO	
STCK4		0	0.10000E+01		650350.2	4204092.6		5.6
6.10	366.49	17.53	0.30		YES	YES	NO	
STCK5		0	0.10000E+01		650355.8	4204104.4		5.6
6.10	366.49	11.18	0.30		YES	YES	NO	
STCK6		0	0.10000E+01		650357.7	4204095.0		5.6
6.10	366.49	11.18	0.30		YES	YES	NO	

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                          *** SOURCE IDs
DEFINING SOURCE GROUPS ***

 SRCGROUP ID   SOURCE
IDs
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  ALL   STCK1   , STCK2   , STCK3   ,
STCK4   , STCK5   , STCK6   ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
779233.	STCK1 , STCK2 , STCK3 , STCK4 , STCK5 , STCK6 ,	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STCK1

IFV	BH	BW	BL	XADJ	YADJ	IFV	BH	BW	BL	XADJ	YADJ
1	35.0,	115.5,	111.1,	-128.9,	24.8,	2	35.0,	118.5,	116.9,	-135.2,	11.6,
3	35.0,	117.8,	119.2,	-137.3,	-1.9,	4	35.0,	113.5,	117.9,	-135.3,	-15.4,
5	35.0,	105.8,	113.0,	-129.2,	-28.4,	6	35.0,	94.9,	104.6,	-119.2,	-40.5,
7	35.0,	81.1,	93.1,	-105.5,	-51.4,	8	35.0,	89.5,	99.3,	-98.1,	-60.1,
9	35.0,	101.8,	109.1,	-91.7,	-67.8,	10	15.2,	136.2,	130.7,	-97.7,	-60.8,
11	15.2,	133.9,	140.1,	-92.5,	-68.2,	12	7.6,	51.8,	49.5,	-50.1,	11.0,
13	35.0,	117.9,	113.5,	-41.4,	-76.4,	14	35.0,	113.0,	105.8,	-24.6,	-72.8,
15	35.0,	104.6,	94.9,	-7.0,	-66.9,	16	35.0,	93.1,	81.1,	10.8,	-59.0,
17	35.0,	99.3,	89.5,	15.4,	-48.5,	18	35.0,	109.1,	101.8,	16.9,	-37.2,
19	35.0,	115.5,	111.1,	17.8,	-24.8,	20	35.0,	118.5,	116.9,	18.3,	-11.6,
21	35.0,	117.8,	119.2,	18.1,	1.9,	22	35.0,	113.5,	117.9,	17.5,	15.4,
23	35.0,	105.8,	113.0,	16.3,	28.4,	24	35.0,	94.9,	104.6,	14.6,	40.5,
25	35.0,	81.1,	93.1,	12.4,	51.4,	26	35.0,	89.5,	99.3,	-1.2,	60.1,
27	35.0,	101.8,	109.1,	-17.3,	67.8,	28	15.2,	136.2,	130.7,	-33.0,	60.8,
29	15.2,	133.9,	140.1,	-47.6,	68.2,	30	7.6,	51.8,	49.5,	0.6,	-11.0,
31	35.0,	117.9,	113.5,	-72.1,	76.4,	32	35.0,	113.0,	105.8,	-81.3,	72.8,
33	35.0,	104.6,	94.9,	-88.0,	66.9,	34	35.0,	93.1,	81.1,	-92.0,	59.0,
35	35.0,	99.3,	89.5,	-104.9,	48.5,	36	35.0,	109.1,	101.8,	-118.7,	37.2,

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 SOURCE ID: STCK2
  IFV    BH      BW      BL     XADJ    YADJ     IFV    BH
BW      BL     XADJ    YADJ
    1   35.0,  115.5,  111.1, -132.5,   30.9,      2   35.0,
118.5,  116.9, -139.8,   17.1,
    3   35.0,  117.8,  119.2, -142.9,    2.6,      4   35.0,
113.5,  117.9, -141.6,  -11.8,
    5   35.0,  105.8,  113.0, -136.0,  -26.0,      6   35.0,
94.9,  104.6, -126.2,  -39.3,
    7   35.0,   81.1,   93.1, -112.7,  -51.5,      8   35.0,
89.5,   99.3, -105.2,  -61.4,
    9   15.2,  134.5,  117.3, -106.7,  -53.9,     10   15.2,
136.2,  130.7, -103.9,  -64.4,
   11   15.2,  133.9,  140.1,  -98.0,  -72.9,     12    7.6,
51.8,   49.5,  -54.7,    5.5,
   13    7.6,   54.7,   44.1,  -52.4,    0.2,     14    7.6,
55.9,   37.3,  -48.6,   -5.1,
   15    7.6,   55.4,   29.4,  -43.3,  -10.3,     16    7.6,
53.2,   20.6,  -36.7,  -15.2,
   17   35.0,   99.3,   89.5,   16.7,  -55.5,     18   35.0,
109.1,  101.8,   19.4,  -43.9,
   19   35.0,  115.5,  111.1,   21.5,  -30.9,     20   35.0,
118.5,  116.9,   22.9,  -17.1,
   21   35.0,  117.8,  119.2,   23.7,   -2.6,     22   35.0,
113.5,  117.9,   23.7,   11.8,
   23   35.0,  105.8,  113.0,   23.0,   26.0,     24   35.0,
94.9,  104.6,   21.6,   39.3,
   25   35.0,   81.1,   93.1,   19.6,   51.5,     26   35.0,
89.5,   99.3,    5.8,   61.4,
   27   15.2,  134.5,  117.3,  -10.6,   53.9,     28   15.2,
136.2,  130.7,  -26.8,   64.4,
   29   15.2,  133.9,  140.1,  -42.2,   72.9,     30    7.6,
51.8,   49.5,    5.1,   -5.5,
   31    7.6,   54.7,   44.1,    8.3,   -0.2,     32    7.6,
55.9,   37.3,   11.3,    5.1,
   33    7.6,   55.4,   29.4,   13.9,   10.3,     34    7.6,
114.6,   45.0,   -8.3,   45.8,
   35   35.0,   99.3,   89.5, -106.2,   55.5,     36   35.0,
109.1,  101.8, -121.2,   43.9,


 SOURCE ID: STCK3
  IFV    BH      BW      BL     XADJ    YADJ     IFV    BH
BW      BL     XADJ    YADJ
    1   18.3,  237.2,  297.4, -295.6,  -21.1,      2   18.3,
269.9,  284.4, -285.8,  -45.7,
    3   18.3,  294.5,  262.9, -267.3,  -68.9,      4   18.3,
310.0,  233.4, -240.7,  -90.0,
    5   18.3,  316.2,  196.8, -206.8, -108.4,      6   18.3,
312.7,  159.8, -166.6, -123.5,
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    7   18.3,  299.8,  140.7, -122.1, -134.8,      8   18.3,
295.9,  151.4, -104.9, -140.3,
    9   18.3,  301.2,  197.3, -102.8, -145.9,     10   35.0,
111.1,  115.5, -157.4,   52.9,
   11   35.0,  116.9,  118.5, -166.5,   34.6,     12   35.0,
119.2,  117.8, -170.5,   15.3,
   13   35.0,  117.9,  113.5, -169.3,   -4.5,     14   35.0,
113.0,  105.8, -163.0,  -24.2,
   15   35.0,  104.6,   94.9, -151.8,  -43.1,     16   35.0,
93.1,   81.1, -135.9,  -60.7,
   17   18.3,  151.4,  295.9,   -7.6,  -29.2,     18   18.3,
197.3,  301.2,   -4.8,   -4.1,
   19   18.3,  237.2,  297.4,   -1.7,   21.1,     20   18.3,
269.9,  284.4,    1.4,   45.7,
   21   18.3,  294.5,  262.9,    4.4,   68.9,     22   18.3,
310.0,  233.4,    7.3,   90.0,
   23   18.3,  316.2,  196.8,   10.0,  108.4,     24   18.3,
312.7,  159.8,    6.8,  123.5,
   25   18.3,  299.8,  140.7,  -18.7,  134.8,     26   18.3,
295.9,  151.4,  -46.5,  140.3,
   27   18.3,  301.2,  197.3,  -94.5,  145.9,     28   35.0,
111.1,  115.5,   41.9,  -52.9,
   29   35.0,  116.9,  118.5,   48.0,  -34.6,     30   35.0,
119.2,  117.8,   52.7,  -15.3,
   31   35.0,  117.9,  113.5,   55.8,    4.5,     32   35.0,
113.0,  105.8,   57.2,   24.2,
   33   35.0,  104.6,   94.9,   56.8,   43.1,     34   35.0,
93.1,   81.1,   54.8,   60.7,
   35   18.3,  151.4,  295.9, -288.3,   29.2,     36   18.3,
197.3,  301.2, -296.5,    4.1,


 SOURCE ID: STCK4
  IFV    BH      BW      BL     XADJ    YADJ     IFV    BH
BW      BL     XADJ    YADJ
    1   18.3,  237.2,  297.4, -286.9,  -17.7,      2   18.3,
269.9,  284.4, -277.8,  -40.8,
    3   18.3,  294.5,  262.9, -260.2,  -62.7,      4   18.3,
310.0,  233.4, -234.8,  -82.7,
    5   18.3,  316.2,  196.8, -202.2, -100.1,      6   18.3,
312.7,  159.8, -163.5, -114.5,
    7   18.3,  299.8,  140.7, -120.6, -125.5,      8   18.3,
295.9,  151.4, -105.1, -130.9,
    9   18.3,  301.2,  197.3, -104.6, -136.6,     10   35.0,
111.1,  115.5, -160.8,   61.6,
   11   35.0,  116.9,  118.5, -171.3,   42.6,     12   35.0,
119.2,  117.8, -176.7,   22.4,
   13   35.0,  117.9,  113.5, -176.7,    1.4,     14   35.0,
113.0,  105.8, -171.3,  -19.6,
   15   35.0,  104.6,   94.9, -160.7,  -40.0,     16   35.0,
93.1,   81.1, -145.2,  -59.2,
   17   18.3,  151.4,  295.9,  -17.1,  -29.4,     18   18.3,
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197.3,  301.2,  -14.0,   -6.0,
   19   18.3,  237.2,  297.4,  -10.5,   17.7,     20   18.3,
269.9,  284.4,   -6.7,   40.8,
   21   18.3,  294.5,  262.9,   -2.7,   62.7,     22   18.3,
310.0,  233.4,    1.4,   82.7,
   23   18.3,  316.2,  196.8,    5.5,  100.1,     24   18.3,
312.7,  159.8,    3.8,  114.5,
   25   18.3,  299.8,  140.7,  -20.1,  125.5,     26   18.3,
295.9,  151.4,  -46.3,  130.9,
   27   18.3,  301.2,  197.3,  -92.7,  136.6,     28   35.0,
111.1,  115.5,   45.3,  -61.6,
   29   35.0,  116.9,  118.5,   52.9,  -42.6,     30   35.0,
119.2,  117.8,   58.9,  -22.4,
   31   35.0,  117.9,  113.5,   63.1,   -1.4,     32   35.0,
113.0,  105.8,   65.5,   19.6,
   33   35.0,  104.6,   94.9,   65.8,   40.0,     34   35.0,
93.1,   81.1,   64.1,   59.2,
   35   18.3,  151.4,  295.9, -278.9,   29.4,     36   18.3,
197.3,  301.2, -287.2,    6.0,
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STCK5

IFV	BH	BW	BL	XADJ	YADJ	IFV	BH
BW	BL	XADJ	YADJ				
1	18.3,	237.2,	297.4,	-299.4,	-14.2,	2	18.3,
269.9,	284.4,	-290.8,	-39.6,				
3	18.3,	294.5,	262.9,	-273.3,	-63.7,	4	18.3,
310.0,	233.4,	-247.5,	-85.9,				
5	18.3,	316.2,	196.8,	-214.1,	-105.5,	6	18.3,
312.7,	159.8,	-174.3,	-121.9,				
7	18.3,	299.8,	140.7,	-130.0,	-134.6,	8	18.3,
295.9,	151.4,	-112.7,	-141.6,				
9	35.0,	101.8,	109.1,	-151.0,	67.0,	10	35.0,
111.1,	115.5,	-164.3,	49.0,				
11	35.0,	116.9,	118.5,	-172.6,	29.6,	12	35.0,
119.2,	117.8,	-175.7,	9.3,				
13	35.0,	117.9,	113.5,	-173.4,	-11.3,	14	35.0,
113.0,	105.8,	-165.9,	-31.5,				
15	35.0,	104.6,	94.9,	-153.3,	-50.8,	16	18.3,
140.7,	299.8,	-15.2,	-59.6,				
17	18.3,	151.4,	295.9,	-6.4,	-37.0,	18	18.3,
197.3,	301.2,	-2.2,	-11.6,				
19	18.3,	237.2,	297.4,	2.1,	14.2,	20	18.3,
269.9,	284.4,	6.3,	39.6,				
21	18.3,	294.5,	262.9,	10.4,	63.7,	22	18.3,
310.0,	233.4,	14.1,	85.9,				
23	18.3,	316.2,	196.8,	17.4,	105.5,	24	18.3,
312.7,	159.8,	14.5,	121.9,				
25	18.3,	299.8,	140.7,	-10.8,	134.6,	26	18.3,
295.9,	151.4,	-38.7,	141.6,				
27	35.0,	101.8,	109.1,	41.9,	-67.0,	28	35.0,
111.1,	115.5,	48.8,	-49.0,				
29	35.0,	116.9,	118.5,	54.1,	-29.6,	30	35.0,
119.2,	117.8,	57.9,	-9.3,				
31	35.0,	117.9,	113.5,	59.9,	11.3,	32	35.0,
113.0,	105.8,	60.0,	31.5,				
33	35.0,	104.6,	94.9,	58.4,	50.8,	34	18.3,
140.7,	299.8,	-284.5,	59.6,				
35	18.3,	151.4,	295.9,	-289.5,	37.0,	36	18.3,
197.3,	301.2,	-299.0,	11.6,				

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 SOURCE ID: STCK6
  IFV    BH      BW      BL     XADJ    YADJ     IFV    BH
BW      BL     XADJ    YADJ
    1   18.3,  237.2,  297.4, -290.5,  -10.7,      2   18.3,
269.9,  284.4, -282.5,  -34.6,
    3   18.3,  294.5,  262.9, -266.0,  -57.3,      4   18.3,
310.0,  233.4, -241.4,  -78.4,
    5   18.3,  316.2,  196.8, -209.5,  -97.1,      6   18.3,
312.7,  159.8, -171.2, -112.8,
    7   18.3,  299.8,  140.7, -128.5, -125.1,      8   18.3,
295.9,  151.4, -112.9, -131.9,
    9   18.3,  301.2,  197.3, -112.1, -139.0,     10   35.0,
111.1,  115.5, -167.8,   58.0,
   11   35.0,  116.9,  118.5, -177.6,   37.9,     12   35.0,
119.2,  117.8, -182.0,   16.6,
   13   35.0,  117.9,  113.5, -180.9,   -5.2,     14   35.0,
113.0,  105.8, -174.3,  -26.9,
   15   35.0,  104.6,   94.9, -162.4,  -47.7,     16   18.3,
140.7,  299.8,  -24.8,  -58.1,
   17   18.3,  151.4,  295.9,  -16.1,  -37.2,     18   18.3,
197.3,  301.2,  -11.7,  -13.5,
   19   18.3,  237.2,  297.4,   -6.9,   10.7,     20   18.3,
269.9,  284.4,   -1.9,   34.6,
   21   18.3,  294.5,  262.9,    3.1,   57.3,     22   18.3,
310.0,  233.4,    8.0,   78.4,
   23   18.3,  316.2,  196.8,   12.7,   97.1,     24   18.3,
312.7,  159.8,   11.4,  112.8,
   25   18.3,  299.8,  140.7,  -12.2,  125.1,     26   18.3,
295.9,  151.4,  -38.5,  131.9,
   27   18.3,  301.2,  197.3,  -85.2,  139.0,     28   35.0,
111.1,  115.5,   52.3,  -58.0,
   29   35.0,  116.9,  118.5,   59.1,  -37.9,     30   35.0,
119.2,  117.8,   64.2,  -16.6,
   31   35.0,  117.9,  113.5,   67.4,    5.2,     32   35.0,
113.0,  105.8,   68.5,   26.9,
   33   35.0,  104.6,   94.9,   67.5,   47.7,     34   18.3,
140.7,  299.8, -275.0,   58.1,
   35   18.3,  151.4,  295.9, -279.9,   37.2,     36   18.3,
197.3,  301.2, -289.6,   13.5,
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 649898.4, 4203525.6,       4.9,       4.9,       0.0);
( 649918.4, 4203525.6,       5.0,       5.0,       0.0);
     ( 650043.9, 4203518.2,       5.2,       5.2,       0.0);
( 650063.9, 4203518.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4203518.2,       5.3,       5.3,       0.0);
( 650103.9, 4203518.2,       5.3,       5.3,       0.0);
     ( 650143.9, 4203518.2,       5.4,       5.4,       0.0);
( 650163.9, 4203518.2,       5.4,       5.4,       0.0);
     ( 650183.9, 4203518.2,       5.5,       5.5,       0.0);
( 650203.9, 4203518.2,       5.5,       5.5,       0.0);
     ( 650223.9, 4203518.2,       5.5,       5.5,       0.0);
( 650243.9, 4203518.2,       5.6,       5.6,       0.0);
     ( 650263.9, 4203518.2,       5.8,       5.8,       0.0);
( 650283.9, 4203518.2,       5.9,       5.9,       0.0);
     ( 650303.9, 4203518.2,       6.1,       6.1,       0.0);
( 650323.9, 4203518.2,       6.2,       6.2,       0.0);
     ( 650383.9, 4203518.2,       6.5,       6.5,       0.0);
( 650403.9, 4203518.2,       6.5,       6.5,       0.0);
     ( 650423.9, 4203518.2,       6.5,       6.5,       0.0);
( 650443.9, 4203518.2,       6.6,       6.6,       0.0);
     ( 650463.9, 4203518.2,       6.6,       6.6,       0.0);
( 650663.9, 4203518.2,       6.6,       6.6,       0.0);
     ( 650683.9, 4203518.2,       6.7,       6.7,       0.0);
( 650043.9, 4203538.2,       5.2,       5.2,       0.0);
     ( 650063.9, 4203538.2,       5.2,       5.2,       0.0);
( 650083.9, 4203538.2,       5.2,       5.2,       0.0);
     ( 650103.9, 4203538.2,       5.3,       5.3,       0.0);
( 650143.9, 4203538.2,       5.3,       5.3,       0.0);
     ( 650163.9, 4203538.2,       5.4,       5.4,       0.0);
( 650183.9, 4203538.2,       5.4,       5.4,       0.0);
     ( 650203.9, 4203538.2,       5.5,       5.5,       0.0);
( 650223.9, 4203538.2,       5.5,       5.5,       0.0);
     ( 650243.9, 4203538.2,       5.6,       5.6,       0.0);
( 650263.9, 4203538.2,       5.7,       5.7,       0.0);
     ( 650283.9, 4203538.2,       5.9,       5.9,       0.0);
( 650303.9, 4203538.2,       6.1,       6.1,       0.0);
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     ( 650323.9, 4203538.2,       6.2,       6.2,       0.0);
( 650383.9, 4203538.2,       6.5,       6.5,       0.0);
     ( 650403.9, 4203538.2,       6.5,       6.5,       0.0);
( 650423.9, 4203538.2,       6.6,       6.6,       0.0);
     ( 650443.9, 4203538.2,       6.6,       6.6,       0.0);
( 650463.9, 4203538.2,       6.6,       6.6,       0.0);
     ( 650523.9, 4203538.2,       6.7,       6.7,       0.0);
( 650543.9, 4203538.2,       6.7,       6.7,       0.0);
     ( 650563.9, 4203538.2,       6.7,       6.7,       0.0);
( 650583.9, 4203538.2,       6.7,       6.7,       0.0);
     ( 650663.9, 4203538.2,       6.7,       6.7,       0.0);
( 650683.9, 4203538.2,       6.7,       6.7,       0.0);
     ( 650063.9, 4203558.2,       5.2,       5.2,       0.0);
( 650083.9, 4203558.2,       5.2,       5.2,       0.0);
     ( 650103.9, 4203558.2,       5.2,       5.2,       0.0);
( 650143.9, 4203558.2,       5.3,       5.3,       0.0);
     ( 650163.9, 4203558.2,       5.4,       5.4,       0.0);
( 650183.9, 4203558.2,       5.4,       5.4,       0.0);
     ( 650203.9, 4203558.2,       5.4,       5.4,       0.0);
( 650223.9, 4203558.2,       5.5,       5.5,       0.0);
     ( 650243.9, 4203558.2,       5.6,       5.6,       0.0);
( 650263.9, 4203558.2,       5.7,       5.7,       0.0);
     ( 650283.9, 4203558.2,       5.9,       5.9,       0.0);
( 650303.9, 4203558.2,       6.1,       6.1,       0.0);
     ( 650323.9, 4203558.2,       6.2,       6.2,       0.0);
( 650383.9, 4203558.2,       6.6,       6.6,       0.0);
     ( 650403.9, 4203558.2,       6.6,       6.6,       0.0);
( 650423.9, 4203558.2,       6.6,       6.6,       0.0);
     ( 650443.9, 4203558.2,       6.7,       6.7,       0.0);
( 650523.9, 4203558.2,       6.7,       6.7,       0.0);
     ( 650543.9, 4203558.2,       6.7,       6.7,       0.0);
( 650563.9, 4203558.2,       6.7,       6.7,       0.0);
     ( 650583.9, 4203558.2,       6.7,       6.7,       0.0);
( 650003.9, 4203578.2,       5.1,       5.1,       0.0);
     ( 650023.9, 4203578.2,       5.1,       5.1,       0.0);
( 650043.9, 4203578.2,       5.1,       5.1,       0.0);
     ( 650063.9, 4203578.2,       5.2,       5.2,       0.0);
( 650083.9, 4203578.2,       5.2,       5.2,       0.0);
     ( 650123.9, 4203578.2,       5.3,       5.3,       0.0);
( 650143.9, 4203578.2,       5.3,       5.3,       0.0);
     ( 650163.9, 4203578.2,       5.3,       5.3,       0.0);
( 650183.9, 4203578.2,       5.3,       5.3,       0.0);
     ( 650203.9, 4203578.2,       5.4,       5.4,       0.0);
( 650223.9, 4203578.2,       5.4,       5.4,       0.0);
     ( 650243.9, 4203578.2,       5.5,       5.5,       0.0);
( 650263.9, 4203578.2,       5.7,       5.7,       0.0);
     ( 650283.9, 4203578.2,       5.8,       5.8,       0.0);
( 650303.9, 4203578.2,       6.0,       6.0,       0.0);
     ( 650323.9, 4203578.2,       6.2,       6.2,       0.0);
( 650383.9, 4203578.2,       6.6,       6.6,       0.0);
     ( 650403.9, 4203578.2,       6.7,       6.7,       0.0);
( 650423.9, 4203578.2,       6.7,       6.7,       0.0);
```

```
     ( 650443.9, 4203578.2,       6.7,       6.7,       0.0);
( 650523.9, 4203578.2,       6.7,       6.7,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 650543.9, 4203578.2,       6.7,       6.7,       0.0);
( 650563.9, 4203578.2,       6.7,       6.7,       0.0);
     ( 650583.9, 4203578.2,       6.7,       6.7,       0.0);
( 650063.9, 4203598.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4203598.2,       5.2,       5.2,       0.0);
( 650123.9, 4203598.2,       5.2,       5.2,       0.0);
     ( 650143.9, 4203598.2,       5.2,       5.2,       0.0);
( 650163.9, 4203598.2,       5.3,       5.3,       0.0);
     ( 650183.9, 4203598.2,       5.3,       5.3,       0.0);
( 650203.9, 4203598.2,       5.3,       5.3,       0.0);
     ( 650223.9, 4203598.2,       5.4,       5.4,       0.0);
( 650243.9, 4203598.2,       5.4,       5.4,       0.0);
     ( 650263.9, 4203598.2,       5.6,       5.6,       0.0);
( 650283.9, 4203598.2,       5.8,       5.8,       0.0);
     ( 650303.9, 4203598.2,       6.0,       6.0,       0.0);
( 650323.9, 4203598.2,       6.2,       6.2,       0.0);
     ( 650403.9, 4203598.2,       6.7,       6.7,       0.0);
( 650423.9, 4203598.2,       6.7,       6.7,       0.0);
     ( 650443.9, 4203598.2,       6.7,       6.7,       0.0);
( 650523.9, 4203598.2,       6.7,       6.7,       0.0);
     ( 650543.9, 4203598.2,       6.7,       6.7,       0.0);
( 650563.9, 4203598.2,       6.7,       6.7,       0.0);
     ( 650583.9, 4203598.2,       6.7,       6.7,       0.0);
( 650123.9, 4203618.2,       5.2,       5.2,       0.0);
     ( 650143.9, 4203618.2,       5.2,       5.2,       0.0);
( 650163.9, 4203618.2,       5.2,       5.2,       0.0);
     ( 650183.9, 4203618.2,       5.2,       5.2,       0.0);
( 650203.9, 4203618.2,       5.3,       5.3,       0.0);
     ( 650223.9, 4203618.2,       5.3,       5.3,       0.0);
( 650243.9, 4203618.2,       5.4,       5.4,       0.0);
     ( 650263.9, 4203618.2,       5.5,       5.5,       0.0);
( 650283.9, 4203618.2,       5.7,       5.7,       0.0);
     ( 650303.9, 4203618.2,       5.9,       5.9,       0.0);
( 650323.9, 4203618.2,       6.2,       6.2,       0.0);
     ( 650523.9, 4203618.2,       6.7,       6.7,       0.0);
( 650543.9, 4203618.2,       6.7,       6.7,       0.0);
```

```
     ( 650563.9, 4203618.2,       6.7,       6.7,       0.0);
( 650583.9, 4203618.2,       6.7,       6.7,       0.0);
     ( 650603.9, 4203618.2,       6.7,       6.7,       0.0);
( 650623.9, 4203618.2,       6.7,       6.7,       0.0);
     ( 650643.9, 4203618.2,       6.7,       6.7,       0.0);
( 649963.9, 4203638.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203638.2,       5.0,       5.0,       0.0);
( 650003.9, 4203638.2,       5.0,       5.0,       0.0);
     ( 650023.9, 4203638.2,       5.1,       5.1,       0.0);
( 650043.9, 4203638.2,       5.1,       5.1,       0.0);
     ( 650063.9, 4203638.2,       5.1,       5.1,       0.0);
( 650083.9, 4203638.2,       5.1,       5.1,       0.0);
     ( 650123.9, 4203638.2,       5.1,       5.1,       0.0);
( 650143.9, 4203638.2,       5.1,       5.1,       0.0);
     ( 650163.9, 4203638.2,       5.2,       5.2,       0.0);
( 650183.9, 4203638.2,       5.2,       5.2,       0.0);
     ( 650203.9, 4203638.2,       5.2,       5.2,       0.0);
( 650223.9, 4203638.2,       5.3,       5.3,       0.0);
     ( 650243.9, 4203638.2,       5.4,       5.4,       0.0);
( 650263.9, 4203638.2,       5.5,       5.5,       0.0);
     ( 650283.9, 4203638.2,       5.6,       5.6,       0.0);
( 650303.9, 4203638.2,       5.8,       5.8,       0.0);
     ( 650323.9, 4203638.2,       6.1,       6.1,       0.0);
( 650363.9, 4203638.2,       6.5,       6.5,       0.0);
     ( 650563.9, 4203638.2,       6.7,       6.7,       0.0);
( 650583.9, 4203638.2,       6.7,       6.7,       0.0);
     ( 650603.9, 4203638.2,       6.7,       6.7,       0.0);
( 650623.9, 4203638.2,       6.7,       6.7,       0.0);
     ( 650643.9, 4203638.2,       6.7,       6.7,       0.0);
( 650663.9, 4203638.2,       6.7,       6.7,       0.0);
     ( 650683.9, 4203638.2,       6.7,       6.7,       0.0);
( 649923.9, 4203658.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203658.2,       5.0,       5.0,       0.0);
( 649963.9, 4203658.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203658.2,       5.0,       5.0,       0.0);
( 650003.9, 4203658.2,       5.0,       5.0,       0.0);
     ( 650023.9, 4203658.2,       5.0,       5.0,       0.0);
( 650043.9, 4203658.2,       5.1,       5.1,       0.0);
     ( 650063.9, 4203658.2,       5.1,       5.1,       0.0);
( 650083.9, 4203658.2,       5.1,       5.1,       0.0);
     ( 650103.9, 4203658.2,       5.1,       5.1,       0.0);
( 650123.9, 4203658.2,       5.1,       5.1,       0.0);
     ( 650223.9, 4203658.2,       5.2,       5.2,       0.0);
( 650243.9, 4203658.2,       5.3,       5.3,       0.0);
     ( 650263.9, 4203658.2,       5.5,       5.5,       0.0);
( 650283.9, 4203658.2,       5.7,       5.7,       0.0);
     ( 650303.9, 4203658.2,       5.9,       5.9,       0.0);
( 650363.9, 4203658.2,       6.5,       6.5,       0.0);
     ( 650383.9, 4203658.2,       6.6,       6.6,       0.0);
( 650403.9, 4203658.2,       6.7,       6.7,       0.0);
     ( 650643.9, 4203658.2,       6.7,       6.7,       0.0);
( 650663.9, 4203658.2,       6.7,       6.7,       0.0);
```

```
     ( 650683.9, 4203658.2,       6.7,       6.7,       0.0);
( 649923.9, 4203678.2,       5.0,       5.0,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 649943.9, 4203678.2,       5.0,       5.0,       0.0);
( 649963.9, 4203678.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203678.2,       5.0,       5.0,       0.0);
( 650003.9, 4203678.2,       5.0,       5.0,       0.0);
     ( 650023.9, 4203678.2,       5.0,       5.0,       0.0);
( 650043.9, 4203678.2,       5.0,       5.0,       0.0);
     ( 650063.9, 4203678.2,       5.1,       5.1,       0.0);
( 650083.9, 4203678.2,       5.1,       5.1,       0.0);
     ( 650103.9, 4203678.2,       5.1,       5.1,       0.0);
( 650123.9, 4203678.2,       5.1,       5.1,       0.0);
     ( 650143.9, 4203678.2,       5.1,       5.1,       0.0);
( 650363.9, 4203678.2,       6.5,       6.5,       0.0);
     ( 650383.9, 4203678.2,       6.6,       6.6,       0.0);
( 650403.9, 4203678.2,       6.7,       6.7,       0.0);
     ( 650423.9, 4203678.2,       6.7,       6.7,       0.0);
( 649923.9, 4203698.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203698.2,       5.0,       5.0,       0.0);
( 649963.9, 4203698.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203698.2,       5.0,       5.0,       0.0);
( 650003.9, 4203698.2,       5.0,       5.0,       0.0);
     ( 650023.9, 4203698.2,       5.0,       5.0,       0.0);
( 650043.9, 4203698.2,       5.0,       5.0,       0.0);
     ( 650063.9, 4203698.2,       5.1,       5.1,       0.0);
( 650083.9, 4203698.2,       5.1,       5.1,       0.0);
     ( 650103.9, 4203698.2,       5.1,       5.1,       0.0);
( 650123.9, 4203698.2,       5.1,       5.1,       0.0);
     ( 650143.9, 4203698.2,       5.1,       5.1,       0.0);
( 650423.9, 4203698.2,       6.6,       6.6,       0.0);
     ( 650443.9, 4203698.2,       6.7,       6.7,       0.0);
( 649923.9, 4203718.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203718.2,       5.0,       5.0,       0.0);
( 649963.9, 4203718.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203718.2,       5.0,       5.0,       0.0);
( 650003.9, 4203718.2,       5.0,       5.0,       0.0);
     ( 650023.9, 4203718.2,       5.0,       5.0,       0.0);
( 650043.9, 4203718.2,       5.1,       5.1,       0.0);
```

```
     ( 650063.9, 4203718.2,       5.1,       5.1,       0.0);
( 650083.9, 4203718.2,       5.1,       5.1,       0.0);
     ( 650103.9, 4203718.2,       5.1,       5.1,       0.0);
( 650123.9, 4203718.2,       5.1,       5.1,       0.0);
     ( 650143.9, 4203718.2,       5.1,       5.1,       0.0);
( 649923.9, 4203738.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203738.2,       5.0,       5.0,       0.0);
( 649963.9, 4203738.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203738.2,       5.0,       5.0,       0.0);
( 650003.9, 4203738.2,       5.0,       5.0,       0.0);
     ( 650023.9, 4203738.2,       5.0,       5.0,       0.0);
( 650043.9, 4203738.2,       5.1,       5.1,       0.0);
     ( 650063.9, 4203738.2,       5.1,       5.1,       0.0);
( 650083.9, 4203738.2,       5.1,       5.1,       0.0);
     ( 650103.9, 4203738.2,       5.1,       5.1,       0.0);
( 650123.9, 4203738.2,       5.1,       5.1,       0.0);
     ( 650143.9, 4203738.2,       5.1,       5.1,       0.0);
( 650163.9, 4203738.2,       5.2,       5.2,       0.0);
     ( 650183.9, 4203738.2,       5.2,       5.2,       0.0);
( 650203.9, 4203738.2,       5.2,       5.2,       0.0);
     ( 649923.9, 4203758.2,       5.0,       5.0,       0.0);
( 649943.9, 4203758.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203758.2,       5.0,       5.0,       0.0);
( 649983.9, 4203758.2,       5.0,       5.0,       0.0);
     ( 650003.9, 4203758.2,       5.0,       5.0,       0.0);
( 650023.9, 4203758.2,       5.1,       5.1,       0.0);
     ( 650043.9, 4203758.2,       5.1,       5.1,       0.0);
( 650063.9, 4203758.2,       5.1,       5.1,       0.0);
     ( 650083.9, 4203758.2,       5.1,       5.1,       0.0);
( 650103.9, 4203758.2,       5.1,       5.1,       0.0);
     ( 650123.9, 4203758.2,       5.1,       5.1,       0.0);
( 650143.9, 4203758.2,       5.2,       5.2,       0.0);
     ( 650163.9, 4203758.2,       5.2,       5.2,       0.0);
( 650183.9, 4203758.2,       5.2,       5.2,       0.0);
     ( 650203.9, 4203758.2,       5.2,       5.2,       0.0);
( 649923.9, 4203778.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203778.2,       5.0,       5.0,       0.0);
( 649963.9, 4203778.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203778.2,       5.0,       5.0,       0.0);
( 650003.9, 4203778.2,       5.0,       5.0,       0.0);
     ( 650023.9, 4203778.2,       5.1,       5.1,       0.0);
( 650043.9, 4203778.2,       5.1,       5.1,       0.0);
     ( 650063.9, 4203778.2,       5.1,       5.1,       0.0);
( 650083.9, 4203778.2,       5.1,       5.1,       0.0);
     ( 650103.9, 4203778.2,       5.1,       5.1,       0.0);
( 650123.9, 4203778.2,       5.2,       5.2,       0.0);
     ( 649923.9, 4203798.2,       5.0,       5.0,       0.0);
( 649943.9, 4203798.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203798.2,       5.0,       5.0,       0.0);
( 649983.9, 4203798.2,       5.0,       5.0,       0.0);
     ( 650003.9, 4203798.2,       5.1,       5.1,       0.0);
( 650023.9, 4203798.2,       5.1,       5.1,       0.0);
```

```
     ( 650043.9, 4203798.2,       5.1,       5.1,       0.0);
( 650063.9, 4203798.2,       5.1,       5.1,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 650083.9, 4203798.2,       5.2,       5.2,       0.0);
( 650103.9, 4203798.2,       5.2,       5.2,       0.0);
     ( 650123.9, 4203798.2,       5.2,       5.2,       0.0);
( 649923.9, 4203818.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203818.2,       5.0,       5.0,       0.0);
( 649963.9, 4203818.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203818.2,       5.1,       5.1,       0.0);
( 650003.9, 4203818.2,       5.1,       5.1,       0.0);
     ( 650023.9, 4203818.2,       5.1,       5.1,       0.0);
( 650043.9, 4203818.2,       5.1,       5.1,       0.0);
     ( 650063.9, 4203818.2,       5.2,       5.2,       0.0);
( 650083.9, 4203818.2,       5.2,       5.2,       0.0);
     ( 650103.9, 4203818.2,       5.2,       5.2,       0.0);
( 650123.9, 4203818.2,       5.2,       5.2,       0.0);
     ( 650143.9, 4203818.2,       5.2,       5.2,       0.0);
( 650163.9, 4203818.2,       5.2,       5.2,       0.0);
     ( 649923.9, 4203838.2,       5.0,       5.0,       0.0);
( 649943.9, 4203838.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203838.2,       5.0,       5.0,       0.0);
( 649983.9, 4203838.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4203838.2,       5.1,       5.1,       0.0);
( 650023.9, 4203838.2,       5.1,       5.1,       0.0);
     ( 650043.9, 4203838.2,       5.1,       5.1,       0.0);
( 650063.9, 4203838.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4203838.2,       5.2,       5.2,       0.0);
( 649923.9, 4203858.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203858.2,       5.0,       5.0,       0.0);
( 649963.9, 4203858.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4203858.2,       5.1,       5.1,       0.0);
( 650003.9, 4203858.2,       5.1,       5.1,       0.0);
     ( 650023.9, 4203858.2,       5.1,       5.1,       0.0);
( 650043.9, 4203858.2,       5.2,       5.2,       0.0);
     ( 650063.9, 4203858.2,       5.2,       5.2,       0.0);
( 650083.9, 4203858.2,       5.2,       5.2,       0.0);
     ( 649923.9, 4203878.2,       5.0,       5.0,       0.0);
( 649943.9, 4203878.2,       5.0,       5.0,       0.0);
```

```
     ( 649963.9, 4203878.2,       5.1,       5.1,       0.0);
( 649983.9, 4203878.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4203878.2,       5.1,       5.1,       0.0);
( 650023.9, 4203878.2,       5.1,       5.1,       0.0);
     ( 650043.9, 4203878.2,       5.2,       5.2,       0.0);
( 650063.9, 4203878.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4203878.2,       5.2,       5.2,       0.0);
( 650743.9, 4203878.2,       6.4,       6.4,       0.0);
     ( 650763.9, 4203878.2,       6.3,       6.3,       0.0);
( 650783.9, 4203878.2,       6.3,       6.3,       0.0);
     ( 650803.9, 4203878.2,       6.2,       6.2,       0.0);
( 650823.9, 4203878.2,       6.2,       6.2,       0.0);
     ( 650843.9, 4203878.2,       6.2,       6.2,       0.0);
( 650863.9, 4203878.2,       6.1,       6.1,       0.0);
     ( 649923.9, 4203898.2,       5.0,       5.0,       0.0);
( 649943.9, 4203898.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203898.2,       5.1,       5.1,       0.0);
( 649983.9, 4203898.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4203898.2,       5.1,       5.1,       0.0);
( 650023.9, 4203898.2,       5.1,       5.1,       0.0);
     ( 650043.9, 4203898.2,       5.2,       5.2,       0.0);
( 650063.9, 4203898.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4203898.2,       5.2,       5.2,       0.0);
( 650743.9, 4203898.2,       6.3,       6.3,       0.0);
     ( 650763.9, 4203898.2,       6.2,       6.2,       0.0);
( 650783.9, 4203898.2,       6.1,       6.1,       0.0);
     ( 650803.9, 4203898.2,       6.1,       6.1,       0.0);
( 650823.9, 4203898.2,       6.1,       6.1,       0.0);
     ( 650843.9, 4203898.2,       6.1,       6.1,       0.0);
( 650863.9, 4203898.2,       6.0,       6.0,       0.0);
     ( 649923.9, 4203918.2,       5.0,       5.0,       0.0);
( 649943.9, 4203918.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203918.2,       5.1,       5.1,       0.0);
( 649983.9, 4203918.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4203918.2,       5.1,       5.1,       0.0);
( 650023.9, 4203918.2,       5.2,       5.2,       0.0);
     ( 650043.9, 4203918.2,       5.2,       5.2,       0.0);
( 650063.9, 4203918.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4203918.2,       5.3,       5.3,       0.0);
( 650723.9, 4203918.2,       6.3,       6.3,       0.0);
     ( 650743.9, 4203918.2,       6.2,       6.2,       0.0);
( 650763.9, 4203918.2,       6.1,       6.1,       0.0);
     ( 650783.9, 4203918.2,       6.0,       6.0,       0.0);
( 650803.9, 4203918.2,       6.0,       6.0,       0.0);
     ( 650823.9, 4203918.2,       6.1,       6.1,       0.0);
( 650843.9, 4203918.2,       6.1,       6.1,       0.0);
     ( 650863.9, 4203918.2,       6.0,       6.0,       0.0);
( 649923.9, 4203938.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203938.2,       5.0,       5.0,       0.0);
( 649963.9, 4203938.2,       5.1,       5.1,       0.0);
     ( 649983.9, 4203938.2,       5.1,       5.1,       0.0);
( 650003.9, 4203938.2,       5.1,       5.1,       0.0);
```

```
     ( 650023.9, 4203938.2,       5.2,       5.2,       0.0);
( 650043.9, 4203938.2,       5.2,       5.2,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 650063.9, 4203938.2,       5.2,       5.2,       0.0);
( 650083.9, 4203938.2,       5.3,       5.3,       0.0);
     ( 650103.9, 4203938.2,       5.3,       5.3,       0.0);
( 650123.9, 4203938.2,       5.3,       5.3,       0.0);
     ( 650143.9, 4203938.2,       5.4,       5.4,       0.0);
( 650723.9, 4203938.2,       6.2,       6.2,       0.0);
     ( 650743.9, 4203938.2,       6.1,       6.1,       0.0);
( 650763.9, 4203938.2,       6.0,       6.0,       0.0);
     ( 650783.9, 4203938.2,       6.0,       6.0,       0.0);
( 650803.9, 4203938.2,       6.0,       6.0,       0.0);
     ( 650823.9, 4203938.2,       6.0,       6.0,       0.0);
( 650843.9, 4203938.2,       6.0,       6.0,       0.0);
     ( 649923.9, 4203958.2,       5.0,       5.0,       0.0);
( 649943.9, 4203958.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203958.2,       5.1,       5.1,       0.0);
( 649983.9, 4203958.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4203958.2,       5.1,       5.1,       0.0);
( 650023.9, 4203958.2,       5.2,       5.2,       0.0);
     ( 650043.9, 4203958.2,       5.2,       5.2,       0.0);
( 650063.9, 4203958.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4203958.2,       5.3,       5.3,       0.0);
( 650103.9, 4203958.2,       5.3,       5.3,       0.0);
     ( 650123.9, 4203958.2,       5.4,       5.4,       0.0);
( 650723.9, 4203958.2,       6.1,       6.1,       0.0);
     ( 650743.9, 4203958.2,       6.0,       6.0,       0.0);
( 650763.9, 4203958.2,       5.9,       5.9,       0.0);
     ( 650783.9, 4203958.2,       5.9,       5.9,       0.0);
( 650803.9, 4203958.2,       5.9,       5.9,       0.0);
     ( 650823.9, 4203958.2,       6.0,       6.0,       0.0);
( 650843.9, 4203958.2,       6.0,       6.0,       0.0);
     ( 649923.9, 4203978.2,       5.0,       5.0,       0.0);
( 649943.9, 4203978.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4203978.2,       5.1,       5.1,       0.0);
( 649983.9, 4203978.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4203978.2,       5.1,       5.1,       0.0);
( 650023.9, 4203978.2,       5.2,       5.2,       0.0);
```

```
     ( 650043.9, 4203978.2,       5.2,       5.2,       0.0);
( 650063.9, 4203978.2,       5.3,       5.3,       0.0);
     ( 650083.9, 4203978.2,       5.3,       5.3,       0.0);
( 650103.9, 4203978.2,       5.3,       5.3,       0.0);
     ( 650130.1, 4203977.6,       5.4,       5.4,       0.0);
( 650703.9, 4203978.2,       6.1,       6.1,       0.0);
     ( 650723.9, 4203978.2,       6.0,       6.0,       0.0);
( 650743.9, 4203978.2,       5.9,       5.9,       0.0);
     ( 650763.9, 4203978.2,       5.8,       5.8,       0.0);
( 650783.9, 4203978.2,       5.8,       5.8,       0.0);
     ( 650803.9, 4203978.2,       5.9,       5.9,       0.0);
( 650823.9, 4203978.2,       6.0,       6.0,       0.0);
     ( 650843.9, 4203978.2,       6.0,       6.0,       0.0);
( 649923.9, 4203998.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4203998.2,       5.1,       5.1,       0.0);
( 649963.9, 4203998.2,       5.1,       5.1,       0.0);
     ( 649983.9, 4203998.2,       5.1,       5.1,       0.0);
( 650003.9, 4203998.2,       5.1,       5.1,       0.0);
     ( 650023.9, 4203998.2,       5.2,       5.2,       0.0);
( 650043.9, 4203998.2,       5.2,       5.2,       0.0);
     ( 650063.9, 4203998.2,       5.3,       5.3,       0.0);
( 650083.9, 4203998.2,       5.3,       5.3,       0.0);
     ( 650103.9, 4203998.2,       5.3,       5.3,       0.0);
( 650703.9, 4203998.2,       6.0,       6.0,       0.0);
     ( 650723.9, 4203998.2,       5.9,       5.9,       0.0);
( 650743.9, 4203998.2,       5.8,       5.8,       0.0);
     ( 650763.9, 4203998.2,       5.8,       5.8,       0.0);
( 650783.9, 4203998.2,       5.8,       5.8,       0.0);
     ( 650803.9, 4203998.2,       5.9,       5.9,       0.0);
( 650823.9, 4203998.2,       5.9,       5.9,       0.0);
     ( 650843.9, 4203998.2,       5.9,       5.9,       0.0);
( 649923.9, 4204018.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4204018.2,       5.1,       5.1,       0.0);
( 649963.9, 4204018.2,       5.1,       5.1,       0.0);
     ( 649983.9, 4204018.2,       5.1,       5.1,       0.0);
( 650003.9, 4204018.2,       5.2,       5.2,       0.0);
     ( 650023.9, 4204018.2,       5.2,       5.2,       0.0);
( 650043.9, 4204018.2,       5.2,       5.2,       0.0);
     ( 650063.9, 4204018.2,       5.3,       5.3,       0.0);
( 650083.9, 4204018.2,       5.3,       5.3,       0.0);
     ( 650103.9, 4204018.2,       5.3,       5.3,       0.0);
( 650123.9, 4204018.2,       5.4,       5.4,       0.0);
     ( 650703.9, 4204018.2,       5.9,       5.9,       0.0);
( 650723.9, 4204018.2,       5.9,       5.9,       0.0);
     ( 650743.9, 4204018.2,       5.8,       5.8,       0.0);
( 650763.9, 4204018.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204018.2,       5.8,       5.8,       0.0);
( 650803.9, 4204018.2,       5.8,       5.8,       0.0);
     ( 650823.9, 4204018.2,       5.9,       5.9,       0.0);
( 650843.9, 4204018.2,       5.9,       5.9,       0.0);
     ( 649923.9, 4204038.2,       5.0,       5.0,       0.0);
( 649943.9, 4204038.2,       5.1,       5.1,       0.0);
```

```
     ( 649963.9, 4204038.2,       5.1,       5.1,       0.0);
( 649983.9, 4204038.2,       5.1,       5.1,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 650003.9, 4204038.2,       5.2,       5.2,       0.0);
( 650023.9, 4204038.2,       5.2,       5.2,       0.0);
     ( 650043.9, 4204038.2,       5.2,       5.2,       0.0);
( 650063.9, 4204038.2,       5.3,       5.3,       0.0);
     ( 650083.9, 4204038.2,       5.3,       5.3,       0.0);
( 650103.9, 4204038.2,       5.3,       5.3,       0.0);
     ( 650123.9, 4204038.2,       5.4,       5.4,       0.0);
( 650683.9, 4204038.2,       5.9,       5.9,       0.0);
     ( 650703.9, 4204038.2,       5.9,       5.9,       0.0);
( 650723.9, 4204038.2,       5.8,       5.8,       0.0);
     ( 650743.9, 4204038.2,       5.7,       5.7,       0.0);
( 650763.9, 4204038.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204038.2,       5.8,       5.8,       0.0);
( 650803.9, 4204038.2,       5.8,       5.8,       0.0);
     ( 650823.9, 4204038.2,       5.9,       5.9,       0.0);
( 649923.9, 4204058.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4204058.2,       5.1,       5.1,       0.0);
( 649963.9, 4204058.2,       5.1,       5.1,       0.0);
     ( 649983.9, 4204058.2,       5.1,       5.1,       0.0);
( 650003.9, 4204058.2,       5.2,       5.2,       0.0);
     ( 650023.9, 4204058.2,       5.2,       5.2,       0.0);
( 650043.9, 4204058.2,       5.2,       5.2,       0.0);
     ( 650063.9, 4204058.2,       5.3,       5.3,       0.0);
( 650083.9, 4204058.2,       5.3,       5.3,       0.0);
     ( 650103.9, 4204058.2,       5.3,       5.3,       0.0);
( 650123.9, 4204058.2,       5.4,       5.4,       0.0);
     ( 650683.9, 4204058.2,       5.9,       5.9,       0.0);
( 650703.9, 4204058.2,       5.8,       5.8,       0.0);
     ( 650723.9, 4204058.2,       5.8,       5.8,       0.0);
( 650743.9, 4204058.2,       5.7,       5.7,       0.0);
     ( 650763.9, 4204058.2,       5.7,       5.7,       0.0);
( 650783.9, 4204058.2,       5.8,       5.8,       0.0);
     ( 650803.9, 4204058.2,       5.8,       5.8,       0.0);
( 650823.9, 4204058.2,       5.9,       5.9,       0.0);
     ( 649923.9, 4204078.2,       5.0,       5.0,       0.0);
( 649943.9, 4204078.2,       5.0,       5.0,       0.0);
```

```
     ( 649963.9, 4204078.2,       5.1,       5.1,       0.0);
( 649983.9, 4204078.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4204078.2,       5.1,       5.1,       0.0);
( 650023.9, 4204078.2,       5.2,       5.2,       0.0);
     ( 650043.9, 4204078.2,       5.2,       5.2,       0.0);
( 650063.9, 4204078.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4204078.2,       5.3,       5.3,       0.0);
( 650103.9, 4204078.2,       5.3,       5.3,       0.0);
     ( 650123.9, 4204078.2,       5.3,       5.3,       0.0);
( 650683.9, 4204078.2,       5.8,       5.8,       0.0);
     ( 650703.9, 4204078.2,       5.7,       5.7,       0.0);
( 650723.9, 4204078.2,       5.7,       5.7,       0.0);
     ( 650743.9, 4204078.2,       5.7,       5.7,       0.0);
( 650763.9, 4204078.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204078.2,       5.7,       5.7,       0.0);
( 650803.9, 4204078.2,       5.8,       5.8,       0.0);
     ( 650823.9, 4204078.2,       5.9,       5.9,       0.0);
( 649923.9, 4204098.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4204098.2,       5.0,       5.0,       0.0);
( 649963.9, 4204098.2,       5.1,       5.1,       0.0);
     ( 649983.9, 4204098.2,       5.1,       5.1,       0.0);
( 650003.9, 4204098.2,       5.1,       5.1,       0.0);
     ( 650023.9, 4204098.2,       5.2,       5.2,       0.0);
( 650043.9, 4204098.2,       5.2,       5.2,       0.0);
     ( 650063.9, 4204098.2,       5.2,       5.2,       0.0);
( 650083.9, 4204098.2,       5.3,       5.3,       0.0);
     ( 650103.9, 4204098.2,       5.3,       5.3,       0.0);
( 650123.9, 4204098.2,       5.3,       5.3,       0.0);
     ( 650143.9, 4204098.2,       5.4,       5.4,       0.0);
( 650163.9, 4204098.2,       5.4,       5.4,       0.0);
     ( 650663.9, 4204098.2,       5.8,       5.8,       0.0);
( 650683.9, 4204098.2,       5.8,       5.8,       0.0);
     ( 650703.9, 4204098.2,       5.7,       5.7,       0.0);
( 650723.9, 4204098.2,       5.7,       5.7,       0.0);
     ( 650743.9, 4204098.2,       5.7,       5.7,       0.0);
( 650763.9, 4204098.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204098.2,       5.7,       5.7,       0.0);
( 650803.9, 4204098.2,       5.8,       5.8,       0.0);
     ( 650823.9, 4204098.2,       5.9,       5.9,       0.0);
( 649923.9, 4204118.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4204118.2,       5.0,       5.0,       0.0);
( 649963.9, 4204118.2,       5.1,       5.1,       0.0);
     ( 649983.9, 4204118.2,       5.1,       5.1,       0.0);
( 650003.9, 4204118.2,       5.1,       5.1,       0.0);
     ( 650023.9, 4204118.2,       5.1,       5.1,       0.0);
( 650043.9, 4204118.2,       5.2,       5.2,       0.0);
     ( 650063.9, 4204118.2,       5.2,       5.2,       0.0);
( 650083.9, 4204118.2,       5.3,       5.3,       0.0);
     ( 650103.9, 4204118.2,       5.3,       5.3,       0.0);
( 650123.9, 4204118.2,       5.3,       5.3,       0.0);
     ( 650143.9, 4204118.2,       5.3,       5.3,       0.0);
( 650163.9, 4204118.2,       5.4,       5.4,       0.0);
```

```
     ( 650181.7, 4204111.0,       5.4,       5.4,       0.0);
( 650663.9, 4204118.2,       5.7,       5.7,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 650683.9, 4204118.2,       5.7,       5.7,       0.0);
( 650703.9, 4204118.2,       5.7,       5.7,       0.0);
     ( 650723.9, 4204118.2,       5.7,       5.7,       0.0);
( 650743.9, 4204118.2,       5.7,       5.7,       0.0);
     ( 650763.9, 4204118.2,       5.7,       5.7,       0.0);
( 650783.9, 4204118.2,       5.7,       5.7,       0.0);
     ( 650803.9, 4204118.2,       5.8,       5.8,       0.0);
( 650823.9, 4204118.2,       5.9,       5.9,       0.0);
     ( 649923.9, 4204138.2,       5.0,       5.0,       0.0);
( 649943.9, 4204138.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4204138.2,       5.1,       5.1,       0.0);
( 649983.9, 4204138.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4204138.2,       5.1,       5.1,       0.0);
( 650023.9, 4204138.2,       5.1,       5.1,       0.0);
     ( 650043.9, 4204138.2,       5.2,       5.2,       0.0);
( 650063.9, 4204138.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4204138.2,       5.2,       5.2,       0.0);
( 650103.9, 4204138.2,       5.3,       5.3,       0.0);
     ( 650123.9, 4204138.2,       5.3,       5.3,       0.0);
( 650143.9, 4204138.2,       5.3,       5.3,       0.0);
     ( 650163.9, 4204138.2,       5.4,       5.4,       0.0);
( 650643.9, 4204138.2,       5.7,       5.7,       0.0);
     ( 650663.9, 4204138.2,       5.7,       5.7,       0.0);
( 650683.9, 4204138.2,       5.7,       5.7,       0.0);
     ( 650703.9, 4204138.2,       5.6,       5.6,       0.0);
( 650723.9, 4204138.2,       5.7,       5.7,       0.0);
     ( 650743.9, 4204138.2,       5.7,       5.7,       0.0);
( 650763.9, 4204138.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204138.2,       5.7,       5.7,       0.0);
( 650803.9, 4204138.2,       5.8,       5.8,       0.0);
     ( 649923.9, 4204158.2,       5.0,       5.0,       0.0);
( 649943.9, 4204158.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4204158.2,       5.1,       5.1,       0.0);
( 649983.9, 4204158.2,       5.1,       5.1,       0.0);
     ( 650003.9, 4204158.2,       5.1,       5.1,       0.0);
( 650023.9, 4204158.2,       5.1,       5.1,       0.0);
```

```
     ( 650043.9, 4204158.2,       5.1,       5.1,       0.0);
( 650063.9, 4204158.2,       5.2,       5.2,       0.0);
     ( 650083.9, 4204158.2,       5.2,       5.2,       0.0);
( 650103.9, 4204158.2,       5.2,       5.2,       0.0);
     ( 650123.9, 4204158.2,       5.3,       5.3,       0.0);
( 650143.9, 4204158.2,       5.3,       5.3,       0.0);
     ( 650177.4, 4204157.6,       5.4,       5.4,       0.0);
( 650643.9, 4204158.2,       5.7,       5.7,       0.0);
     ( 650663.9, 4204158.2,       5.7,       5.7,       0.0);
( 650683.9, 4204158.2,       5.6,       5.6,       0.0);
     ( 650703.9, 4204158.2,       5.6,       5.6,       0.0);
( 650723.9, 4204158.2,       5.7,       5.7,       0.0);
     ( 650743.9, 4204158.2,       5.7,       5.7,       0.0);
( 650763.9, 4204158.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204158.2,       5.7,       5.7,       0.0);
( 650803.9, 4204158.2,       5.8,       5.8,       0.0);
     ( 650923.9, 4204158.2,       5.8,       5.8,       0.0);
( 649923.9, 4204178.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4204178.2,       5.0,       5.0,       0.0);
( 649963.9, 4204178.2,       5.1,       5.1,       0.0);
     ( 649983.9, 4204178.2,       5.1,       5.1,       0.0);
( 650003.9, 4204178.2,       5.0,       5.0,       0.0);
     ( 650023.9, 4204178.2,       5.0,       5.0,       0.0);
( 650043.9, 4204178.2,       5.1,       5.1,       0.0);
     ( 650063.9, 4204178.2,       5.1,       5.1,       0.0);
( 650083.9, 4204178.2,       5.2,       5.2,       0.0);
     ( 650103.9, 4204178.2,       5.2,       5.2,       0.0);
( 650123.9, 4204178.2,       5.3,       5.3,       0.0);
     ( 650143.9, 4204178.2,       5.3,       5.3,       0.0);
( 650643.9, 4204178.2,       5.7,       5.7,       0.0);
     ( 650663.9, 4204178.2,       5.6,       5.6,       0.0);
( 650683.9, 4204178.2,       5.6,       5.6,       0.0);
     ( 650703.9, 4204178.2,       5.6,       5.6,       0.0);
( 650723.9, 4204178.2,       5.7,       5.7,       0.0);
     ( 650743.9, 4204178.2,       5.7,       5.7,       0.0);
( 650763.9, 4204178.2,       5.7,       5.7,       0.0);
     ( 650783.9, 4204178.2,       5.8,       5.8,       0.0);
( 650803.9, 4204178.2,       5.8,       5.8,       0.0);
     ( 650903.9, 4204178.2,       5.8,       5.8,       0.0);
( 650923.9, 4204178.2,       5.8,       5.8,       0.0);
     ( 649923.9, 4204198.2,       5.0,       5.0,       0.0);
( 649943.9, 4204198.2,       5.0,       5.0,       0.0);
     ( 649963.9, 4204198.2,       5.0,       5.0,       0.0);
( 649983.9, 4204198.2,       5.0,       5.0,       0.0);
     ( 650003.9, 4204198.2,       5.0,       5.0,       0.0);
( 650023.9, 4204198.2,       4.9,       4.9,       0.0);
     ( 650043.9, 4204198.2,       5.0,       5.0,       0.0);
( 650063.9, 4204198.2,       5.1,       5.1,       0.0);
     ( 650083.9, 4204198.2,       5.1,       5.1,       0.0);
( 650103.9, 4204198.2,       5.2,       5.2,       0.0);
     ( 650123.9, 4204198.2,       5.2,       5.2,       0.0);
( 650143.9, 4204198.2,       5.3,       5.3,       0.0);
```

```
     ( 650643.9, 4204198.2,       5.6,       5.6,       0.0);
( 650663.9, 4204198.2,       5.6,       5.6,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 650683.9, 4204198.2,       5.6,       5.6,       0.0);
( 650703.9, 4204198.2,       5.6,       5.6,       0.0);
     ( 650723.9, 4204198.2,       5.7,       5.7,       0.0);
( 650743.9, 4204198.2,       5.7,       5.7,       0.0);
     ( 650763.9, 4204198.2,       5.7,       5.7,       0.0);
( 650783.9, 4204198.2,       5.7,       5.7,       0.0);
     ( 650803.9, 4204198.2,       5.8,       5.8,       0.0);
( 650903.9, 4204198.2,       5.8,       5.8,       0.0);
     ( 650923.9, 4204198.2,       5.8,       5.8,       0.0);
( 649923.9, 4204218.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4204218.2,       5.0,       5.0,       0.0);
( 649963.9, 4204218.2,       5.0,       5.0,       0.0);
     ( 649983.9, 4204218.2,       5.0,       5.0,       0.0);
( 650003.9, 4204218.2,       4.8,       4.8,       0.0);
     ( 650023.9, 4204218.2,       4.8,       4.8,       0.0);
( 650043.9, 4204218.2,       4.9,       4.9,       0.0);
     ( 650063.9, 4204218.2,       5.0,       5.0,       0.0);
( 650083.9, 4204218.2,       5.1,       5.1,       0.0);
     ( 650103.9, 4204218.2,       5.2,       5.2,       0.0);
( 650123.9, 4204218.2,       5.2,       5.2,       0.0);
     ( 650145.5, 4204223.5,       5.3,       5.3,       0.0);
( 650623.9, 4204218.2,       5.6,       5.6,       0.0);
     ( 650643.9, 4204218.2,       5.6,       5.6,       0.0);
( 650703.9, 4204218.2,       5.7,       5.7,       0.0);
     ( 650723.9, 4204218.2,       5.7,       5.7,       0.0);
( 650743.9, 4204218.2,       5.7,       5.7,       0.0);
     ( 650763.9, 4204218.2,       5.7,       5.7,       0.0);
( 650903.9, 4204218.2,       5.8,       5.8,       0.0);
     ( 650923.9, 4204218.2,       5.8,       5.8,       0.0);
( 649923.9, 4204238.2,       5.0,       5.0,       0.0);
     ( 649943.9, 4204238.2,       4.9,       4.9,       0.0);
( 649963.9, 4204238.2,       4.9,       4.9,       0.0);
     ( 649983.9, 4204238.2,       4.8,       4.8,       0.0);
( 650003.9, 4204238.2,       4.6,       4.6,       0.0);
     ( 650023.9, 4204238.2,       4.6,       4.6,       0.0);
( 650043.9, 4204238.2,       4.7,       4.7,       0.0);
```

```
     ( 650063.9, 4204238.2,       4.9,       4.9,       0.0);
( 650083.9, 4204238.2,       5.0,       5.0,       0.0);
     ( 650103.9, 4204238.2,       5.1,       5.1,       0.0);
( 650123.9, 4204238.2,       5.2,       5.2,       0.0);
     ( 650623.9, 4204238.2,       5.6,       5.6,       0.0);
( 650643.9, 4204238.2,       5.6,       5.6,       0.0);
     ( 650703.9, 4204238.2,       5.7,       5.7,       0.0);
( 650723.9, 4204238.2,       5.7,       5.7,       0.0);
     ( 650743.9, 4204238.2,       5.7,       5.7,       0.0);
( 650763.9, 4204238.2,       5.7,       5.7,       0.0);
     ( 650903.9, 4204238.2,       5.8,       5.8,       0.0);
( 650923.9, 4204238.2,       5.8,       5.8,       0.0);
     ( 649923.9, 4204258.2,       4.8,       4.8,       0.0);
( 649943.9, 4204258.2,       4.8,       4.8,       0.0);
     ( 649963.9, 4204258.2,       4.8,       4.8,       0.0);
( 649983.9, 4204258.2,       4.6,       4.6,       0.0);
     ( 650003.9, 4204258.2,       4.5,       4.5,       0.0);
( 650023.9, 4204258.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204258.2,       4.6,       4.6,       0.0);
( 650063.9, 4204258.2,       4.7,       4.7,       0.0);
     ( 650083.9, 4204258.2,       4.9,       4.9,       0.0);
( 650103.9, 4204258.2,       5.1,       5.1,       0.0);
     ( 650117.4, 4204261.0,       5.1,       5.1,       0.0);
( 650623.9, 4204258.2,       5.6,       5.6,       0.0);
     ( 650643.9, 4204258.2,       5.7,       5.7,       0.0);
( 650903.9, 4204258.2,       5.8,       5.8,       0.0);
     ( 650923.9, 4204258.2,       5.9,       5.9,       0.0);
( 649923.9, 4204278.2,       4.7,       4.7,       0.0);
     ( 649943.9, 4204278.2,       4.6,       4.6,       0.0);
( 649963.9, 4204278.2,       4.5,       4.5,       0.0);
     ( 649983.9, 4204278.2,       4.5,       4.5,       0.0);
( 650003.9, 4204278.2,       4.5,       4.5,       0.0);
     ( 650023.9, 4204278.2,       4.5,       4.5,       0.0);
( 650043.9, 4204278.2,       4.5,       4.5,       0.0);
     ( 650063.9, 4204278.2,       4.6,       4.6,       0.0);
( 650083.9, 4204278.2,       4.8,       4.8,       0.0);
     ( 650103.9, 4204278.2,       5.0,       5.0,       0.0);
( 650129.5, 4204276.3,       5.1,       5.1,       0.0);
     ( 650623.9, 4204278.2,       5.6,       5.6,       0.0);
( 650643.9, 4204278.2,       5.7,       5.7,       0.0);
     ( 650903.9, 4204278.2,       5.8,       5.8,       0.0);
( 650923.9, 4204278.2,       5.8,       5.8,       0.0);
     ( 649923.9, 4204298.2,       4.6,       4.6,       0.0);
( 649943.9, 4204298.2,       4.5,       4.5,       0.0);
     ( 649963.9, 4204298.2,       4.5,       4.5,       0.0);
( 649983.9, 4204298.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204298.2,       4.5,       4.5,       0.0);
( 650023.9, 4204298.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204298.2,       4.5,       4.5,       0.0);
( 650063.9, 4204298.2,       4.5,       4.5,       0.0);
     ( 650083.9, 4204298.2,       4.6,       4.6,       0.0);
( 650103.9, 4204298.2,       4.8,       4.8,       0.0);
```

```
     ( 650883.9, 4204298.2,       5.8,       5.8,       0.0);
( 650903.9, 4204298.2,       5.8,       5.8,       0.0);
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

(650923.9, 4204298.2, 5.8, 5.8, 0.0);
(649923.9, 4204318.2, 4.5, 4.5, 0.0);
(649943.9, 4204318.2, 4.5, 4.5, 0.0);
(649963.9, 4204318.2, 4.5, 4.5, 0.0);
(649983.9, 4204318.2, 4.5, 4.5, 0.0);
(650003.9, 4204318.2, 4.5, 4.5, 0.0);
(650023.9, 4204318.2, 4.5, 4.5, 0.0);
(650043.9, 4204318.2, 4.5, 4.5, 0.0);
(650063.9, 4204318.2, 4.5, 4.5, 0.0);
(650083.9, 4204318.2, 4.5, 4.5, 0.0);
(650103.9, 4204318.2, 4.6, 4.6, 0.0);
(650128.6, 4204307.0, 4.9, 4.9, 0.0);
(650883.9, 4204318.2, 5.8, 5.8, 0.0);
(650903.9, 4204318.2, 5.8, 5.8, 0.0);
(650923.9, 4204318.2, 5.8, 5.8, 0.0);
(649923.9, 4204338.2, 4.5, 4.5, 0.0);
(649943.9, 4204338.2, 4.5, 4.5, 0.0);
(649963.9, 4204338.2, 4.5, 4.5, 0.0);
(649983.9, 4204338.2, 4.5, 4.5, 0.0);
(650003.9, 4204338.2, 4.5, 4.5, 0.0);
(650023.9, 4204338.2, 4.5, 4.5, 0.0);
(650043.9, 4204338.2, 4.5, 4.5, 0.0);
(650063.9, 4204338.2, 4.5, 4.5, 0.0);
(650083.9, 4204338.2, 4.5, 4.5, 0.0);
(650103.9, 4204338.2, 4.5, 4.5, 0.0);
(650123.9, 4204338.2, 4.5, 4.5, 0.0);
(650295.8, 4204357.3, 5.3, 5.3, 0.0);
(650883.9, 4204338.2, 5.8, 5.8, 0.0);
(650903.9, 4204338.2, 5.8, 5.8, 0.0);
(650923.9, 4204338.2, 5.8, 5.8, 0.0);
(649923.9, 4204358.2, 4.5, 4.5, 0.0);
(649943.9, 4204358.2, 4.5, 4.5, 0.0);
(649963.9, 4204358.2, 4.5, 4.5, 0.0);
(649983.9, 4204358.2, 4.5, 4.5, 0.0);
(650003.9, 4204358.2, 4.5, 4.5, 0.0);
(650023.9, 4204358.2, 4.5, 4.5, 0.0);

```
     ( 650043.9, 4204358.2,       4.5,       4.5,       0.0);
( 650063.9, 4204358.2,       4.5,       4.5,       0.0);
     ( 650083.9, 4204358.2,       4.5,       4.5,       0.0);
( 650103.9, 4204358.2,       4.5,       4.5,       0.0);
     ( 650123.9, 4204358.2,       4.5,       4.5,       0.0);
( 650171.3, 4204360.3,       4.5,       4.5,       0.0);
     ( 650181.5, 4204363.2,       4.5,       4.5,       0.0);
( 650883.9, 4204358.2,       5.8,       5.8,       0.0);
     ( 650903.9, 4204358.2,       5.8,       5.8,       0.0);
( 650923.9, 4204358.2,       5.8,       5.8,       0.0);
     ( 649923.9, 4204378.2,       4.5,       4.5,       0.0);
( 649943.9, 4204378.2,       4.5,       4.5,       0.0);
     ( 649963.9, 4204378.2,       4.5,       4.5,       0.0);
( 649983.9, 4204378.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204378.2,       4.5,       4.5,       0.0);
( 650023.9, 4204378.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204378.2,       4.5,       4.5,       0.0);
( 650063.9, 4204378.2,       4.5,       4.5,       0.0);
     ( 650083.9, 4204378.2,       4.5,       4.5,       0.0);
( 650103.9, 4204378.2,       4.5,       4.5,       0.0);
     ( 650903.9, 4204378.2,       5.8,       5.8,       0.0);
( 650923.9, 4204378.2,       5.8,       5.8,       0.0);
     ( 649923.9, 4204398.2,       4.5,       4.5,       0.0);
( 649943.9, 4204398.2,       4.5,       4.5,       0.0);
     ( 649963.9, 4204398.2,       4.5,       4.5,       0.0);
( 649983.9, 4204398.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204398.2,       4.5,       4.5,       0.0);
( 650023.9, 4204398.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204398.2,       4.5,       4.5,       0.0);
( 650063.9, 4204398.2,       4.5,       4.5,       0.0);
     ( 650083.9, 4204398.2,       4.5,       4.5,       0.0);
( 650103.9, 4204398.2,       4.5,       4.5,       0.0);
     ( 649923.9, 4204418.2,       4.5,       4.5,       0.0);
( 649943.9, 4204418.2,       4.5,       4.5,       0.0);
     ( 649963.9, 4204418.2,       4.5,       4.5,       0.0);
( 649983.9, 4204418.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204418.2,       4.5,       4.5,       0.0);
( 650023.9, 4204418.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204418.2,       4.5,       4.5,       0.0);
( 650103.9, 4204418.2,       4.5,       4.5,       0.0);
     ( 649923.9, 4204438.2,       4.5,       4.5,       0.0);
( 649943.9, 4204438.2,       4.5,       4.5,       0.0);
     ( 649963.9, 4204438.2,       4.5,       4.5,       0.0);
( 649983.9, 4204438.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204438.2,       4.5,       4.5,       0.0);
( 650023.9, 4204438.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204438.2,       4.5,       4.5,       0.0);
( 650063.9, 4204438.2,       4.5,       4.5,       0.0);
     ( 650083.9, 4204438.2,       4.5,       4.5,       0.0);
( 650143.9, 4204438.2,       4.5,       4.5,       0.0);
     ( 650209.7, 4204428.7,       4.7,       4.7,       0.0);
( 650229.7, 4204428.7,       5.1,       5.1,       0.0);
```

```
     ( 649923.9, 4204458.2,       4.5,       4.5,       0.0);
( 649943.9, 4204458.2,       4.5,       4.5,       0.0);
```

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

```
     ( 649963.9, 4204458.2,       4.5,       4.5,       0.0);
( 649983.9, 4204458.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204458.2,       4.5,       4.5,       0.0);
( 650023.9, 4204458.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204458.2,       4.5,       4.5,       0.0);
( 650063.9, 4204458.2,       4.5,       4.5,       0.0);
     ( 650083.9, 4204458.2,       4.5,       4.5,       0.0);
( 650143.9, 4204458.2,       4.5,       4.5,       0.0);
     ( 650203.9, 4204458.2,       4.9,       4.9,       0.0);
( 650223.9, 4204458.2,       5.2,       5.2,       0.0);
     ( 649923.9, 4204478.2,       4.5,       4.5,       0.0);
( 649943.9, 4204478.2,       4.5,       4.5,       0.0);
     ( 649963.9, 4204478.2,       4.5,       4.5,       0.0);
( 649983.9, 4204478.2,       4.5,       4.5,       0.0);
     ( 650003.9, 4204478.2,       4.5,       4.5,       0.0);
( 650023.9, 4204478.2,       4.5,       4.5,       0.0);
     ( 650043.9, 4204478.2,       4.5,       4.5,       0.0);
( 650063.9, 4204478.2,       4.6,       4.6,       0.0);
     ( 650203.9, 4204478.2,       5.1,       5.1,       0.0);
( 649923.9, 4204498.2,       4.5,       4.5,       0.0);
     ( 649943.9, 4204498.2,       4.5,       4.5,       0.0);
( 649963.9, 4204498.2,       4.5,       4.5,       0.0);
     ( 649983.9, 4204498.2,       4.5,       4.5,       0.0);
( 650003.9, 4204498.2,       4.5,       4.5,       0.0);
     ( 650023.9, 4204498.2,       4.5,       4.5,       0.0);
( 650043.9, 4204498.2,       4.6,       4.6,       0.0);
     ( 650063.9, 4204498.2,       4.8,       4.8,       0.0);
( 650103.9, 4204498.2,       5.0,       5.0,       0.0);
     ( 650123.9, 4204498.2,       5.0,       5.0,       0.0);
( 650143.9, 4204498.2,       5.0,       5.0,       0.0);
     ( 650163.9, 4204498.2,       5.0,       5.0,       0.0);
( 650183.9, 4204498.2,       5.2,       5.2,       0.0);
     ( 650203.9, 4204498.2,       5.2,       5.2,       0.0);
( 649923.9, 4204518.2,       4.5,       4.5,       0.0);
     ( 649943.9, 4204518.2,       4.5,       4.5,       0.0);
( 649963.9, 4204518.2,       4.5,       4.5,       0.0);
```

```
     ( 649983.9, 4204518.2,       4.5,       4.5,       0.0);
( 650003.9, 4204518.2,       4.6,       4.6,       0.0);
     ( 650023.9, 4204518.2,       4.7,       4.7,       0.0);
( 650043.9, 4204518.2,       4.8,       4.8,       0.0);
     ( 650063.9, 4204518.2,       5.0,       5.0,       0.0);
( 650103.9, 4204518.2,       5.1,       5.1,       0.0);
     ( 650123.9, 4204518.2,       5.1,       5.1,       0.0);
( 650143.9, 4204518.2,       5.1,       5.1,       0.0);
     ( 650163.9, 4204518.2,       5.2,       5.2,       0.0);
( 650183.9, 4204518.2,       5.2,       5.2,       0.0);
     ( 650203.9, 4204518.2,       5.2,       5.2,       0.0);
( 650158.0, 4204184.4,       5.3,       5.3,       0.0);
     ( 650190.8, 4204367.1,       4.5,       4.5,       0.0);
( 650200.7, 4204370.0,       4.5,       4.5,       0.0);
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: P:\300.Environmental\13355 St. Joseph's Hospital\13355.02 - EIR - Dignity Health Met Version: 18081
Profile file: P:\300.Environmental\13355 St. Joseph's Hospital\13355.02 - EIR - Dignity Health
Surface format: FREE
Profile format: FREE
Surface station no.: 23237 Upper air station no.: 23230
Name: UNKNOWN Name: OAKLAND/WSO_AP
Year: 2013 Year: 2013

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
13	01	01	1	01	-22.0	0.211	-9.000	-9.000	-999.	232.	48.8	0.07	2.20	1.00	2.78	149.	10.0	273.8	2.0
13	01	01	1	02	-14.6	0.158	-9.000	-9.000	-999.	152.	27.6	0.04	2.20	1.00	2.37	77.	10.0	273.8	2.0
13	01	01	1	03	-18.4	0.181	-9.000	-9.000	-999.	185.	36.0	0.06	2.20	1.00	2.52	97.	10.0	273.1	2.0
13	01	01	1	04	-6.7	0.105	-9.000	-9.000	-999.	84.	16.0	0.04	2.20	1.00	1.63	349.	10.0	272.5	2.0
13	01	01	1	05	-20.1	0.193	-9.000	-9.000	-999.	203.	40.9	0.04	2.20	1.00	2.86	356.	10.0	274.2	2.0
13	01	01	1	06	-3.9	0.081	-9.000	-9.000	-999.	64.	12.6	0.04	2.20	1.00	1.23	77.	10.0	273.8	2.0
13	01	01	1	07	-18.3	0.180	-9.000	-9.000	-999.	184.	35.8	0.06	2.20	1.00	2.52	255.	10.0	273.1	2.0
13	01	01	1	08	-26.9	0.259	-9.000	-9.000	-999.	316.	73.8	0.08	2.20	0.73	3.29	287.	10.0	274.2	2.0
13	01	01	1	09	-1.9	0.212	-9.000	-9.000	-999.	236.	461.6	0.05	2.20	0.39	2.81	315.	10.0	275.9	2.0
13	01	01	1	10	61.1	0.155	0.630	0.005	150.	147.	-5.5	0.04	2.20	0.27	1.60	336.	10.0	277.5	2.0
13	01	01	1	11	110.2	0.238	1.137	0.005	488.	279.	-11.2	0.06	2.20	0.23	2.45	228.	10.0	279.9	2.0

```
 13 01 01   1 12  137.1  0.276  1.492  0.008  886.  347.    -14.0
0.08   2.20   0.22    2.69  286.   10.0  280.4    2.0
 13 01 01   1 13  141.1  0.271  1.531  0.007  929.  339.    -12.9
0.05   2.20   0.21    2.88  325.   10.0  282.5    2.0
 13 01 01   1 14  121.3  0.232  1.475  0.006  965.  269.     -9.4
0.04   2.20   0.22    2.57  356.   10.0  283.8    2.0
 13 01 01   1 15   78.7  0.218  1.287  0.005  988.  244.    -12.0
0.04   2.20   0.26    2.47  357.   10.0  284.2    2.0
 13 01 01   1 16   17.6  0.265  0.783  0.005  993.  327.    -96.0
0.03   2.20   0.35    3.59    2.   10.0  284.2    2.0
 13 01 01   1 17  -11.2  0.143 -9.000 -9.000 -999.  139.     24.1
0.04   2.20   0.60    2.16  346.   10.0  282.5    2.0
 13 01 01   1 18   -8.7  0.125 -9.000 -9.000 -999.  107.     20.6
0.08   2.20   1.00    1.67  273.   10.0  279.2    2.0
 13 01 01   1 19  -13.3  0.154 -9.000 -9.000 -999.  145.     26.0
0.06   2.20   1.00    2.15  238.   10.0  278.1    2.0
 13 01 01   1 20  -10.2  0.134 -9.000 -9.000 -999.  117.     21.4
0.06   2.20   1.00    1.89  230.   10.0  275.9    2.0
 13 01 01   1 21  -12.5  0.148 -9.000 -9.000 -999.  137.     24.2
0.05   2.20   1.00    2.11  300.   10.0  276.4    2.0
 13 01 01   1 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0
0.05   2.20   1.00    0.00    0.   10.0  275.9    2.0
 13 01 01   1 23  -24.0  0.230 -9.000 -9.000 -999.  264.     57.9
0.04   2.20   1.00    3.36   80.   10.0  274.2    2.0
 13 01 01   1 24  -16.1  0.169 -9.000 -9.000 -999.  167.     31.3
0.06   2.20   1.00    2.36  100.   10.0  274.2    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW
sigmaV
 13 01 01 01   10.0 1  149.    2.78   273.8
99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
649898.38	4203525.65	6.06954	649918.38	4203525.65	6.27985
650043.90	4203518.18	7.73077	650063.90	4203518.18	7.99319
650083.90	4203518.18	8.28117	650103.90	4203518.18	8.55499
650143.90	4203518.18	8.98533	650163.90	4203518.18	9.19215
650183.90	4203518.18	9.28226	650203.90	4203518.18	9.36621
650223.90	4203518.18	9.39147	650243.90	4203518.18	9.39425
650263.90	4203518.18	9.37524	650283.90	4203518.18	9.37357
650303.90	4203518.18	9.38311	650323.90	4203518.18	9.41622
650383.90	4203518.18	9.80223	650403.90	4203518.18	9.99811
650423.90	4203518.18	10.22723	650443.90	4203518.18	10.49110
650463.90	4203518.18	10.82524	650663.90	4203518.18	18.82094
650683.90	4203518.18	19.40695	650043.90	4203538.18	7.86252
650063.90	4203538.18	8.17744	650083.90	4203538.18	8.44320

```
         650103.90    4203538.18        8.75449
650143.90    4203538.18        9.26847
         650163.90    4203538.18        9.45914
650183.90    4203538.18        9.61667
         650203.90    4203538.18        9.69678
650223.90    4203538.18        9.73589
         650243.90    4203538.18        9.74963
650263.90    4203538.18        9.75010
         650283.90    4203538.18        9.75824
650303.90    4203538.18        9.74271
         650323.90    4203538.18        9.76961
650383.90    4203538.18       10.18686
         650403.90    4203538.18       10.39191
650423.90    4203538.18       10.68956
         650443.90    4203538.18       10.93952
650463.90    4203538.18       11.27642
         650523.90    4203538.18       12.66074
650543.90    4203538.18       13.42932
         650563.90    4203538.18       14.32311
650583.90    4203538.18       15.41962
         650663.90    4203538.18       19.92122
650683.90    4203538.18       20.32619
         650063.90    4203558.18        8.34307
650083.90    4203558.18        8.66576
         650103.90    4203558.18        8.97921
650143.90    4203558.18        9.54443
         650163.90    4203558.18        9.77807
650183.90    4203558.18        9.94179
         650203.90    4203558.18       10.04291
650223.90    4203558.18       10.11549
         650243.90    4203558.18       10.14535
650263.90    4203558.18       10.13330
         650283.90    4203558.18       10.14364
650303.90    4203558.18       10.14408
         650323.90    4203558.18       10.15844
650383.90    4203558.18       10.60688
         650403.90    4203558.18       10.82316
650423.90    4203558.18       11.12537
         650443.90    4203558.18       11.44167
650523.90    4203558.18       13.35000
         650543.90    4203558.18       14.24286
650563.90    4203558.18       15.26075
         650583.90    4203558.18       16.62431
650003.90    4203578.18        7.60938
         650023.90    4203578.18        7.90060
650043.90    4203578.18        8.22212
         650063.90    4203578.18        8.53618
650083.90    4203578.18        8.88090
         650123.90    4203578.18        9.52550
650143.90    4203578.18        9.81825
         650163.90    4203578.18       10.05985
650183.90    4203578.18       10.29564
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          650203.90    4203578.18       10.41968
650223.90    4203578.18       10.50034
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650243.90	4203578.18	10.55392	650263.90	4203578.18	10.56967
650283.90	4203578.18	10.55748	650303.90	4203578.18	10.55962
650323.90	4203578.18	10.63109	650383.90	4203578.18	11.05453
650403.90	4203578.18	11.28652	650423.90	4203578.18	11.61313
650443.90	4203578.18	11.95336	650523.90	4203578.18	14.20659
650543.90	4203578.18	15.20987	650563.90	4203578.18	16.37097
650583.90	4203578.18	17.93847	650063.90	4203598.18	8.72626
650083.90	4203598.18	9.11058	650123.90	4203598.18	9.79186
650143.90	4203598.18	10.12826	650163.90	4203598.18	10.40099
650183.90	4203598.18	10.65166	650203.90	4203598.18	10.81101
650223.90	4203598.18	10.90860	650243.90	4203598.18	10.99598
650263.90	4203598.18	11.00939	650283.90	4203598.18	11.03220
650303.90	4203598.18	11.04127	650323.90	4203598.18	11.09543

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         650403.90    4203598.18       11.81455
650423.90    4203598.18       12.14233
         650443.90    4203598.18       12.50841
650523.90    4203598.18       15.13927
         650543.90    4203598.18       16.27195
650563.90    4203598.18       17.74965
         650583.90    4203598.18       19.39143
650123.90    4203618.18       10.04736
         650143.90    4203618.18       10.42449
650163.90    4203618.18       10.74121
         650183.90    4203618.18       11.04385
650203.90    4203618.18       11.24481
         650223.90    4203618.18       11.35861
650243.90    4203618.18       11.45545
         650263.90    4203618.18       11.48231
650283.90    4203618.18       11.53182
         650303.90    4203618.18       11.56536
650323.90    4203618.18       11.66268
         650523.90    4203618.18       16.20491
650543.90    4203618.18       17.63176
         650563.90    4203618.18       19.33639
650583.90    4203618.18       21.07885
         650603.90    4203618.18       22.42865
650623.90    4203618.18       23.43495
         650643.90    4203618.18       23.91152
649963.90    4203638.18        7.63535
         649983.90    4203638.18        7.87661
650003.90    4203638.18        8.16563
         650023.90    4203638.18        8.48645
650043.90    4203638.18        8.80704
         650063.90    4203638.18        9.15890
650083.90    4203638.18        9.53455
         650123.90    4203638.18       10.35343
650143.90    4203638.18       10.72871
         650163.90    4203638.18       11.09839
650183.90    4203638.18       11.41661
         650203.90    4203638.18       11.67780
650223.90    4203638.18       11.84015
         650243.90    4203638.18       11.94907
650263.90    4203638.18       12.03229
         650283.90    4203638.18       12.07319
650303.90    4203638.18       12.13816
         650323.90    4203638.18       12.24140
650363.90    4203638.18       12.49193
         650563.90    4203638.18       21.01911
650583.90    4203638.18       22.78064
         650603.90    4203638.18       24.08956
650623.90    4203638.18       24.79304
         650643.90    4203638.18       25.01399
650663.90    4203638.18       24.69292
         650683.90    4203638.18       24.31429
649923.90    4203658.18        7.46522
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          649943.90    4203658.18        7.67106
649963.90    4203658.18        7.85366
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
649983.90	4203658.18	8.10676	650003.90	4203658.18	8.36330
650023.90	4203658.18	8.69546	650043.90	4203658.18	9.02063
650063.90	4203658.18	9.38671	650083.90	4203658.18	9.78304
650103.90	4203658.18	10.22369	650123.90	4203658.18	10.62883
650223.90	4203658.18	12.35084	650243.90	4203658.18	12.50899
650263.90	4203658.18	12.62191	650283.90	4203658.18	12.66628
650303.90	4203658.18	12.74394	650363.90	4203658.18	13.13134
650383.90	4203658.18	13.38215	650403.90	4203658.18	13.66955
650643.90	4203658.18	25.90204	650663.90	4203658.18	25.59662
650683.90	4203658.18	25.10022	649923.90	4203678.18	7.69681
649943.90	4203678.18	7.91009	649963.90	4203678.18	8.11092
649983.90	4203678.18	8.34137	650003.90	4203678.18	8.60792
650023.90	4203678.18	8.95705	650043.90	4203678.18	9.27335

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          650063.90    4203678.18         9.61901
650083.90    4203678.18        10.02854
          650103.90    4203678.18        10.47063
650123.90    4203678.18        10.97620
          650143.90    4203678.18        11.41518
650363.90    4203678.18        13.84743
          650383.90    4203678.18        14.08691
650403.90    4203678.18        14.43126
          650423.90    4203678.18        14.90877
649923.90    4203698.18         7.90125
          649943.90    4203698.18         8.14623
649963.90    4203698.18         8.37573
          649983.90    4203698.18         8.62358
650003.90    4203698.18         8.87683
          650023.90    4203698.18         9.16632
650043.90    4203698.18         9.53853
          650063.90    4203698.18         9.90442
650083.90    4203698.18        10.31466
          650103.90    4203698.18        10.80325
650123.90    4203698.18        11.31299
          650143.90    4203698.18        11.81295
650423.90    4203698.18        15.83347
          650443.90    4203698.18        16.54644
649923.90    4203718.18         8.19571
          649943.90    4203718.18         8.41860
649963.90    4203718.18         8.67666
          649983.90    4203718.18         8.92938
650003.90    4203718.18         9.19045
          650023.90    4203718.18         9.49442
650043.90    4203718.18         9.86943
          650063.90    4203718.18        10.23880
650083.90    4203718.18        10.68154
          650103.90    4203718.18        11.14350
650123.90    4203718.18        11.69353
          650143.90    4203718.18        12.21802
649923.90    4203738.18         8.53383
          649943.90    4203738.18         8.72043
649963.90    4203738.18         8.97828
          649983.90    4203738.18         9.24178
650003.90    4203738.18         9.51333
          650023.90    4203738.18         9.80071
650043.90    4203738.18        10.18448
          650063.90    4203738.18        10.58957
650083.90    4203738.18        11.03396
          650103.90    4203738.18        11.49652
650123.90    4203738.18        12.10078
          650143.90    4203738.18        12.66748
650163.90    4203738.18        13.22737
          650183.90    4203738.18        13.80851
650203.90    4203738.18        14.42228
          649923.90    4203758.18         8.88541
649943.90    4203758.18         9.07852
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          649963.90    4203758.18        9.34671
649983.90    4203758.18        9.61914
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650003.90	4203758.18	9.89740	650023.90	4203758.18	10.19294
650043.90	4203758.18	10.55282	650063.90	4203758.18	11.00008
650083.90	4203758.18	11.44017	650103.90	4203758.18	11.91536
650123.90	4203758.18	12.49106	650143.90	4203758.18	13.14150
650163.90	4203758.18	13.83393	650183.90	4203758.18	14.67946
650203.90	4203758.18	16.27589	649923.90	4203778.18	9.27958
649943.90	4203778.18	9.52172	649963.90	4203778.18	9.71658
649983.90	4203778.18	10.00147	650003.90	4203778.18	10.34729
650023.90	4203778.18	10.66701	650043.90	4203778.18	10.99329
650063.90	4203778.18	11.38360	650083.90	4203778.18	11.88338
650103.90	4203778.18	12.39216	650123.90	4203778.18	12.97770
649923.90	4203798.18	9.71301	649943.90	4203798.18	9.94427
649963.90	4203798.18	10.19854	649983.90	4203798.18	10.48585

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         650003.90    4203798.18       10.77638
650023.90    4203798.18       11.13471
         650043.90    4203798.18       11.52092
650063.90    4203798.18       11.91821
         650083.90    4203798.18       12.42914
650103.90    4203798.18       12.94873
         650123.90    4203798.18       13.64175
649923.90    4203818.18       10.08812
         649943.90    4203818.18       10.41431
649963.90    4203818.18       10.68557
         649983.90    4203818.18       10.99590
650003.90    4203818.18       11.31979
         650023.90    4203818.18       11.67868
650043.90    4203818.18       12.07150
         650063.90    4203818.18       12.51338
650083.90    4203818.18       12.96169
         650103.90    4203818.18       13.63432
650123.90    4203818.18       14.43497
         650143.90    4203818.18       16.39293
650163.90    4203818.18       19.34206
         649923.90    4203838.18       10.57865
649943.90    4203838.18       10.87286
         649963.90    4203838.18       11.22722
649983.90    4203838.18       11.55610
         650003.90    4203838.18       11.91233
650023.90    4203838.18       12.26448
         650043.90    4203838.18       12.73544
650063.90    4203838.18       13.17573
         650083.90    4203838.18       13.68936
649923.90    4203858.18       11.12228
         649943.90    4203858.18       11.42486
649963.90    4203858.18       11.76743
         649983.90    4203858.18       12.15183
650003.90    4203858.18       12.56080
         650023.90    4203858.18       12.95878
650043.90    4203858.18       13.41891
         650063.90    4203858.18       13.94090
650083.90    4203858.18       14.54305
         649923.90    4203878.18       11.63871
649943.90    4203878.18       12.00698
         649963.90    4203878.18       12.40737
649983.90    4203878.18       12.73804
         650003.90    4203878.18       13.23977
650023.90    4203878.18       13.75849
         650043.90    4203878.18       14.23083
650063.90    4203878.18       14.72806
         650083.90    4203878.18       15.47992
650743.90    4203878.18       32.10920
         650763.90    4203878.18       30.97432
650783.90    4203878.18       30.20833
         650803.90    4203878.18       29.18507
650823.90    4203878.18       28.32256
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          650843.90    4203878.18       27.92817
650863.90    4203878.18       27.52246
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
649923.90	4203898.18	12.13098	649943.90	4203898.18	12.58403
649963.90	4203898.18	13.04414	649983.90	4203898.18	13.46186
650003.90	4203898.18	13.94120	650023.90	4203898.18	14.49880
650043.90	4203898.18	15.12914	650063.90	4203898.18	15.68137
650083.90	4203898.18	16.48322	650743.90	4203898.18	33.30745
650763.90	4203898.18	32.17433	650783.90	4203898.18	31.38780
650803.90	4203898.18	30.62377	650823.90	4203898.18	30.11460
650843.90	4203898.18	29.22980	650863.90	4203898.18	28.36617
649923.90	4203918.18	12.54077	649943.90	4203918.18	13.04145
649963.90	4203918.18	13.58342	649983.90	4203918.18	14.16527
650003.90	4203918.18	14.72259	650023.90	4203918.18	15.30770
650043.90	4203918.18	15.98734	650063.90	4203918.18	16.73753
650083.90	4203918.18	17.65685	650723.90	4203918.18	35.94973

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          650743.90    4203918.18       34.96109
650763.90    4203918.18       33.82765
          650783.90    4203918.18       33.06177
650803.90    4203918.18       32.28226
          650823.90    4203918.18       31.28381
650843.90    4203918.18       30.31948
          650863.90    4203918.18       29.19666
649923.90    4203938.18       13.05446
          649943.90    4203938.18       13.58783
649963.90    4203938.18       14.11580
          649983.90    4203938.18       14.73510
650003.90    4203938.18       15.45661
          650023.90    4203938.18       16.12332
650043.90    4203938.18       16.84248
          650063.90    4203938.18       17.71276
650083.90    4203938.18       18.77387
          650103.90    4203938.18       20.30985
650123.90    4203938.18       23.40852
          650143.90    4203938.18       25.48050
650723.90    4203938.18       37.84602
          650743.90    4203938.18       36.67721
650763.90    4203938.18       35.74104
          650783.90    4203938.18       34.62741
650803.90    4203938.18       33.44549
          650823.90    4203938.18       32.36319
650843.90    4203938.18       31.34464
          649923.90    4203958.18       13.48850
649943.90    4203958.18       14.03938
          649963.90    4203958.18       14.62164
649983.90    4203958.18       15.29371
          650003.90    4203958.18       15.98548
650023.90    4203958.18       16.87231
          650043.90    4203958.18       17.74891
650063.90    4203958.18       18.64135
          650083.90    4203958.18       19.68115
650103.90    4203958.18       21.88124
          650123.90    4203958.18       24.02491
650723.90    4203958.18       40.05704
          650743.90    4203958.18       38.91075
650763.90    4203958.18       37.54034
          650783.90    4203958.18       35.99167
650803.90    4203958.18       34.75714
          650823.90    4203958.18       33.54152
650843.90    4203958.18       32.38167
          649923.90    4203978.18       13.61095
649943.90    4203978.18       14.31204
          649963.90    4203978.18       15.00547
649983.90    4203978.18       15.75708
          650003.90    4203978.18       16.56291
650023.90    4203978.18       17.37205
          650043.90    4203978.18       18.35868
650063.90    4203978.18       19.49092
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          650083.90    4203978.18       20.75518
650103.90    4203978.18       22.53854
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650130.14	4203977.56	26.18318	650703.90	4203978.18	44.11847
650723.90	4203978.18	42.44633	650743.90	4203978.18	40.72905
650763.90	4203978.18	38.92316	650783.90	4203978.18	37.39912
650803.90	4203978.18	35.94434	650823.90	4203978.18	34.57622
650843.90	4203978.18	33.24462	649923.90	4203998.18	13.89839
649943.90	4203998.18	14.51438	649963.90	4203998.18	15.19288
649983.90	4203998.18	15.94229	650003.90	4203998.18	16.85947
650023.90	4203998.18	17.81921	650043.90	4203998.18	18.83261
650063.90	4203998.18	19.86645	650083.90	4203998.18	21.31179
650103.90	4203998.18	22.93470	650703.90	4203998.18	46.52697
650723.90	4203998.18	44.24270	650743.90	4203998.18	42.01735
650763.90	4203998.18	40.12621	650783.90	4203998.18	38.35694
650803.90	4203998.18	36.60283	650823.90	4203998.18	34.88173

650843.90 4203998.18 33.51774
649923.90 4204018.18 13.94371
649943.90 4204018.18 14.62703
649963.90 4204018.18 15.32207
649983.90 4204018.18 16.09207
650003.90 4204018.18 16.91142
650023.90 4204018.18 17.80761
650043.90 4204018.18 18.90904
650063.90 4204018.18 20.23389
650083.90 4204018.18 21.52237
650103.90 4204018.18 23.15164
650123.90 4204018.18 25.98379
650703.90 4204018.18 47.70569
650723.90 4204018.18 44.90870
650743.90 4204018.18 42.56894
650763.90 4204018.18 40.13573
650783.90 4204018.18 38.08591
650803.90 4204018.18 36.38564
650823.90 4204018.18 34.76898
650843.90 4204018.18 33.16457
649923.90 4204038.18 13.86338
649943.90 4204038.18 14.50702
649963.90 4204038.18 15.25522
649983.90 4204038.18 16.02389
650003.90 4204038.18 16.91293
650023.90 4204038.18 17.86244
650043.90 4204038.18 18.86846
650063.90 4204038.18 20.01183
650083.90 4204038.18 21.31702
650103.90 4204038.18 23.10184
650123.90 4204038.18 25.18734
650683.90 4204038.18 50.13206
650703.90 4204038.18 47.01703
650723.90 4204038.18 43.92576
650743.90 4204038.18 41.32640
650763.90 4204038.18 39.15620
650783.90 4204038.18 37.13548
650803.90 4204038.18 35.08166
650823.90 4204038.18 33.16853
649923.90 4204058.18 13.69201
649943.90 4204058.18 14.32181
649963.90 4204058.18 15.00415
649983.90 4204058.18 15.76314
650003.90 4204058.18 16.54641
650023.90 4204058.18 17.49070
650043.90 4204058.18 18.58795
650063.90 4204058.18 19.72391
650083.90 4204058.18 21.03309
650103.90 4204058.18 22.54639
650123.90 4204058.18 24.21693
650683.90 4204058.18 47.44971
650703.90 4204058.18 44.23078

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          650723.90    4204058.18       41.55328
650743.90    4204058.18       39.11861
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650763.90	4204058.18	36.72051	650783.90	4204058.18	34.54250
650803.90	4204058.18	32.58334	650823.90	4204058.18	30.78739
649923.90	4204078.18	13.52073	649943.90	4204078.18	14.12059
649963.90	4204078.18	14.75878	649983.90	4204078.18	15.53785
650003.90	4204078.18	16.29963	650023.90	4204078.18	17.17845
650043.90	4204078.18	18.12725	650063.90	4204078.18	19.26061
650083.90	4204078.18	20.47970	650103.90	4204078.18	21.86639
650123.90	4204078.18	23.64717	650683.90	4204078.18	43.26796
650703.90	4204078.18	40.48366	650723.90	4204078.18	37.64242
650743.90	4204078.18	35.25491	650763.90	4204078.18	33.13660
650783.90	4204078.18	31.20509	650803.90	4204078.18	29.44503
650823.90	4204078.18	28.01875	649923.90	4204098.18	13.21054
649943.90	4204098.18	13.79218	649963.90	4204098.18	14.42041

649983.90 4204098.18 15.15015
650003.90 4204098.18 15.90494
650023.90 4204098.18 16.74607
650043.90 4204098.18 17.72195
650063.90 4204098.18 18.77218
650083.90 4204098.18 19.94853
650103.90 4204098.18 21.51485
650123.90 4204098.18 23.28241
650143.90 4204098.18 25.69860
650163.90 4204098.18 28.95902
650663.90 4204098.18 40.93876
650683.90 4204098.18 38.12692
650703.90 4204098.18 35.66610
650723.90 4204098.18 33.28088
650743.90 4204098.18 31.29563
650763.90 4204098.18 29.52226
650783.90 4204098.18 28.07921
650803.90 4204098.18 26.55061
650823.90 4204098.18 25.22136
649923.90 4204118.18 13.13081
649943.90 4204118.18 13.68638
649963.90 4204118.18 14.33890
649983.90 4204118.18 15.03092
650003.90 4204118.18 15.82324
650023.90 4204118.18 16.62468
650043.90 4204118.18 17.63242
650063.90 4204118.18 18.71098
650083.90 4204118.18 19.97437
650103.90 4204118.18 21.45324
650123.90 4204118.18 23.88243
650143.90 4204118.18 26.87171
650163.90 4204118.18 29.44654
650181.72 4204111.01 32.55496
650663.90 4204118.18 35.28683
650683.90 4204118.18 32.93781
650703.90 4204118.18 31.01623
650723.90 4204118.18 29.28977
650743.90 4204118.18 27.72861
650763.90 4204118.18 26.44563
650783.90 4204118.18 25.12483
650803.90 4204118.18 24.05696
650823.90 4204118.18 23.05867
649923.90 4204138.18 13.09905
649943.90 4204138.18 13.71917
649963.90 4204138.18 14.31838
649983.90 4204138.18 15.04185
650003.90 4204138.18 15.77864
650023.90 4204138.18 16.70534
650043.90 4204138.18 17.67461
650063.90 4204138.18 18.93674
650083.90 4204138.18 20.44950
650103.90 4204138.18 22.50783

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          650123.90    4204138.18       26.11079
650143.90    4204138.18       28.81806
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 ,
STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650163.90	4204138.18	29.29297	650643.90	4204138.18	32.18460
650663.90	4204138.18	30.44571	650683.90	4204138.18	28.86907
650703.90	4204138.18	27.39716	650723.90	4204138.18	26.18822
650743.90	4204138.18	25.06691	650763.90	4204138.18	24.02804
650783.90	4204138.18	23.06387	650803.90	4204138.18	22.16428
649923.90	4204158.18	13.13496	649943.90	4204158.18	13.67851
649963.90	4204158.18	14.38319	649983.90	4204158.18	15.22364
650003.90	4204158.18	16.08192	650023.90	4204158.18	17.05619
650043.90	4204158.18	18.11646	650063.90	4204158.18	19.35464
650083.90	4204158.18	21.15197	650103.90	4204158.18	23.94267
650123.90	4204158.18	28.80866	650143.90	4204158.18	30.47018
650177.35	4204157.56	34.48944	650643.90	4204158.18	27.82081
650663.90	4204158.18	26.72587	650683.90	4204158.18	25.67088

650703.90 4204158.18 24.72882
650723.90 4204158.18 23.78797
650743.90 4204158.18 22.88962
650763.90 4204158.18 22.04599
650783.90 4204158.18 21.30709
650803.90 4204158.18 20.55172
650923.90 4204158.18 16.89597
649923.90 4204178.18 13.34533
649943.90 4204178.18 14.06688
649963.90 4204178.18 14.76887
649983.90 4204178.18 15.52849
650003.90 4204178.18 16.38951
650023.90 4204178.18 17.46282
650043.90 4204178.18 18.64936
650063.90 4204178.18 20.30285
650083.90 4204178.18 22.08490
650103.90 4204178.18 25.63097
650123.90 4204178.18 31.63959
650143.90 4204178.18 34.27940
650643.90 4204178.18 24.50618
650663.90 4204178.18 23.73763
650683.90 4204178.18 23.02265
650703.90 4204178.18 22.29397
650723.90 4204178.18 21.59280
650743.90 4204178.18 20.92834
650763.90 4204178.18 20.26081
650783.90 4204178.18 19.64913
650803.90 4204178.18 19.05837
650903.90 4204178.18 16.40453
650923.90 4204178.18 15.97878
649923.90 4204198.18 13.69324
649943.90 4204198.18 14.34567
649963.90 4204198.18 15.04896
649983.90 4204198.18 15.91280
650003.90 4204198.18 16.84332
650023.90 4204198.18 18.06675
650043.90 4204198.18 19.24372
650063.90 4204198.18 20.87565
650083.90 4204198.18 23.07094
650103.90 4204198.18 26.69201
650123.90 4204198.18 34.92449
650143.90 4204198.18 39.24648
650643.90 4204198.18 21.50092
650663.90 4204198.18 21.03086
650683.90 4204198.18 20.51601
650703.90 4204198.18 20.04174
650723.90 4204198.18 19.56103
650743.90 4204198.18 19.05412
650763.90 4204198.18 18.57215
650783.90 4204198.18 18.09445
650803.90 4204198.18 17.61799
650903.90 4204198.18 15.50932

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          650923.90    4204198.18       15.11505
649923.90    4204218.18       13.84034
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
649943.90	4204218.18	14.57139	649963.90	4204218.18	15.35481
649983.90	4204218.18	16.34738	650003.90	4204218.18	17.23257
650023.90	4204218.18	18.37279	650043.90	4204218.18	19.86189
650063.90	4204218.18	21.72737	650083.90	4204218.18	23.91937
650103.90	4204218.18	27.09246	650123.90	4204218.18	36.87265
650145.46	4204223.48	45.94757	650623.90	4204218.18	19.25960
650643.90	4204218.18	18.96501	650703.90	4204218.18	18.01756
650723.90	4204218.18	17.69003	650743.90	4204218.18	17.32461
650763.90	4204218.18	16.98656	650903.90	4204218.18	14.59812
650923.90	4204218.18	14.26593	649923.90	4204238.18	14.15524
649943.90	4204238.18	14.90003	649963.90	4204238.18	15.61905
649983.90	4204238.18	16.39979	650003.90	4204238.18	17.42682
650023.90	4204238.18	18.81060	650043.90	4204238.18	20.21348

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          650063.90    4204238.18       21.96264
650083.90    4204238.18       24.54864
          650103.90    4204238.18       27.21697
650123.90    4204238.18       34.53133
          650623.90    4204238.18       17.04072
650643.90    4204238.18       16.87103
          650703.90    4204238.18       16.25348
650723.90    4204238.18       16.00415
          650743.90    4204238.18       15.76880
650763.90    4204238.18       15.50296
          650903.90    4204238.18       13.69704
650923.90    4204238.18       13.42089
          649923.90    4204258.18       14.22632
649943.90    4204258.18       14.86059
          649963.90    4204258.18       15.53756
649983.90    4204258.18       16.58740
          650003.90    4204258.18       17.59699
650023.90    4204258.18       18.72430
          650043.90    4204258.18       20.28152
650063.90    4204258.18       22.23220
          650083.90    4204258.18       24.35910
650103.90    4204258.18       27.04350
          650117.35    4204260.99       28.93180
650623.90    4204258.18       15.27868
          650643.90    4204258.18       15.14134
650903.90    4204258.18       12.80922
          650923.90    4204258.18       12.58399
649923.90    4204278.18       14.08172
          649943.90    4204278.18       14.70770
649963.90    4204278.18       15.60670
          649983.90    4204278.18       16.46589
650003.90    4204278.18       17.42355
          650023.90    4204278.18       18.55851
650043.90    4204278.18       20.08936
          650063.90    4204278.18       21.57210
650083.90    4204278.18       23.48993
          650103.90    4204278.18       25.91398
650129.52    4204276.31       29.31144
          650623.90    4204278.18       13.75441
650643.90    4204278.18       13.64632
          650903.90    4204278.18       11.94701
650923.90    4204278.18       11.76520
          649923.90    4204298.18       13.78061
649943.90    4204298.18       14.57735
          649963.90    4204298.18       15.31559
649983.90    4204298.18       15.98817
          650003.90    4204298.18       17.01734
650023.90    4204298.18       18.22836
          650043.90    4204298.18       19.37732
650063.90    4204298.18       20.78356
          650083.90    4204298.18       22.64164
650103.90    4204298.18       24.43968
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          650883.90    4204298.18       11.25709
650903.90    4204298.18       11.13715
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650923.90	4204298.18	10.99554	649923.90	4204318.18	13.57035
649943.90	4204318.18	14.15060	649963.90	4204318.18	14.87768
649983.90	4204318.18	15.60378	650003.90	4204318.18	16.71267
650023.90	4204318.18	17.64853	650043.90	4204318.18	18.61222
650063.90	4204318.18	19.91727	650083.90	4204318.18	21.26563
650103.90	4204318.18	22.89802	650128.58	4204306.95	25.91428
650883.90	4204318.18	10.43644	650903.90	4204318.18	10.34794
650923.90	4204318.18	10.24334	649923.90	4204338.18	13.22482
649943.90	4204338.18	13.82891	649963.90	4204338.18	14.47222
649983.90	4204338.18	15.34393	650003.90	4204338.18	16.12923
650023.90	4204338.18	16.86031	650043.90	4204338.18	17.90645
650063.90	4204338.18	19.07338	650083.90	4204338.18	20.39273
650103.90	4204338.18	21.81732	650123.90	4204338.18	23.03430

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          650295.82    4204357.27       11.42554
650883.90    4204338.18        9.65891
          650903.90    4204338.18        9.60028
650923.90    4204338.18        9.53998
          649923.90    4204358.18       12.78337
649943.90    4204358.18       13.46876
          649963.90    4204358.18       14.14652
649983.90    4204358.18       14.68038
          650003.90    4204358.18       15.42716
650023.90    4204358.18       16.43780
          650043.90    4204358.18       17.44124
650063.90    4204358.18       18.51875
          650083.90    4204358.18       19.48471
650103.90    4204358.18       20.51446
          650123.90    4204358.18       21.50455
650171.33    4204360.30       21.98826
          650181.51    4204363.22       21.52072
650883.90    4204358.18        8.92393
          650903.90    4204358.18        8.88681
650923.90    4204358.18        8.85130
          649923.90    4204378.18       12.44902
649943.90    4204378.18       13.01793
          649963.90    4204378.18       13.66604
649983.90    4204378.18       14.34660
          650003.90    4204378.18       15.03805
650023.90    4204378.18       16.03795
          650043.90    4204378.18       16.82919
650063.90    4204378.18       17.67768
          650083.90    4204378.18       18.60801
650103.90    4204378.18       19.39164
          650903.90    4204378.18        8.21186
650923.90    4204378.18        8.19115
          649923.90    4204398.18       12.26013
649943.90    4204398.18       12.82772
          649963.90    4204398.18       13.42631
649983.90    4204398.18       14.06385
          650003.90    4204398.18       14.87414
650023.90    4204398.18       15.50065
          650043.90    4204398.18       16.27160
650063.90    4204398.18       17.10500
          650083.90    4204398.18       17.71058
650103.90    4204398.18       17.95160
          649923.90    4204418.18       12.05620
649943.90    4204418.18       12.62287
          649963.90    4204418.18       13.03840
649983.90    4204418.18       13.68799
          650003.90    4204418.18       14.39908
650023.90    4204418.18       15.05905
          650043.90    4204418.18       15.73549
650103.90    4204418.18       16.73509
          649923.90    4204438.18       11.75219
649943.90    4204438.18       12.18517
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          649963.90    4204438.18       12.82241
649983.90    4204438.18       13.46640
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE PERIOD (43824 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
650003.90	4204438.18	13.95035	650023.90	4204438.18	14.57093
650043.90	4204438.18	15.06339	650063.90	4204438.18	15.26094
650083.90	4204438.18	15.58491	650143.90	4204438.18	14.94733
650209.72	4204428.68	13.05564	650229.72	4204428.68	11.80483
649923.90	4204458.18	11.51832	649943.90	4204458.18	11.94728
649963.90	4204458.18	12.64398	649983.90	4204458.18	13.14014
650003.90	4204458.18	13.57704	650023.90	4204458.18	13.88786
650043.90	4204458.18	14.25065	650063.90	4204458.18	14.49571
650083.90	4204458.18	14.67553	650143.90	4204458.18	13.71677
650203.90	4204458.18	11.40164	650223.90	4204458.18	10.33908
649923.90	4204478.18	11.27153	649943.90	4204478.18	11.80048
649963.90	4204478.18	12.27797	649983.90	4204478.18	12.70393
650003.90	4204478.18	12.96136	650023.90	4204478.18	13.31805

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         650043.90    4204478.18       13.60222
650063.90    4204478.18       13.76772
         650203.90    4204478.18       10.28050
649923.90    4204498.18       11.14350
         649943.90    4204498.18       11.58245
649963.90    4204498.18       11.81358
         649983.90    4204498.18       12.11048
650003.90    4204498.18       12.43759
         650023.90    4204498.18       12.81175
650043.90    4204498.18       12.90789
         650063.90    4204498.18       12.95080
650103.90    4204498.18       12.54394
         650123.90    4204498.18       12.20743
650143.90    4204498.18       11.56632
         650163.90    4204498.18       10.95767
650183.90    4204498.18       10.29320
         650203.90    4204498.18        9.39429
649923.90    4204518.18       10.95267
         649943.90    4204518.18       11.16709
649963.90    4204518.18       11.38031
         649983.90    4204518.18       11.71809
650003.90    4204518.18       12.06732
         650023.90    4204518.18       12.21089
650043.90    4204518.18       12.24261
         650063.90    4204518.18       12.10061
650103.90    4204518.18       11.77589
         650123.90    4204518.18       11.32821
650143.90    4204518.18       10.67870
         650163.90    4204518.18       10.11359
650183.90    4204518.18        9.41043
         650203.90    4204518.18        8.61169
650158.01    4204184.43       38.32224
         650190.84    4204367.10       20.72839
650200.65    4204370.01       19.78429
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649898.38	4203525.65	469.20752	(14102203)	649918.38	4203525.65	480.47997	(13110921)
650043.90	4203518.18	504.23140	(14072403)	650063.90	4203518.18	501.23903	(14072403)
650083.90	4203518.18	497.15299	(14072403)	650103.90	4203518.18	505.98394	(13100202)
650143.90	4203518.18	530.07860	(14093002)	650163.90	4203518.18	534.70036	(13081906)
650183.90	4203518.18	515.51179	(13081906)	650203.90	4203518.18	534.99669	(13092022)
650223.90	4203518.18	532.66607	(13092022)	650243.90	4203518.18	528.58488	(14100406)
650263.90	4203518.18	542.93379	(14060903)	650283.90	4203518.18	536.91812	(14112023)
650303.90	4203518.18	527.23739	(13050402)	650323.90	4203518.18	529.41090	(17101707)
650383.90	4203518.18	535.52769	(16072406)	650403.90	4203518.18	524.25000	(16072406)
650423.90	4203518.18	509.34497	(13090905)	650443.90	4203518.18	516.79173	(15082802)
650463.90	4203518.18	512.81715	(17111424)	650663.90	4203518.18	969.29055	(14110818)
650683.90	4203518.18	968.47735	(14110818)	650043.90	4203538.18	507.06205	(13102420)
650063.90	4203538.18	523.85612	(14072403)				

650083.90 4203538.18 513.18197 (14072403)
650103.90 4203538.18 503.78776 (16091802)
650143.90 4203538.18 538.11643 (13111122)
650163.90 4203538.18 540.90441 (13081906)
650183.90 4203538.18 530.27229 (14093002)
650203.90 4203538.18 538.55665 (13092022)
650223.90 4203538.18 540.97412 (13092022)
650243.90 4203538.18 538.67574 (13092022)
650263.90 4203538.18 552.44083 (14060903)
650283.90 4203538.18 550.35518 (14050102)
650303.90 4203538.18 536.48510 (13050402)
650323.90 4203538.18 538.84729 (17101707)
650383.90 4203538.18 544.91548 (16072406)
650403.90 4203538.18 527.70876 (13050703)
650423.90 4203538.18 518.13807 (13090905)
650443.90 4203538.18 525.94896 (15082802)
650463.90 4203538.18 525.84615 (14073003)
650523.90 4203538.18 433.45225 (14073003)
650543.90 4203538.18 539.00813 (13071304)
650563.90 4203538.18 718.62338 (13071304)
650583.90 4203538.18 868.11719 (13071304)
650663.90 4203538.18 995.53054 (14110818)
650683.90 4203538.18 969.40158 (15101224)
650063.90 4203558.18 525.76054 (14072403)
650083.90 4203558.18 523.50568 (14072403)
650103.90 4203558.18 517.88301 (14072403)
650143.90 4203558.18 542.59019 (13111122)
650163.90 4203558.18 557.78889 (14093002)
650183.90 4203558.18 545.75393 (14093002)
650203.90 4203558.18 540.29410 (13092022)
650223.90 4203558.18 565.90151 (13092022)
650243.90 4203558.18 551.91081 (13092022)
650263.90 4203558.18 561.14045 (14060903)
650283.90 4203558.18 561.08707 (14050102)
650303.90 4203558.18 545.39640 (13050402)
650323.90 4203558.18 548.11156 (17101707)
650383.90 4203558.18 554.06872 (16072406)
650403.90 4203558.18 535.45364 (13050703)
650423.90 4203558.18 526.69736 (15082802)
650443.90 4203558.18 534.01686 (15082802)
650523.90 4203558.18 431.50370 (16091604)
650543.90 4203558.18 615.28804 (13071304)
650563.90 4203558.18 793.68304 (13071304)
650583.90 4203558.18 924.11778 (13071304)
650003.90 4203578.18 518.35193 (13071202)
650023.90 4203578.18 524.76136 (13071202)
650043.90 4203578.18 533.58021 (13071202)
650063.90 4203578.18 526.02835 (13102420)
650083.90 4203578.18 545.51696 (14072403)
650123.90 4203578.18 530.66456 (13100202)
650143.90 4203578.18 561.29639 (13100202)
650163.90 4203578.18 564.16009 (14093002)

650183.90   4203578.18   563.86142 (13081906)
        650203.90   4203578.18   544.49734 (14093002)
650223.90   4203578.18   572.45384 (13092022)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650243.90	4203578.18	563.85758	(13092022)
650263.90	4203578.18	569.14028	(14060903)
650283.90	4203578.18	571.46362	(14050102)
650303.90	4203578.18	554.10118	(13050402)
650323.90	4203578.18	557.37063	(17101707)
650383.90	4203578.18	563.19859	(13101623)
650403.90	4203578.18	542.82690	(13050703)
650423.90	4203578.18	539.06480	(15082802)
650443.90	4203578.18	540.94532	(15082802)
650523.90	4203578.18	500.35968	(13071304)
650543.90	4203578.18	694.60915	(13071304)
650563.90	4203578.18	864.17110	(13071304)
650583.90	4203578.18	966.44670	(13071304)
650063.90	4203598.18	543.95128	(13071202)
650083.90	4203598.18	546.48703	(14072403)
650123.90	4203598.18	537.63427	(14072403)
650143.90	4203598.18	562.49374	(13100202)
650163.90	4203598.18	569.25018	(13111122)
650183.90	4203598.18	569.93831	(13081906)
650203.90	4203598.18	563.49586	(14093002)
650223.90	4203598.18	577.52113	(13092022)
650243.90	4203598.18	574.67635	(13092022)
650263.90	4203598.18	576.64384	(14060903)
650283.90	4203598.18	581.68773	(14050102)
650303.90	4203598.18	562.84773	(13050402)

650323.90   4203598.18   566.86435 (17101707)
        650403.90   4203598.18   548.63765 (14102821)
650423.90   4203598.18   550.93543 (15082802)
        650443.90   4203598.18   550.54535 (17111424)
650523.90   4203598.18   577.35157 (13071304)
        650543.90   4203598.18   774.08216 (13071304)
650563.90   4203598.18   925.42566 (13071304)
        650583.90   4203598.18   1010.84631 (17090304)
650123.90   4203618.18   555.07783 (14072403)
        650143.90   4203618.18   559.76703 (13100202)
650163.90   4203618.18   572.55548 (13111122)
        650183.90   4203618.18   592.66190 (14093002)
650203.90   4203618.18   580.49138 (14093002)
        650223.90   4203618.18   581.05432 (13092022)
650243.90   4203618.18   584.23576 (13092022)
        650263.90   4203618.18   583.57205 (14060903)
650283.90   4203618.18   591.70006 (14050102)
        650303.90   4203618.18   580.55771 (15101903)
650323.90   4203618.18   576.61203 (17101707)
        650523.90   4203618.18   658.71357 (13071304)
650543.90   4203618.18   849.66589 (13071304)
        650563.90   4203618.18   975.39167 (14021520)
650583.90   4203618.18   1037.54066 (17090304)
        650603.90   4203618.18   1023.10367 (15072005)
650623.90   4203618.18   1050.85679 (14110818)
        650643.90   4203618.18   1026.73541 (15101224)
649963.90   4203638.18   535.88491 (13061205)
        649983.90   4203638.18   543.31982 (14102203)
650003.90   4203638.18   546.89054 (14102203)
        650023.90   4203638.18   554.73533 (13110921)
650043.90   4203638.18   559.72197 (13071202)
        650063.90   4203638.18   566.85185 (13071202)
650083.90   4203638.18   571.41428 (13071202)
        650123.90   4203638.18   566.23584 (14072403)
650143.90   4203638.18   557.55053 (14072403)
        650163.90   4203638.18   590.52419 (13100202)
650183.90   4203638.18   599.34195 (14093002)
        650203.90   4203638.18   595.09484 (14093002)
650223.90   4203638.18   582.94719 (13092022)
        650243.90   4203638.18   592.33226 (13092022)
650263.90   4203638.18   591.57455 (13092022)
        650283.90   4203638.18   604.87450 (14060903)
650303.90   4203638.18   592.69803 (15101903)
        650323.90   4203638.18   586.59409 (17101707)
650363.90   4203638.18   609.40811 (13102623)
        650563.90   4203638.18   1018.91063 (17090304)
650583.90   4203638.18   1040.72464 (17090304)
        650603.90   4203638.18   1062.80337 (14110818)
650623.90   4203638.18   1033.54553 (15101224)
        650643.90   4203638.18   1039.77152 (17062202)
650663.90   4203638.18   996.89507 (16090802)
        650683.90   4203638.18   913.30062 (16090802)

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649923.90   4203658.18      537.69770  (13050522)
        649943.90   4203658.18      537.79682  (13050522)
649963.90   4203658.18      536.78834  (15060804)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649983.90	4203658.18	550.13537	(13061205)
650003.90	4203658.18	553.23635	(14102824)
650023.90	4203658.18	561.49085	(14102203)
650043.90	4203658.18	566.79229	(13110921)
650063.90	4203658.18	583.04560	(13071202)
650083.90	4203658.18	585.04411	(13071202)
650103.90	4203658.18	579.54257	(13071202)
650123.90	4203658.18	588.06844	(14072403)
650223.90	4203658.18	599.88922	(14093002)
650243.90	4203658.18	617.54346	(13092022)
650263.90	4203658.18	606.37306	(13092022)
650283.90	4203658.18	616.14724	(14060903)
650303.90	4203658.18	604.83361	(15101903)
650363.90	4203658.18	621.33943	(13102623)
650383.90	4203658.18	603.97760	(13101623)
650403.90	4203658.18	577.64358	(14071406)
650643.90	4203658.18	1026.57057	(17062202)
650663.90	4203658.18	953.41011	(16090802)
650683.90	4203658.18	913.35818	(15081619)
649923.90	4203678.18	550.36679	(14100623)
649943.90	4203678.18	552.20911	(13050522)
649963.90	4203678.18	551.18509	(13050522)
649983.90	4203678.18	551.27025	(13061205)
650003.90	4203678.18	564.24989	(13111119)
650023.90	4203678.18	571.77036	(13110921)

650043.90 4203678.18 578.18396 (13110921)
650063.90 4203678.18 577.38280 (13110921)
650083.90 4203678.18 589.62231 (13071202)
650103.90 4203678.18 600.10691 (13071202)
650123.90 4203678.18 588.50560 (14072403)
650143.90 4203678.18 589.12046 (14072403)
650363.90 4203678.18 633.57689 (13102623)
650383.90 4203678.18 614.50848 (13101623)
650403.90 4203678.18 592.70678 (14071406)
650423.90 4203678.18 591.20136 (15082802)
649923.90 4203698.18 571.70093 (14100623)
649943.90 4203698.18 568.17759 (14100623)
649963.90 4203698.18 566.33661 (13050522)
649983.90 4203698.18 564.18609 (13050522)
650003.90 4203698.18 567.46562 (13061205)
650023.90 4203698.18 579.11170 (13111119)
650043.90 4203698.18 583.90991 (14102824)
650063.90 4203698.18 594.42779 (13110921)
650083.90 4203698.18 603.44656 (13071202)
650103.90 4203698.18 611.58099 (13071202)
650123.90 4203698.18 611.35823 (13071202)
650143.90 4203698.18 595.61153 (14111005)
650423.90 4203698.18 608.05164 (14073003)
650443.90 4203698.18 608.91524 (14073003)
649923.90 4203718.18 573.74711 (14100623)
649943.90 4203718.18 588.29020 (14100623)
649963.90 4203718.18 585.99489 (14100623)
649983.90 4203718.18 580.49653 (13050522)
650003.90 4203718.18 577.58714 (13050522)
650023.90 4203718.18 585.33294 (13111119)
650043.90 4203718.18 594.22014 (13111119)
650063.90 4203718.18 601.50005 (14102203)
650083.90 4203718.18 609.51331 (13110921)
650103.90 4203718.18 612.81800 (13071202)
650123.90 4203718.18 630.42517 (13071202)
650143.90 4203718.18 618.06514 (13071202)
649923.90 4203738.18 579.47871 (17091101)
649943.90 4203738.18 588.88054 (14101506)
649963.90 4203738.18 605.11479 (14100623)
649983.90 4203738.18 604.66956 (14100623)
650003.90 4203738.18 597.19230 (15102505)
650023.90 4203738.18 591.57075 (13050522)
650043.90 4203738.18 603.92634 (13111119)
650063.90 4203738.18 609.47970 (13111119)
650083.90 4203738.18 618.88633 (13110921)
650103.90 4203738.18 623.61688 (13071202)
650123.90 4203738.18 639.05259 (13071202)
650143.90 4203738.18 645.25866 (13071202)
650163.90 4203738.18 622.97326 (14111005)
650183.90 4203738.18 624.35455 (14072403)
650203.90 4203738.18 654.27803 (13100202)
649923.90 4203758.18 605.23248 (13111721)

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649943.90   4203758.18      592.29295  (17091101)
        649963.90   4203758.18      604.49203  (14101506)
649983.90   4203758.18      622.73815  (14100623)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650003.90	4203758.18	624.34708	(14100623)
650023.90	4203758.18	616.32906	(15102505)
650043.90	4203758.18	606.19720	(13050522)
650063.90	4203758.18	623.01618	(13111119)
650083.90	4203758.18	627.21775	(14102824)
650103.90	4203758.18	638.89393	(13110921)
650123.90	4203758.18	635.97013	(13071202)
650143.90	4203758.18	662.07857	(13071202)
650163.90	4203758.18	655.12380	(13071202)
650183.90	4203758.18	639.18726	(14072403)
650203.90	4203758.18	677.32575	(13100202)
649923.90	4203778.18	645.66109	(13111721)
649943.90	4203778.18	637.03566	(13111721)
649963.90	4203778.18	613.08740	(13111721)
649983.90	4203778.18	620.52423	(14101506)
650003.90	4203778.18	641.16756	(14100623)
650023.90	4203778.18	645.08649	(14100623)
650043.90	4203778.18	636.74987	(15102505)
650063.90	4203778.18	626.26377	(15102505)
650083.90	4203778.18	642.66838	(13111119)
650103.90	4203778.18	646.33219	(14102824)
650123.90	4203778.18	657.64006	(13110921)
649923.90	4203798.18	669.53540	(17102901)
649943.90	4203798.18	670.36843	(17102901)
649963.90	4203798.18	668.54141	(13111721)

649983.90 4203798.18 650.20053 (13111721)
650003.90 4203798.18 637.00215 (14101506)
650023.90 4203798.18 660.52654 (14100623)
650043.90 4203798.18 666.97135 (14100623)
650063.90 4203798.18 658.57937 (15102505)
650083.90 4203798.18 647.95432 (15102505)
650103.90 4203798.18 662.67339 (13111119)
650123.90 4203798.18 666.75360 (14102203)
649923.90 4203818.18 690.38386 (17061904)
649943.90 4203818.18 695.02511 (17110922)
649963.90 4203818.18 699.44310 (17102901)
649983.90 4203818.18 699.34977 (13111721)
650003.90 4203818.18 687.66757 (13111721)
650023.90 4203818.18 657.87286 (13111721)
650043.90 4203818.18 680.73921 (14100623)
650063.90 4203818.18 690.11458 (14100623)
650083.90 4203818.18 681.88152 (15102505)
650103.90 4203818.18 671.07384 (15102505)
650123.90 4203818.18 682.83736 (13111119)
650143.90 4203818.18 754.62316 (13071202)
650163.90 4203818.18 928.59151 (13071202)
649923.90 4203838.18 687.88926 (17061904)
649943.90 4203838.18 712.56359 (17061904)
649963.90 4203838.18 724.15209 (17061904)
649983.90 4203838.18 726.39767 (17102901)
650003.90 4203838.18 728.95476 (13111721)
650023.90 4203838.18 725.11089 (13111721)
650043.90 4203838.18 701.48190 (13111721)
650063.90 4203838.18 701.85493 (14100623)
650083.90 4203838.18 714.47517 (14100623)
649923.90 4203858.18 739.74628 (17102404)
649943.90 4203858.18 716.84982 (17102404)
649963.90 4203858.18 730.09418 (17061904)
649983.90 4203858.18 752.19973 (17061904)
650003.90 4203858.18 759.04892 (17061904)
650023.90 4203858.18 762.14403 (17112523)
650043.90 4203858.18 762.05974 (13111721)
650063.90 4203858.18 745.94018 (13111721)
650083.90 4203858.18 723.80451 (14100623)
649923.90 4203878.18 790.90098 (17102404)
649943.90 4203878.18 792.59059 (17102404)
649963.90 4203878.18 782.16250 (17102404)
649983.90 4203878.18 758.81676 (17102404)
650003.90 4203878.18 775.55452 (17061904)
650023.90 4203878.18 793.96643 (17061904)
650043.90 4203878.18 794.62767 (17061904)
650063.90 4203878.18 798.36505 (17112523)
650083.90 4203878.18 790.68883 (13111721)
650743.90 4203878.18 872.33521 (15100822)
650763.90 4203878.18 906.84404 (15091122)
650783.90 4203878.18 920.33752 (15091122)
650803.90 4203878.18 903.79077 (15091122)

650823.90   4203878.18   862.61626 (15091122)
        650843.90   4203878.18   838.65708 (16092621)
650863.90   4203878.18   825.57719 (15091919)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649923.90	4203898.18	794.93976	(14091606)
649943.90	4203898.18	817.63619	(17102404)
649963.90	4203898.18	833.84806	(17102404)
649983.90	4203898.18	838.01918	(17102404)
650003.90	4203898.18	828.61549	(17102404)
650023.90	4203898.18	804.70964	(17102404)
650043.90	4203898.18	824.24712	(17061904)
650063.90	4203898.18	837.41081	(17061904)
650083.90	4203898.18	838.73135	(17112523)
650743.90	4203898.18	934.74433	(15091122)
650763.90	4203898.18	919.90501	(15091122)
650783.90	4203898.18	888.68593	(16092621)
650803.90	4203898.18	865.57003	(16092621)
650823.90	4203898.18	830.03046	(14092820)
650843.90	4203898.18	831.15833	(13081801)
650863.90	4203898.18	834.63991	(15092020)
649923.90	4203918.18	801.83474	(14091924)
649943.90	4203918.18	818.98976	(14091606)
649963.90	4203918.18	837.80075	(14091606)
649983.90	4203918.18	860.49027	(17102404)
650003.90	4203918.18	880.84184	(17102404)
650023.90	4203918.18	887.88919	(17102404)
650043.90	4203918.18	879.64713	(17102404)
650063.90	4203918.18	854.97466	(17102404)
650083.90	4203918.18	875.75367	(17061904)

650723.90   4203918.18   930.29629 (15091122)
        650743.90   4203918.18   920.28048 (16092621)
650763.90   4203918.18   891.12544 (16092621)
        650783.90   4203918.18   853.42362 (17102718)
650803.90   4203918.18   835.86853 (13081801)
        650823.90   4203918.18   836.91376 (15092020)
650843.90   4203918.18   833.12049 (15092020)
        650863.90   4203918.18   816.74914 (15092020)
649923.90   4203938.18   820.08271 (14091924)
        649943.90   4203938.18   839.45550 (14091924)
649963.90   4203938.18   850.93900 (14091924)
        649983.90   4203938.18   859.10180 (13081106)
650003.90   4203938.18   883.07813 (14091606)
        650023.90   4203938.18   907.37262 (17102404)
650043.90   4203938.18   932.45011 (17102404)
        650063.90   4203938.18   942.62847 (17102404)
650083.90   4203938.18   935.57302 (17102404)
        650103.90   4203938.18   909.61991 (17102404)
650123.90   4203938.18   1070.94182 (13111523)
        650143.90   4203938.18   1145.85737 (13111523)
650723.90   4203938.18   917.66023 (17102718)
        650743.90   4203938.18   876.50039 (17102718)
650763.90   4203938.18   867.68540 (17092824)
        650783.90   4203938.18   855.76114 (17092824)
650803.90   4203938.18   845.88076 (16092622)
        650823.90   4203938.18   837.01344 (13102018)
650843.90   4203938.18   856.18348 (13102018)
        649923.90   4203958.18   793.55022 (16111321)
649943.90   4203958.18   818.41626 (15102103)
        649963.90   4203958.18   850.44057 (14091924)
649983.90   4203958.18   878.67495 (14091924)
        650003.90   4203958.18   899.07901 (14091924)
650023.90   4203958.18   909.98883 (14091924)
        650043.90   4203958.18   930.75167 (14091606)
650063.90   4203958.18   958.56386 (17102404)
        650083.90   4203958.18   988.97219 (17102404)
650103.90   4203958.18   1002.44496 (17102404)
        650123.90   4203958.18   1037.92499 (13111523)
650723.90   4203958.18   895.33482 (17092824)
        650743.90   4203958.18   892.83834 (16092622)
650763.90   4203958.18   885.64044 (16092622)
        650783.90   4203958.18   871.96304 (13102018)
650803.90   4203958.18   881.84595 (13102018)
        650823.90   4203958.18   878.43924 (13102018)
650843.90   4203958.18   863.85208 (13102018)
        649923.90   4203978.18   774.86223 (16112217)
649943.90   4203978.18   807.17948 (16112217)
        649963.90   4203978.18   837.49007 (16112217)
649983.90   4203978.18   865.03851 (16112217)
        650003.90   4203978.18   888.83182 (16112217)
650023.90   4203978.18   915.92162 (15102103)
        650043.90   4203978.18   944.94458 (14091924)

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650063.90   4203978.18      965.75786  (14091924)
        650083.90   4203978.18      980.43998  (14091606)
650103.90   4203978.18     1013.86134  (17102404)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650130.14	4203977.56	1056.31287	(17102404)
650703.90	4203978.18	937.25407	(16092622)
650723.90	4203978.18	914.03901	(15062423)
650743.90	4203978.18	900.58866	(14100219)
650763.90	4203978.18	886.57206	(14082724)
650783.90	4203978.18	875.75281	(13090624)
650803.90	4203978.18	857.94394	(13090624)
650823.90	4203978.18	831.70323	(13090624)
650843.90	4203978.18	815.75132	(17090223)
649923.90	4203998.18	748.32079	(17102802)
649943.90	4203998.18	772.67468	(17102802)
649963.90	4203998.18	795.36547	(17102802)
649983.90	4203998.18	835.26838	(16112217)
650003.90	4203998.18	875.27311	(16112217)
650023.90	4203998.18	913.46003	(16112217)
650043.90	4203998.18	948.80737	(16112217)
650063.90	4203998.18	979.95163	(16112217)
650083.90	4203998.18	1005.49590	(16112217)
650103.90	4203998.18	1028.13046	(15102103)
650703.90	4203998.18	937.12151	(14082724)
650723.90	4203998.18	915.82662	(14082724)
650743.90	4203998.18	893.29121	(17090223)
650763.90	4203998.18	880.62502	(17090223)
650783.90	4203998.18	858.84129	(17090223)
650803.90	4203998.18	830.11074	(17090223)

650823.90   4203998.18   804.70470 (14100120)
        650843.90   4203998.18   792.45770 (14100120)
649923.90   4204018.18   756.90108 (15110619)
        649943.90   4204018.18   776.82175 (15110619)
649963.90   4204018.18   796.06939 (15110619)
        649983.90   4204018.18   814.39710 (15110619)
650003.90   4204018.18   831.45236 (15110619)
        650023.90   4204018.18   855.05679 (17102802)
650043.90   4204018.18   903.19473 (16112217)
        650063.90   4204018.18   952.87858 (16112217)
650083.90   4204018.18   1000.69783 (16112217)
        650103.90   4204018.18   1045.09923 (16112217)
650123.90   4204018.18   1084.13918 (16112217)
        650703.90   4204018.18   925.63411 (17090223)
650723.90   4204018.18   890.14832 (17090223)
        650743.90   4204018.18   854.41030 (14100120)
650763.90   4204018.18   837.46029 (14100120)
        650783.90   4204018.18   815.12121 (14100120)
650803.90   4204018.18   805.96463 (15101220)
        650823.90   4204018.18   805.12390 (15101220)
650843.90   4204018.18   800.19443 (15101220)
        649923.90   4204038.18   750.73491 (15101905)
649943.90   4204038.18   768.03209 (15101905)
        649963.90   4204038.18   785.25860 (15101905)
649983.90   4204038.18   807.79143 (15110619)
        650003.90   4204038.18   836.08998 (15110619)
650023.90   4204038.18   864.40665 (15110619)
        650043.90   4204038.18   892.38780 (15110619)
650063.90   4204038.18   919.67480 (15110619)
        650083.90   4204038.18   949.47307 (17111202)
650103.90   4204038.18   978.14362 (17111202)
        650123.90   4204038.18   1037.35874 (16112217)
650683.90   4204038.18   892.10651 (15090620)
        650703.90   4204038.18   874.99094 (15090620)
650723.90   4204038.18   859.66445 (15101220)
        650743.90   4204038.18   853.28779 (15101220)
650763.90   4204038.18   842.19310 (15101220)
        650783.90   4204038.18   827.42371 (15101220)
650803.90   4204038.18   809.84705 (15101220)
        650823.90   4204038.18   790.18748 (15101220)
649923.90   4204058.18   729.23711 (15101905)
        649943.90   4204058.18   751.56298 (15101905)
649963.90   4204058.18   774.70997 (15101905)
        649983.90   4204058.18   798.59952 (15101905)
650003.90   4204058.18   823.07601 (15101905)
        650023.90   4204058.18   848.18361 (15101905)
650043.90   4204058.18   873.72391 (15101905)
        650063.90   4204058.18   899.53301 (15101905)
650083.90   4204058.18   925.23308 (15101905)
        650103.90   4204058.18   959.63089 (17111202)
650123.90   4204058.18   1001.59961 (17111202)
        650683.90   4204058.18   895.62046 (17102818)

650703.90   4204058.18   887.88525 (17102818)
        650723.90   4204058.18   876.88455 (17102818)
650743.90   4204058.18   863.41683 (17102818)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650763.90	4204058.18	848.12018	(17102818)
650783.90	4204058.18	831.47570	(17102818)
650803.90	4204058.18	813.90333	(17102818)
650823.90	4204058.18	795.72423	(17102818)
649923.90	4204078.18	670.86413	(15101905)
649943.90	4204078.18	693.07957	(15101905)
649963.90	4204078.18	716.60342	(15101905)
649983.90	4204078.18	741.35848	(15101905)
650003.90	4204078.18	757.94610	(15101905)
650023.90	4204078.18	785.94600	(15101905)
650043.90	4204078.18	815.33555	(15101905)
650063.90	4204078.18	845.95505	(15101905)
650083.90	4204078.18	877.81522	(15101905)
650103.90	4204078.18	910.44409	(15101905)
650123.90	4204078.18	943.01500	(15101905)
650683.90	4204078.18	859.27575	(17102818)
650703.90	4204078.18	833.80093	(17102818)
650723.90	4204078.18	808.48586	(17102818)
650743.90	4204078.18	783.56960	(17102818)
650763.90	4204078.18	759.21161	(17102818)
650783.90	4204078.18	735.49077	(17102818)
650803.90	4204078.18	712.48514	(17102818)
650823.90	4204078.18	690.23229	(17102818)
649923.90	4204098.18	579.91193	(15101905)
649943.90	4204098.18	598.79119	(15101905)

649963.90 4204098.18 618.96679 (15101905)
649983.90 4204098.18 640.36669 (15101905)
650003.90 4204098.18 663.12741 (15101905)
650023.90 4204098.18 687.33308 (15101905)
650043.90 4204098.18 713.10170 (15101905)
650063.90 4204098.18 740.44892 (15101905)
650083.90 4204098.18 769.55519 (15101905)
650103.90 4204098.18 799.91792 (15101905)
650123.90 4204098.18 831.07410 (15101905)
650143.90 4204098.18 859.95135 (15101905)
650163.90 4204098.18 927.87252 (17030120)
650663.90 4204098.18 658.11082 (17102818)
650683.90 4204098.18 636.86446 (17102818)
650703.90 4204098.18 616.37627 (17102818)
650723.90 4204098.18 596.66847 (17102818)
650743.90 4204098.18 577.73744 (17102818)
650763.90 4204098.18 559.56674 (17102818)
650783.90 4204098.18 542.11299 (17102818)
650803.90 4204098.18 525.35584 (17102818)
650823.90 4204098.18 509.26819 (17102818)
649923.90 4204118.18 589.33183 (14100519)
649943.90 4204118.18 605.28093 (14100519)
649963.90 4204118.18 622.11707 (14100519)
649983.90 4204118.18 639.84876 (14100519)
650003.90 4204118.18 658.47227 (14100519)
650023.90 4204118.18 678.14960 (14100519)
650043.90 4204118.18 698.92406 (14100519)
650063.90 4204118.18 720.76503 (14100519)
650083.90 4204118.18 743.57974 (14100519)
650103.90 4204118.18 767.22222 (14100519)
650123.90 4204118.18 791.55544 (14100519)
650143.90 4204118.18 816.07867 (14100519)
650163.90 4204118.18 855.95728 (14100519)
650181.72 4204111.01 936.92854 (14100519)
650663.90 4204118.18 534.86220 (15092706)
650683.90 4204118.18 520.32041 (15092706)
650703.90 4204118.18 506.81498 (17020901)
650723.90 4204118.18 495.17576 (15092704)
650743.90 4204118.18 491.57316 (15092704)
650763.90 4204118.18 487.48602 (15092704)
650783.90 4204118.18 482.98067 (15092704)
650803.90 4204118.18 478.08433 (15092704)
650823.90 4204118.18 472.64216 (15092704)
649923.90 4204138.18 567.14682 (14100519)
649943.90 4204138.18 584.03401 (14012220)
649963.90 4204138.18 605.51906 (14012220)
649983.90 4204138.18 627.80169 (14012220)
650003.90 4204138.18 650.73389 (14012220)
650023.90 4204138.18 674.18522 (14012220)
650043.90 4204138.18 697.98162 (14012220)
650063.90 4204138.18 721.51732 (14012220)
650083.90 4204138.18 743.97722 (14012220)

650103.90   4204138.18   778.56211 (14012220)
        650123.90   4204138.18   857.90804 (14012220)
650143.90   4204138.18   887.96160 (13122609)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650163.90	4204138.18	755.39517	(15102324)
650643.90	4204138.18	494.42905	(17020901)
650663.90	4204138.18	486.38874	(17020901)
650683.90	4204138.18	477.87238	(17020901)
650703.90	4204138.18	469.09752	(17020901)
650723.90	4204138.18	460.22283	(17020901)
650743.90	4204138.18	451.47000	(15092704)
650763.90	4204138.18	451.20332	(15092704)
650783.90	4204138.18	450.20673	(15092704)
650803.90	4204138.18	448.53028	(15092704)
649923.90	4204158.18	642.14928	(14012220)
649943.90	4204158.18	663.48858	(14012220)
649963.90	4204158.18	685.34701	(14012220)
649983.90	4204158.18	707.52664	(14012220)
650003.90	4204158.18	729.85291	(14012220)
650023.90	4204158.18	752.11890	(14012220)
650043.90	4204158.18	774.07254	(14012220)
650063.90	4204158.18	795.10554	(14012220)
650083.90	4204158.18	814.27136	(14012220)
650103.90	4204158.18	843.59393	(14012220)
650123.90	4204158.18	1020.52699	(13122609)
650143.90	4204158.18	812.08707	(14050105)
650177.35	4204157.56	748.30902	(13122609)
650643.90	4204158.18	445.34450	(16100718)
650663.90	4204158.18	442.17831	(16100718)

650683.90   4204158.18   436.90273 (16100718)
        650703.90   4204158.18   429.99069 (16100718)
650723.90   4204158.18   421.81872 (16100718)
        650743.90   4204158.18   412.68698 (16100718)
650763.90   4204158.18   402.84018 (16100718)
        650783.90   4204158.18   392.47228 (16100718)
650803.90   4204158.18   388.84294 (15092704)
        650923.90   4204158.18   385.51907 (15092704)
649923.90   4204178.18   691.24553 (14012220)
        649943.90   4204178.18   709.37849 (14012220)
649963.90   4204178.18   727.33174 (14012220)
        649983.90   4204178.18   744.81825 (14012220)
650003.90   4204178.18   761.50539 (14012220)
        650023.90   4204178.18   777.33507 (14012220)
650043.90   4204178.18   799.97110 (15102701)
        650063.90   4204178.18   822.76529 (15102701)
650083.90   4204178.18   842.85631 (15102701)
        650103.90   4204178.18   858.52490 (15102701)
650123.90   4204178.18   913.38353 (13021008)
        650143.90   4204178.18   853.08835 (13122609)
650643.90   4204178.18   425.93101 (15091922)
        650663.90   4204178.18   424.42739 (15091922)
650683.90   4204178.18   419.54143 (15091922)
        650703.90   4204178.18   411.64311 (15091922)
650723.90   4204178.18   401.44500 (15091922)
        650743.90   4204178.18   400.00639 (16100718)
650763.90   4204178.18   397.49566 (16100718)
        650783.90   4204178.18   393.73722 (16100718)
650803.90   4204178.18   388.76592 (16100718)
        650903.90   4204178.18   349.40483 (16100718)
650923.90   4204178.18   339.60877 (16100718)
        649923.90   4204198.18   699.50999 (15102701)
649943.90   4204198.18   720.46134 (15102701)
        649963.90   4204198.18   740.66914 (15102701)
649983.90   4204198.18   759.66627 (15102701)
        650003.90   4204198.18   776.96703 (15102701)
650023.90   4204198.18   792.35252 (15102701)
        650043.90   4204198.18   805.30006 (15102701)
650063.90   4204198.18   824.06264 (15102702)
        650083.90   4204198.18   862.58602 (15102702)
650103.90   4204198.18   898.93155 (15102702)
        650123.90   4204198.18   942.00315 (13031124)
650143.90   4204198.18   849.15477 (13122609)
        650643.90   4204198.18   355.83257 (17101619)
650663.90   4204198.18   367.70632 (15091922)
        650683.90   4204198.18   377.46447 (15091922)
650703.90   4204198.18   382.99228 (15091922)
        650723.90   4204198.18   384.87213 (15091922)
650743.90   4204198.18   383.32706 (15091922)
        650763.90   4204198.18   379.51035 (15091922)
650783.90   4204198.18   373.69187 (15091922)
        650803.90   4204198.18   366.06374 (15091922)

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650903.90   4204198.18      350.49544  (16100718)
        650923.90   4204198.18      344.64673  (16100718)
649923.90   4204218.18      705.69223  (15102701)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649943.90	4204218.18	716.98440	(15102701)
649963.90	4204218.18	726.32361	(15102701)
649983.90	4204218.18	740.23614	(14012004)
650003.90	4204218.18	773.20120	(15102702)
650023.90	4204218.18	810.33063	(15102702)
650043.90	4204218.18	842.74142	(15102702)
650063.90	4204218.18	868.47283	(15102702)
650083.90	4204218.18	885.15270	(15102702)
650103.90	4204218.18	890.44849	(15102702)
650123.90	4204218.18	1042.30209	(14060906)
650145.46	4204223.48	890.68626	(14060906)
650623.90	4204218.18	330.71970	(15081620)
650643.90	4204218.18	330.83560	(15081620)
650703.90	4204218.18	321.38671	(17101619)
650723.90	4204218.18	330.96724	(17101619)
650743.90	4204218.18	339.30372	(15091922)
650763.90	4204218.18	345.75333	(15091922)
650903.90	4204218.18	335.64192	(15100118)
650923.90	4204218.18	333.34830	(15100118)
649923.90	4204238.18	697.78122	(14050105)
649943.90	4204238.18	724.21397	(16111422)
649963.90	4204238.18	756.86246	(15102702)
649983.90	4204238.18	786.50133	(15102702)
650003.90	4204238.18	810.55449	(15102702)
650023.90	4204238.18	828.36051	(15102702)

650043.90   4204238.18   838.33186 (15102702)
        650063.90   4204238.18   852.65020 (16090607)
650083.90   4204238.18   882.57500 (16090607)
        650103.90   4204238.18   903.83111 (14060906)
650123.90   4204238.18   1049.00173 (14060906)
        650623.90   4204238.18   307.59758 (14012518)
650643.90   4204238.18   303.80074 (14012518)
        650703.90   4204238.18   308.77804 (15081620)
650723.90   4204238.18   299.24352 (15081620)
        650743.90   4204238.18   285.71323 (15081620)
650763.90   4204238.18   292.47979 (17101619)
        650903.90   4204238.18   317.66980 (15091922)
650923.90   4204238.18   314.25058 (15091922)
        649923.90   4204258.18   733.06095 (15102702)
649943.90   4204258.18   755.40397 (15102702)
        649963.90   4204258.18   772.24447 (15102702)
649983.90   4204258.18   782.22720 (15102702)
        650003.90   4204258.18   784.51321 (15102702)
650023.90   4204258.18   820.76544 (16090607)
        650043.90   4204258.18   849.92107 (16090607)
650063.90   4204258.18   862.52174 (16090607)
        650083.90   4204258.18   907.63909 (14060906)
650103.90   4204258.18   982.55918 (14060906)
        650117.35   4204260.99   1016.26646 (14060906)
650623.90   4204258.18   297.82539 (17020502)
        650643.90   4204258.18   296.41811 (14120623)
650903.90   4204258.18   288.68278 (15091922)
        650923.90   4204258.18   290.78024 (15091922)
649923.90   4204278.18   729.19008 (15102702)
        649943.90   4204278.18   732.50956 (15102702)
649963.90   4204278.18   749.69053 (14051303)
        649983.90   4204278.18   788.99534 (16090607)
650003.90   4204278.18   816.17146 (16090607)
        650023.90   4204278.18   828.32131 (16090607)
650043.90   4204278.18   827.84066 (13020705)
        650063.90   4204278.18   902.00108 (14060906)
650083.90   4204278.18   963.15753 (14060906)
        650103.90   4204278.18   992.34496 (14060906)
650129.52   4204276.31   982.14701 (14060906)
        650623.90   4204278.18   299.86820 (16022921)
650643.90   4204278.18   292.91047 (17020502)
        650903.90   4204278.18   256.35242 (14021501)
650923.90   4204278.18   260.81849 (14021501)
        649923.90   4204298.18   721.74800 (16090607)
649943.90   4204298.18   758.27095 (16090607)
        649963.90   4204298.18   783.34904 (16090607)
649983.90   4204298.18   794.76381 (16090607)
        650003.90   4204298.18   790.88634 (16090607)
650023.90   4204298.18   819.10865 (14060906)
        650043.90   4204298.18   889.96049 (14060906)
650063.90   4204298.18   936.62547 (14060906)
        650083.90   4204298.18   952.21381 (14060906)

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650103.90   4204298.18      933.59979  (14060906)
        650883.90   4204298.18      250.79074  (15081620)
650903.90   4204298.18      239.71611  (15081620)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650923.90	4204298.18	232.23202	(14110918)
649923.90	4204318.18	751.78530	(16090607)
649943.90	4204318.18	762.27849	(16090607)
649963.90	4204318.18	758.84552	(16090607)
649983.90	4204318.18	774.53891	(15090803)
650003.90	4204318.18	814.31514	(14060906)
650023.90	4204318.18	872.63990	(14060906)
650043.90	4204318.18	905.99159	(14060906)
650063.90	4204318.18	909.42870	(14060906)
650083.90	4204318.18	883.13888	(17061405)
650103.90	4204318.18	892.11538	(13112608)
650128.58	4204306.95	935.30898	(13112608)
650883.90	4204318.18	251.58278	(15081620)
650903.90	4204318.18	246.64559	(15081620)
650923.90	4204318.18	239.39356	(15081620)
649923.90	4204338.18	728.09374	(16090607)
649943.90	4204338.18	742.66901	(15090803)
649963.90	4204338.18	760.33049	(15090803)
649983.90	4204338.18	804.69111	(14060906)
650003.90	4204338.18	850.92599	(14060906)
650023.90	4204338.18	872.20219	(14060906)
650043.90	4204338.18	865.22002	(14060906)
650063.90	4204338.18	852.50199	(17061405)
650083.90	4204338.18	861.27310	(13112608)
650103.90	4204338.18	893.57439	(13112608)

650123.90   4204338.18   924.42517 (14011417)
        650295.82   4204357.27   335.65757 (13042103)
650883.90   4204338.18   239.69936 (14100421)
        650903.90   4204338.18   238.27689 (15081620)
650923.90   4204338.18   237.11147 (15081620)
        649923.90   4204358.18   732.24951 (15090803)
649943.90   4204358.18   743.65181 (16010209)
        649963.90   4204358.18   790.96703 (14060906)
649983.90   4204358.18   825.80393 (14060906)
        650003.90   4204358.18   836.24134 (14060906)
650023.90   4204358.18   835.84326 (17061405)
        650043.90   4204358.18   820.52026 (17061405)
650063.90   4204358.18   831.03588 (13112608)
        650083.90   4204358.18   864.19483 (13112608)
650103.90   4204358.18   897.85667 (14011417)
        650123.90   4204358.18   904.10454 (15090607)
650171.33   4204360.30   912.25018 (13100701)
        650181.51   4204363.22   920.68326 (13100701)
650883.90   4204358.18   227.30437 (14100421)
        650903.90   4204358.18   228.74199 (14100421)
650923.90   4204358.18   227.20479 (14100421)
        649923.90   4204378.18   729.42549 (14060906)
649943.90   4204378.18   773.84385 (14060906)
        649963.90   4204378.18   798.14454 (14060906)
649983.90   4204378.18   803.93979 (17061405)
        650003.90   4204378.18   809.40996 (17061405)
650023.90   4204378.18   787.99513 (17061405)
        650043.90   4204378.18   801.48253 (13112608)
650063.90   4204378.18   835.28229 (13112608)
        650083.90   4204378.18   870.21194 (14011417)
650103.90   4204378.18   877.98261 (14011417)
        650903.90   4204378.18   212.50656 (14012518)
650923.90   4204378.18   215.26496 (14100421)
        649923.90   4204398.18   753.89757 (14060906)
649943.90   4204398.18   768.65400 (14060906)
        649963.90   4204398.18   783.70202 (17061405)
649983.90   4204398.18   782.08362 (17061405)
        650003.90   4204398.18   760.20144 (14012724)
650023.90   4204398.18   772.93655 (13112608)
        650043.90   4204398.18   808.92392 (14112617)
650063.90   4204398.18   841.93450 (14011417)
        650083.90   4204398.18   857.16648 (14011417)
650103.90   4204398.18   875.22508 (15090607)
        649923.90   4204418.18   746.91202 (17061405)
649943.90   4204418.18   762.20455 (17061405)
        649963.90   4204418.18   754.27432 (17061405)
649983.90   4204418.18   741.76708 (14012724)
        650003.90   4204418.18   752.68257 (14112617)
650023.90   4204418.18   789.84432 (14112617)
        650043.90   4204418.18   813.51424 (14011417)
650103.90   4204418.18   856.58717 (15090607)
        649923.90   4204438.18   739.79132 (17061405)

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649943.90   4204438.18      726.31422  (17061405)
        649963.90   4204438.18      723.48634  (14012724)
649983.90   4204438.18      733.48526  (14112617)
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650003.90	4204438.18	771.06332	(14112617)
650023.90	4204438.18	785.29244	(14011417)
650043.90	4204438.18	812.74047	(14011417)
650063.90	4204438.18	809.64152	(13103121)
650083.90	4204438.18	833.20381	(15090607)
650143.90	4204438.18	839.92294	(14100507)
650209.72	4204428.68	675.25468	(14100507)
650229.72	4204428.68	562.24529	(14100507)
649923.90	4204458.18	698.45716	(17061405)
649943.90	4204458.18	705.44890	(14012724)
649963.90	4204458.18	714.78605	(14112617)
649983.90	4204458.18	752.66122	(14112617)
650003.90	4204458.18	757.47919	(14011417)
650023.90	4204458.18	789.84440	(14011417)
650043.90	4204458.18	785.09124	(13103121)
650063.90	4204458.18	806.67416	(15090607)
650083.90	4204458.18	798.16644	(15090607)
650143.90	4204458.18	829.49906	(14100507)
650203.90	4204458.18	614.59435	(14100507)
650223.90	4204458.18	511.65991	(16092505)
649923.90	4204478.18	687.72397	(14012724)
649943.90	4204478.18	696.61352	(14112617)
649963.90	4204478.18	734.69820	(14112617)
649983.90	4204478.18	740.53066	(14112617)
650003.90	4204478.18	766.80556	(14011417)

650023.90   4204478.18   764.75040 (14011417)
        650043.90   4204478.18   777.86719 (15090607)
650063.90   4204478.18   783.15820 (15090607)
        650203.90   4204478.18   560.09411 (16092505)
649923.90   4204498.18   678.98946 (14112617)
        649943.90   4204498.18   717.19822 (14112617)
649963.90   4204498.18   724.75370 (14112617)
        649983.90   4204498.18   743.82370 (14011417)
650003.90   4204498.18   747.79620 (14011417)
        650023.90   4204498.18   747.11069 (15090607)
650043.90   4204498.18   764.71507 (15090607)
        650063.90   4204498.18   759.05997 (14100501)
650103.90   4204498.18   774.18592 (13100701)
        650123.90   4204498.18   798.62573 (14100507)
650143.90   4204498.18   768.15989 (14100507)
        650163.90   4204498.18   694.89610 (14100507)
650183.90   4204498.18   602.56791 (16092505)
        650203.90   4204498.18   507.89533 (16092505)
649923.90   4204518.18   700.18197 (14112617)
        649943.90   4204518.18   709.33592 (14112617)
649963.90   4204518.18   721.01678 (14011417)
        649983.90   4204518.18   730.51439 (14011417)
650003.90   4204518.18   725.33903 (13103121)
        650023.90   4204518.18   743.67961 (15090607)
650043.90   4204518.18   729.16115 (14100501)
        650063.90   4204518.18   754.41703 (14100501)
650103.90   4204518.18   777.86854 (14100507)
        650123.90   4204518.18   774.89140 (14100507)
650143.90   4204518.18   722.70213 (14100507)
        650163.90   4204518.18   638.64435 (14100507)
650183.90   4204518.18   552.14013 (16092505)
        650203.90   4204518.18   459.23514 (17102820)
650158.01   4204184.43   872.23778 (13122609)
        650190.84   4204367.10   903.15072 (13100701)
650200.65   4204370.01   881.24850 (14100507)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649898.38	4203525.65	60.74497	(15101424)	649918.38	4203525.65	60.17827	(14111124)
650043.90	4203518.18	70.75554	(16081324)	650063.90	4203518.18	74.85442	(16081324)
650083.90	4203518.18	77.52205	(16081324)	650103.90	4203518.18	77.99070	(16081324)
650143.90	4203518.18	85.43472	(13062424)	650163.90	4203518.18	90.60846	(13062424)
650183.90	4203518.18	92.36038	(13062424)	650203.90	4203518.18	93.54098	(13062424)
650223.90	4203518.18	91.10398	(13062424)	650243.90	4203518.18	87.27661	(13062424)
650263.90	4203518.18	82.23975	(13062424)	650283.90	4203518.18	74.89777	(13062424)
650303.90	4203518.18	82.37165c	(14101724)	650323.90	4203518.18	91.25710c	(14101724)
650383.90	4203518.18	105.14604c	(14101724)	650403.90	4203518.18	101.90067c	(14101724)
650423.90	4203518.18	95.07933c	(14101724)	650443.90	4203518.18	85.45150	(16040924)
650463.90	4203518.18	91.41244	(16040924)	650663.90	4203518.18	131.69276m	(17111424)
650683.90	4203518.18	126.72059m	(17111424)	650043.90	4203538.18	71.70828	(14111124)
650063.90	4203538.18	75.21870	(16081324)				

650083.90   4203538.18   78.13585 (16081324)
        650103.90   4203538.18   79.84468 (16081324)
650143.90   4203538.18   87.44705 (13062424)
        650163.90   4203538.18   92.29904 (13062424)
650183.90   4203538.18   94.61580 (13062424)
        650203.90   4203538.18   96.41743 (13062424)
650223.90   4203538.18   94.42106 (13062424)
        650243.90   4203538.18   90.91179 (13062424)
650263.90   4203538.18   85.98527 (13062424)
        650283.90   4203538.18   79.18799 (13062424)
650303.90   4203538.18   85.02362c (14101724)
        650323.90   4203538.18   94.19906c (14101724)
650383.90   4203538.18   107.89985c (14101724)
        650403.90   4203538.18   103.49688c (14101724)
650423.90   4203538.18   96.41919c (14101724)
        650443.90   4203538.18   89.34151 (16040924)
650463.90   4203538.18   93.98520 (16040924)
        650523.90   4203538.18   92.83979 (17081924)
650543.90   4203538.18   93.36893 (17081924)
        650563.90   4203538.18   91.00572m (17111424)
650583.90   4203538.18   106.64503m (17111424)
        650663.90   4203538.18   133.45448m (17111424)
650683.90   4203538.18   125.31038m (17111424)
        650063.90   4203558.18   74.47176 (16081324)
650083.90   4203558.18   78.70618 (16081324)
        650103.90   4203558.18   81.18722 (16081324)
650143.90   4203558.18   88.59321 (13062424)
        650163.90   4203558.18   93.86377 (13062424)
650183.90   4203558.18   96.79209 (13062424)
        650203.90   4203558.18   99.25904 (13062424)
650223.90   4203558.18   98.50392 (13062424)
        650243.90   4203558.18   95.08173 (13062424)
650263.90   4203558.18   89.89582 (13062424)
        650283.90   4203558.18   83.04799 (13062424)
650303.90   4203558.18   87.80616c (14101724)
        650323.90   4203558.18   97.28085c (14101724)
650383.90   4203558.18   110.71288c (14101724)
        650403.90   4203558.18   106.67943c (14101724)
650423.90   4203558.18   97.17271c (14101724)
        650443.90   4203558.18   92.97394 (16040924)
650523.90   4203558.18   96.29558 (17081924)
        650543.90   4203558.18   93.80238 (17081924)
650563.90   4203558.18   100.99056m (17111424)
        650583.90   4203558.18   116.89398m (17111424)
650003.90   4203578.18   73.93937 (14111124)
        650023.90   4203578.18   74.96061 (14111124)
650043.90   4203578.18   77.40552 (14111124)
        650063.90   4203578.18   77.39657 (14111124)
650083.90   4203578.18   79.08956 (16081324)
        650123.90   4203578.18   83.25006 (16081324)
650143.90   4203578.18   89.65812 (13062424)
        650163.90   4203578.18   95.32163 (13062424)

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650183.90   4203578.18       99.58774  (13062424)
        650203.90   4203578.18      102.06739  (13062424)
650223.90   4203578.18      101.93529  (13062424)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650243.90	4203578.18	99.39574	(13062424)	650263.90	4203578.18	94.59902	(13062424)
650283.90	4203578.18	87.13960	(13062424)	650303.90	4203578.18	90.75363c	(14101724)
650323.90	4203578.18	100.53906c	(14101724)	650383.90	4203578.18	113.61599c	(14101724)
650403.90	4203578.18	108.89030c	(14101724)	650423.90	4203578.18	98.43787c	(14101724)
650443.90	4203578.18	96.38133	(16040924)	650523.90	4203578.18	99.41679	(17081924)
650543.90	4203578.18	96.52644m	(17111424)	650563.90	4203578.18	110.43948m	(17111424)
650583.90	4203578.18	127.35492m	(17111424)	650063.90	4203598.18	80.40129	(14111124)
650083.90	4203598.18	79.53661	(14111124)	650123.90	4203598.18	84.85360	(16081324)
650143.90	4203598.18	90.64089	(13062424)	650163.90	4203598.18	97.56091	(13062424)
650183.90	4203598.18	101.64334	(13062424)	650203.90	4203598.18	104.83963	(13062424)
650223.90	4203598.18	105.43005	(13062424)	650243.90	4203598.18	103.82124	(13062424)
650263.90	4203598.18	98.94117	(13062424)	650283.90	4203598.18	91.70468	(13062424)
650303.90	4203598.18	93.92149c	(14101724)				

650323.90   4203598.18   104.03975c (14101724)
        650403.90   4203598.18   111.20351c (14101724)
650423.90   4203598.18   99.67164c (14101724)
        650443.90   4203598.18   100.30173 (16040924)
650523.90   4203598.18   101.87030 (17081924)
        650543.90   4203598.18   103.78277m (17111424)
650563.90   4203598.18   121.84249m (17111424)
        650583.90   4203598.18   137.63288m (17111424)
650123.90   4203618.18   85.87102 (16081324)
        650143.90   4203618.18   91.58153 (13062424)
650163.90   4203618.18   98.95838 (13062424)
        650183.90   4203618.18   103.63734 (13062424)
650203.90   4203618.18   107.58485 (13062424)
        650223.90   4203618.18   108.95821 (13062424)
650243.90   4203618.18   107.99900 (13062424)
        650263.90   4203618.18   103.49788 (13062424)
650283.90   4203618.18   96.36036 (13062424)
        650303.90   4203618.18   97.29696c (14101724)
650323.90   4203618.18   107.79712c (14101724)
        650523.90   4203618.18   103.96686 (17081924)
650543.90   4203618.18   115.43257m (17111424)
        650563.90   4203618.18   133.58932m (17111424)
650583.90   4203618.18   147.22271m (17111424)
        650603.90   4203618.18   152.32371m (17111424)
650623.90   4203618.18   148.21880m (17111424)
        650643.90   4203618.18   136.84749m (17111424)
649963.90   4203638.18   72.18502 (15101424)
        649983.90   4203638.18   72.96058 (15101424)
650003.90   4203638.18   76.09952 (14111124)
        650023.90   4203638.18   79.92272 (14111124)
650043.90   4203638.18   82.33902 (14111124)
        650063.90   4203638.18   85.96821 (14111124)
650083.90   4203638.18   86.83642 (14111124)
        650123.90   4203638.18   86.74862 (16081324)
650143.90   4203638.18   91.37785 (13062424)
        650163.90   4203638.18   99.64887 (13062424)
650183.90   4203638.18   105.57740 (13062424)
        650203.90   4203638.18   110.30380 (13062424)
650223.90   4203638.18   112.52641 (13062424)
        650243.90   4203638.18   112.28840 (13062424)
650263.90   4203638.18   108.29905 (13062424)
        650283.90   4203638.18   101.31321 (13062424)
650303.90   4203638.18   100.91240c (14101724)
        650323.90   4203638.18   111.82639c (14101724)
650363.90   4203638.18   124.83165c (14101724)
        650563.90   4203638.18   145.22584m (17111424)
650583.90   4203638.18   155.52205m (17111424)
        650603.90   4203638.18   155.90250m (17111424)
650623.90   4203638.18   146.76776m (17111424)
        650643.90   4203638.18   138.40051 (15100924)
650663.90   4203638.18   140.03508 (15100924)
        650683.90   4203638.18   132.11907 (15100924)

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649923.90   4203658.18       79.20760  (13083024)
        649943.90   4203658.18       78.54910  (13083024)
649963.90   4203658.18       75.85443  (13083024)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649983.90	4203658.18	74.76518	(15101424)
650003.90	4203658.18	75.78037	(14111124)
650023.90	4203658.18	80.12218	(14111124)
650043.90	4203658.18	83.82768	(14111124)
650063.90	4203658.18	85.90158	(14111124)
650083.90	4203658.18	89.79906	(14111124)
650103.90	4203658.18	90.12732	(14111124)
650123.90	4203658.18	87.34583	(16081324)
650223.90	4203658.18	116.11058	(13062424)
650243.90	4203658.18	117.44107	(13062424)
650263.90	4203658.18	113.31677	(13062424)
650283.90	4203658.18	106.59774	(13062424)
650303.90	4203658.18	104.79278c	(14101724)
650363.90	4203658.18	129.05926c	(14101724)
650383.90	4203658.18	127.03285c	(14101724)
650403.90	4203658.18	118.63139c	(14101724)
650643.90	4203658.18	145.08278	(15100924)
650663.90	4203658.18	139.73934	(15100924)
650683.90	4203658.18	125.61319	(15100924)
649923.90	4203678.18	80.72437	(13083024)
649943.90	4203678.18	81.54164	(13083024)
649963.90	4203678.18	80.85668	(13083024)
649983.90	4203678.18	79.96656	(13083024)
650003.90	4203678.18	77.34426	(15101424)
650023.90	4203678.18	81.19126	(14111124)

650043.90   4203678.18   84.64538 (14111124)
        650063.90   4203678.18   87.87033 (14111124)
650083.90   4203678.18   92.52998 (14111124)
        650103.90   4203678.18   93.87308 (14111124)
650123.90   4203678.18   92.58157 (14111124)
        650143.90   4203678.18   94.10355 (13062424)
650363.90   4203678.18   133.56825c (14101724)
        650383.90   4203678.18   130.83755c (14101724)
650403.90   4203678.18   121.14693c (14101724)
        650423.90   4203678.18   110.56649 (16040924)
649923.90   4203698.18   80.13454 (13083024)
        649943.90   4203698.18   83.00430 (13083024)
649963.90   4203698.18   83.86334 (13083024)
        649983.90   4203698.18   83.11125 (13083024)
650003.90   4203698.18   82.40151 (13083024)
        650023.90   4203698.18   80.00567 (15101424)
650043.90   4203698.18   84.41774 (14111124)
        650063.90   4203698.18   89.13892 (14111124)
650083.90   4203698.18   92.02163 (14111124)
        650103.90   4203698.18   97.21779 (14111124)
650123.90   4203698.18   97.71966 (14111124)
        650143.90   4203698.18   94.91199 (13062424)
650423.90   4203698.18   115.40635 (16040924)
        650443.90   4203698.18   119.17877 (16040924)
649923.90   4203718.18   76.77764 (13083024)
        649943.90   4203718.18   82.22992 (13083024)
649963.90   4203718.18   84.59249 (13083024)
        649983.90   4203718.18   86.32684 (13083024)
650003.90   4203718.18   87.44280 (13083024)
        650023.90   4203718.18   84.99053 (13083024)
650043.90   4203718.18   85.17654 (14111124)
        650063.90   4203718.18   89.59406 (14111124)
650083.90   4203718.18   93.83318 (14111124)
        650103.90   4203718.18   99.79520 (14111124)
650123.90   4203718.18   101.80888 (14111124)
        650143.90   4203718.18   100.71678 (14111124)
649923.90   4203738.18   74.06731 (13111924)
        649943.90   4203738.18   78.57715 (13083024)
649963.90   4203738.18   84.35107 (13083024)
        649983.90   4203738.18   86.98209 (13083024)
650003.90   4203738.18   88.85776 (13083024)
        650023.90   4203738.18   90.29506 (13083024)
650043.90   4203738.18   87.75607 (13083024)
        650063.90   4203738.18   90.19720 (14111124)
650083.90   4203738.18   94.77663 (14111124)
        650103.90   4203738.18   101.84902 (14111124)
650123.90   4203738.18   105.33295 (14111124)
        650143.90   4203738.18   106.35157 (14111124)
650163.90   4203738.18   104.69863 (13062424)
        650183.90   4203738.18   115.66132 (13062424)
650203.90   4203738.18   125.54669 (13062424)
        649923.90   4203758.18   78.76477 (13012124)

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649943.90   4203758.18       77.42975  (13111924)
        649963.90   4203758.18       80.42605  (13083024)
649983.90   4203758.18       86.57009  (13083024)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650003.90	4203758.18	89.60730	(13083024)	650023.90	4203758.18	91.53895	(13083024)
650043.90	4203758.18	93.34783	(13083024)	650063.90	4203758.18	90.69417	(13083024)
650083.90	4203758.18	94.73338	(14111124)	650103.90	4203758.18	100.23168	(14111124)
650123.90	4203758.18	108.09434	(14111124)	650143.90	4203758.18	110.76011	(14111124)
650163.90	4203758.18	110.44745	(14111124)	650183.90	4203758.18	118.79744	(13062424)
650203.90	4203758.18	139.70022	(13062424)	649923.90	4203778.18	86.53094	(13012124)
649943.90	4203778.18	83.68946	(13012124)	649963.90	4203778.18	81.03538	(13111924)
649983.90	4203778.18	82.34262	(13083024)	650003.90	4203778.18	88.32415	(13083024)
650023.90	4203778.18	92.28848	(13083024)	650043.90	4203778.18	96.57915	(13083024)
650063.90	4203778.18	96.60277	(13083024)	650083.90	4203778.18	94.81896	(14111124)
650103.90	4203778.18	100.68787	(14111124)	650123.90	4203778.18	109.62751	(14111124)
649923.90	4203798.18	92.19089	(13012124)	649943.90	4203798.18	91.33699	(13012124)
649963.90	4203798.18	88.91734	(13012124)				

649983.90   4203798.18   88.40341 (13012124)
        650003.90   4203798.18   84.42672 (13012124)
650023.90   4203798.18   90.79898 (13083024)
        650043.90   4203798.18   95.12357 (13083024)
650063.90   4203798.18   99.99019 (13083024)
        650083.90   4203798.18   100.08631 (13083024)
650103.90   4203798.18   101.39445 (14111124)
        650123.90   4203798.18   112.64166 (14111124)
649923.90   4203818.18   95.21196 (13012124)
        649943.90   4203818.18   96.58271 (13012124)
649963.90   4203818.18   96.37028 (13012124)
        649983.90   4203818.18   94.47494 (13012124)
650003.90   4203818.18   94.62537 (13012124)
        650023.90   4203818.18   90.88541 (13012124)
650043.90   4203818.18   93.39476 (13083024)
        650063.90   4203818.18   100.20851 (13083024)
650083.90   4203818.18   103.63431 (13083024)
        650103.90   4203818.18   103.80325 (13083024)
650123.90   4203818.18   112.72955 (14111124)
        650143.90   4203818.18   139.86903 (14111124)
650163.90   4203818.18   166.48954 (14111124)
        649923.90   4203838.18   97.78473 (13012124)
649943.90   4203838.18   99.67085 (13012124)
        649963.90   4203838.18   101.13894 (13012124)
649983.90   4203838.18   101.67701 (13012124)
        650003.90   4203838.18   100.40870 (13012124)
650023.90   4203838.18   101.36306 (13012124)
        650043.90   4203838.18   97.94949 (13012124)
650063.90   4203838.18   98.36744 (16110624)
        650083.90   4203838.18   103.76320 (13083024)
649923.90   4203858.18   105.13295c (15021824)
        649943.90   4203858.18   101.99059c (15021824)
649963.90   4203858.18   103.68052 (13012124)
        649983.90   4203858.18   105.96289 (13012124)
650003.90   4203858.18   107.35197 (13012124)
        650023.90   4203858.18   106.81904 (13012124)
650043.90   4203858.18   108.72593 (13012124)
        650063.90   4203858.18   105.73837 (13012124)
650083.90   4203858.18   104.40908 (16110624)
        649923.90   4203878.18   116.98020c (15021824)
649943.90   4203878.18   115.96107c (15021824)
        649963.90   4203878.18   113.10545c (15021824)
649983.90   4203878.18   109.66143c (15021824)
        650003.90   4203878.18   111.21698 (13012124)
650023.90   4203878.18   113.55758 (13012124)
        650043.90   4203878.18   113.88782 (13012124)
650063.90   4203878.18   116.88414 (13012124)
        650083.90   4203878.18   115.16028 (13012124)
650743.90   4203878.18   137.83785 (15021024)
        650763.90   4203878.18   142.21635 (15021024)
650783.90   4203878.18   149.41545 (15021024)
        650803.90   4203878.18   151.13991 (15021024)

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650823.90   4203878.18      150.92268  (15021024)
        650843.90   4203878.18      148.72346  (15021024)
650863.90   4203878.18      144.75813  (15021024)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649923.90	4203898.18	123.37406c	(15021824)
649943.90	4203898.18	125.10857c	(15021824)
649963.90	4203898.18	125.61386c	(15021824)
649983.90	4203898.18	124.08392c	(15021824)
650003.90	4203898.18	121.86472c	(15021824)
650023.90	4203898.18	118.15556c	(15021824)
650043.90	4203898.18	120.52833	(13012124)
650063.90	4203898.18	121.82362	(13012124)
650083.90	4203898.18	127.58336	(13012124)
650743.90	4203898.18	157.78389	(15021024)
650763.90	4203898.18	161.95226	(15021024)
650783.90	4203898.18	159.68521	(15021024)
650803.90	4203898.18	156.85698	(15021024)
650823.90	4203898.18	153.29325	(15021024)
650843.90	4203898.18	145.41474	(15021024)
650863.90	4203898.18	138.79929	(15021024)
649923.90	4203918.18	126.29376	(17102424)
649943.90	4203918.18	128.07258c	(15021824)
649963.90	4203918.18	131.65069c	(15021824)
649983.90	4203918.18	134.03024c	(15021824)
650003.90	4203918.18	134.99760c	(15021824)
650023.90	4203918.18	133.76549c	(15021824)
650043.90	4203918.18	131.55982c	(15021824)
650063.90	4203918.18	132.55060c	(15021824)
650083.90	4203918.18	132.36816c	(15021824)

650723.90   4203918.18   171.96794 (15021024)
        650743.90   4203918.18   171.40072 (15021024)
650763.90   4203918.18   167.28738 (15021024)
        650783.90   4203918.18   161.88542 (15021024)
650803.90   4203918.18   154.85975 (15021024)
        650823.90   4203918.18   145.18521 (15021024)
650843.90   4203918.18   137.10563 (15021024)
        650863.90   4203918.18   128.87570 (15021024)
649923.90   4203938.18   142.03690 (17102424)
        649943.90   4203938.18   141.24026 (17102424)
649963.90   4203938.18   139.94332 (17102424)
        649983.90   4203938.18   137.61801 (17102424)
650003.90   4203938.18   140.47745c (15021824)
        650023.90   4203938.18   143.66940c (15021824)
650043.90   4203938.18   144.56207c (15021824)
        650063.90   4203938.18   144.43990c (15021824)
650083.90   4203938.18   151.15632c (15021824)
        650103.90   4203938.18   154.50730 (13012124)
650123.90   4203938.18   187.64491 (13012124)
        650143.90   4203938.18   197.77735 (13012124)
650723.90   4203938.18   178.24249 (15021024)
        650743.90   4203938.18   171.62130 (15021024)
650763.90   4203938.18   163.40885 (15021024)
        650783.90   4203938.18   152.77714 (15021024)
650803.90   4203938.18   143.25367 (15021024)
        650823.90   4203938.18   134.26021 (15021024)
650843.90   4203938.18   127.19915 (16012524)
        649923.90   4203958.18   150.97875 (17102424)
649943.90   4203958.18   153.33408 (17102424)
        649963.90   4203958.18   154.91834 (17102424)
649983.90   4203958.18   155.22495 (17102424)
        650003.90   4203958.18   154.94410 (17102424)
650023.90   4203958.18   153.45225 (17102424)
        650043.90   4203958.18   150.63631 (17102424)
650063.90   4203958.18   154.09288c (15021824)
        650083.90   4203958.18   160.42354c (14110424)
650103.90   4203958.18   168.18085 (13012124)
        650123.90   4203958.18   197.37908 (13012124)
650723.90   4203958.18   173.12928 (15021024)
        650743.90   4203958.18   162.56635 (15021024)
650763.90   4203958.18   150.13227 (15021024)
        650783.90   4203958.18   140.78251 (16012524)
650803.90   4203958.18   146.22271 (16012524)
        650823.90   4203958.18   150.99485 (16012524)
650843.90   4203958.18   155.01593 (16012524)
        649923.90   4203978.18   149.37358 (17102424)
649943.90   4203978.18   153.49186 (17102424)
        649963.90   4203978.18   156.96823 (17102424)
649983.90   4203978.18   165.30685 (17102424)
        650003.90   4203978.18   168.39422 (17102424)
650023.90   4203978.18   170.14607 (17102424)
        650043.90   4203978.18   171.23555 (17102424)

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650063.90   4203978.18      170.94493  (17102424)
        650083.90   4203978.18      171.68480c (14110424)
650103.90   4203978.18      185.14493c (14110424)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650130.14	4203977.56	203.61531	(13012124)
650703.90	4203978.18	172.05720	(15021024)
650723.90	4203978.18	158.42703	(13011124)
650743.90	4203978.18	163.58447	(16012524)
650763.90	4203978.18	169.33207	(16012524)
650783.90	4203978.18	174.00904	(16012524)
650803.90	4203978.18	177.56434	(16012524)
650823.90	4203978.18	179.60755	(16012524)
650843.90	4203978.18	180.38010	(16012524)
649923.90	4203998.18	146.70905	(17102424)
649943.90	4203998.18	150.34376	(17102424)
649963.90	4203998.18	156.35507	(17102424)
649983.90	4203998.18	162.02438	(17102424)
650003.90	4203998.18	167.16992	(17102424)
650023.90	4203998.18	177.18550	(17102424)
650043.90	4203998.18	182.14536	(17102424)
650063.90	4203998.18	185.74735	(17102424)
650083.90	4203998.18	188.63261	(17102424)
650103.90	4203998.18	192.69545c	(14110424)
650703.90	4203998.18	191.34503	(16012524)
650723.90	4203998.18	196.50264	(16012524)
650743.90	4203998.18	200.11307	(16012524)
650763.90	4203998.18	202.25766	(16012524)
650783.90	4203998.18	202.62118	(16012524)
650803.90	4203998.18	201.58794	(16012524)

650823.90   4203998.18   200.50315 (16012524)
        650843.90   4203998.18   198.55404 (16012524)
649923.90   4204018.18   144.56614c (14112624)
        649943.90   4204018.18   148.27159c (14112624)
649963.90   4204018.18   151.90791c (14112624)
        649983.90   4204018.18   157.15016 (17102424)
650003.90   4204018.18   161.96977 (17102424)
        650023.90   4204018.18   169.33743 (17102424)
650043.90   4204018.18   176.37945 (17102424)
        650063.90   4204018.18   188.40108 (17102424)
650083.90   4204018.18   195.59598 (17102424)
        650103.90   4204018.18   202.14014c (14110424)
650123.90   4204018.18   215.92745c (14110424)
        650703.90   4204018.18   227.60520 (16012524)
650723.90   4204018.18   226.99494 (16012524)
        650743.90   4204018.18   224.50484 (16012524)
650763.90   4204018.18   220.68925 (16012524)
        650783.90   4204018.18   216.93564 (16012524)
650803.90   4204018.18   212.46462 (16012524)
        650823.90   4204018.18   207.45343 (16012524)
650843.90   4204018.18   202.04999 (16012524)
        649923.90   4204038.18   148.05718c (14112624)
649943.90   4204038.18   153.02616c (14112624)
        649963.90   4204038.18   157.61055c (14112624)
649983.90   4204038.18   162.93453c (14112624)
        650003.90   4204038.18   168.33882c (14112624)
650023.90   4204038.18   173.78855c (14112624)
        650043.90   4204038.18   179.22400c (14112624)
650063.90   4204038.18   184.58150c (14112624)
        650083.90   4204038.18   194.52938c (14112624)
650103.90   4204038.18   202.29568c (14112624)
        650123.90   4204038.18   211.95617c (14112624)
650683.90   4204038.18   247.13593 (16012524)
        650703.90   4204038.18   240.54152 (16012524)
650723.90   4204038.18   233.03118 (16012524)
        650743.90   4204038.18   225.98545 (16012524)
650763.90   4204038.18   218.60247 (16012524)
        650783.90   4204038.18   211.04524 (16012524)
650803.90   4204038.18   203.46949 (16012524)
        650823.90   4204038.18   195.91365 (16012524)
649923.90   4204058.18   150.42997c (15112224)
        649943.90   4204058.18   154.83901c (15112224)
649963.90   4204058.18   159.49139c (15112224)
        649983.90   4204058.18   164.70135c (14112624)
650003.90   4204058.18   171.13259c (14112624)
        650023.90   4204058.18   176.56689c (14112624)
650043.90   4204058.18   183.12836c (14112624)
        650063.90   4204058.18   190.65029c (14112624)
650083.90   4204058.18   198.38292c (14112624)
        650103.90   4204058.18   206.16828c (14112624)
650123.90   4204058.18   218.38892c (14112624)
        650683.90   4204058.18   231.50845 (16012524)

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650703.90   4204058.18      221.40011  (16012524)
        650723.90   4204058.18      211.55290  (16012524)
650743.90   4204058.18      202.03992  (16012524)
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650763.90	4204058.18	192.91010	(16012524)
650783.90	4204058.18	184.18678	(16012524)
650803.90	4204058.18	175.88682	(16012524)
650823.90	4204058.18	168.00823	(16012524)
649923.90	4204078.18	154.23690c	(15112224)
649943.90	4204078.18	159.02763c	(15112224)
649963.90	4204078.18	164.15241c	(15112224)
649983.90	4204078.18	169.60654c	(15112224)
650003.90	4204078.18	174.61043c	(15112224)
650023.90	4204078.18	180.10178c	(15112224)
650043.90	4204078.18	186.80470c	(15112224)
650063.90	4204078.18	193.95215c	(15112224)
650083.90	4204078.18	201.59732c	(15112224)
650103.90	4204078.18	209.19470c	(15112224)
650123.90	4204078.18	218.35499c	(15112224)
650683.90	4204078.18	186.78510	(16012524)
650703.90	4204078.18	177.10073	(16012524)
650723.90	4204078.18	168.05684	(16012524)
650743.90	4204078.18	159.64770	(16012524)
650763.90	4204078.18	151.82837	(16012524)
650783.90	4204078.18	144.54766	(16012524)
650803.90	4204078.18	137.76801	(16012524)
650823.90	4204078.18	131.44748	(16012524)
649923.90	4204098.18	150.46594c	(15112224)
649943.90	4204098.18	154.79424c	(15112224)

649963.90   4204098.18   159.43683c (15112224)
        649983.90   4204098.18   164.37946c (15112224)
650003.90   4204098.18   169.66465c (15112224)
        650023.90   4204098.18   175.32310c (15112224)
650043.90   4204098.18   181.40920c (15112224)
        650063.90   4204098.18   187.95213c (15112224)
650083.90   4204098.18   195.00887c (15112224)
        650103.90   4204098.18   208.02545c (15112224)
650123.90   4204098.18   216.94521c (15112224)
        650143.90   4204098.18   226.52054c (15112224)
650163.90   4204098.18   249.69208c (15112224)
        650663.90   4204098.18   156.40615 (16110824)
650683.90   4204098.18   150.34981 (16110824)
        650703.90   4204098.18   144.75531 (16110824)
650723.90   4204098.18   139.57027 (16110824)
        650743.90   4204098.18   134.75172 (16110824)
650763.90   4204098.18   130.26106 (16110824)
        650783.90   4204098.18   126.06421 (16110824)
650803.90   4204098.18   121.90297 (16110824)
        650823.90   4204098.18   117.31467 (16110824)
649923.90   4204118.18   143.71643c (15112224)
        649943.90   4204118.18   147.35250c (15112224)
649963.90   4204118.18   151.20476c (15112224)
        649983.90   4204118.18   156.38177c (15112224)
650003.90   4204118.18   164.41457c (15112224)
        650023.90   4204118.18   169.39069c (15112224)
650043.90   4204118.18   174.82526c (15112224)
        650063.90   4204118.18   180.58894c (15112224)
650083.90   4204118.18   186.58059c (15112224)
        650103.90   4204118.18   194.48275c (15112224)
650123.90   4204118.18   205.90711c (15112224)
        650143.90   4204118.18   221.04160c (14112624)
650163.90   4204118.18   231.79106c (14112624)
        650181.72   4204111.01   259.68466c (15112224)
650663.90   4204118.18   142.90521 (16110824)
        650683.90   4204118.18   137.97953 (16110824)
650703.90   4204118.18   133.40192 (16110824)
        650723.90   4204118.18   129.13319 (16110824)
650743.90   4204118.18   124.09471 (16110824)
        650763.90   4204118.18   120.53683 (16110824)
650783.90   4204118.18   117.08814 (16110824)
        650803.90   4204118.18   113.91705 (16110824)
650823.90   4204118.18   110.82941 (16110824)
        649923.90   4204138.18   137.26391c (15112224)
649943.90   4204138.18   140.39179c (15112224)
        649963.90   4204138.18   143.66813c (15112224)
649983.90   4204138.18   147.10100c (15112224)
        650003.90   4204138.18   150.69018c (15112224)
650023.90   4204138.18   154.48247c (15112224)
        650043.90   4204138.18   158.55207c (15112224)
650063.90   4204138.18   162.80807c (15112224)
        650083.90   4204138.18   167.53330c (15112224)

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650103.90   4204138.18      175.21042c (14112624)
        650123.90   4204138.18      207.10683c (14112624)
650143.90   4204138.18      196.54153c (14112624)
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650163.90	4204138.18	183.54708	(14110524)
650643.90	4204138.18	133.99096	(17042424)
650663.90	4204138.18	128.39034	(17042424)
650683.90	4204138.18	122.95508	(17042424)
650703.90	4204138.18	117.70042	(17042424)
650723.90	4204138.18	113.95589	(16110824)
650743.90	4204138.18	111.28017	(16110824)
650763.90	4204138.18	108.77513	(16110824)
650783.90	4204138.18	106.36312	(16110824)
650803.90	4204138.18	104.03641	(16110824)
649923.90	4204158.18	125.63015c	(15112224)
649943.90	4204158.18	127.90005c	(15112224)
649963.90	4204158.18	130.24555c	(15112224)
649983.90	4204158.18	132.64473c	(15112224)
650003.90	4204158.18	135.11625c	(15112224)
650023.90	4204158.18	136.31989c	(15112224)
650043.90	4204158.18	139.04923c	(15112224)
650063.90	4204158.18	143.17580c	(14112624)
650083.90	4204158.18	152.37481c	(14112624)
650103.90	4204158.18	167.43357	(13010824)
650123.90	4204158.18	215.72217	(13010824)
650143.90	4204158.18	204.27769	(14110524)
650177.35	4204157.56	213.85940	(14110524)
650643.90	4204158.18	115.89324	(17042424)
650663.90	4204158.18	113.78880	(17042424)

650683.90   4204158.18   111.13215 (17042424)
        650703.90   4204158.18   108.85019 (17042424)
650723.90   4204158.18   105.73901 (17042424)
        650743.90   4204158.18   102.51859 (17042424)
650763.90   4204158.18   99.26038 (17042424)
        650783.90   4204158.18   96.51052 (17042424)
650803.90   4204158.18   93.20257 (17042424)
        650923.90   4204158.18   82.34096 (16110824)
649923.90   4204178.18   114.66393c (14012224)
        649943.90   4204178.18   117.67038c (14012224)
649963.90   4204178.18   120.74976c (14012224)
        649983.90   4204178.18   124.63478 (13011724)
650003.90   4204178.18   129.05567 (13011724)
        650023.90   4204178.18   133.70133 (13011724)
650043.90   4204178.18   139.50805 (13011724)
        650063.90   4204178.18   144.98538 (13011724)
650083.90   4204178.18   155.86501 (13011724)
        650103.90   4204178.18   192.42659 (14110524)
650123.90   4204178.18   233.35741 (14110524)
        650143.90   4204178.18   246.76471 (14110524)
650643.90   4204178.18   107.28187 (17092024)
        650663.90   4204178.18   103.90835 (17092024)
650683.90   4204178.18   100.70787 (17092024)
        650703.90   4204178.18   96.80659 (17092024)
650723.90   4204178.18   94.79137 (17042424)
        650743.90   4204178.18   93.38390 (17042424)
650763.90   4204178.18   91.61132 (17042424)
        650783.90   4204178.18   89.73443 (17042424)
650803.90   4204178.18   87.72455 (17042424)
        650903.90   4204178.18   76.64410 (17042424)
650923.90   4204178.18   75.00155 (17042424)
        649923.90   4204198.18   113.48732c (14012224)
649943.90   4204198.18   117.11149 (13011724)
        649963.90   4204198.18   120.82579 (13011724)
649983.90   4204198.18   125.27599 (13011724)
        650003.90   4204198.18   129.30238 (13011724)
650023.90   4204198.18   133.47543 (13011724)
        650043.90   4204198.18   137.80205 (13011724)
650063.90   4204198.18   154.91937 (14110524)
        650083.90   4204198.18   170.83801 (14110524)
650103.90   4204198.18   202.92613 (14110524)
        650123.90   4204198.18   262.07037 (14110524)
650143.90   4204198.18   281.26308 (14110524)
        650643.90   4204198.18   107.04282 (16052024)
650663.90   4204198.18   97.93889 (16052024)
        650683.90   4204198.18   93.27178 (17092024)
650703.90   4204198.18   91.86814 (17092024)
        650723.90   4204198.18   89.81814 (17092024)
650743.90   4204198.18   87.02784 (17092024)
        650763.90   4204198.18   84.19094 (17092024)
650783.90   4204198.18   81.41997 (17042424)
        650803.90   4204198.18   80.31762 (17042424)

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650903.90   4204198.18       73.53721  (17042424)
        650923.90   4204198.18       71.86386  (17042424)
649923.90   4204218.18      114.89835  (13010824)
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
649943.90	4204218.18	118.68002	(13010824)
649963.90	4204218.18	122.39893	(13010824)
649983.90	4204218.18	125.99391	(13010824)
650003.90	4204218.18	129.51292	(13010824)
650023.90	4204218.18	138.71367	(14110524)
650043.90	4204218.18	150.16303	(14110524)
650063.90	4204218.18	163.49787	(14110524)
650083.90	4204218.18	176.38674	(14110524)
650103.90	4204218.18	193.69858	(14110524)
650123.90	4204218.18	272.85157	(14110524)
650145.46	4204223.48	313.50957	(14110524)
650623.90	4204218.18	114.32294	(16052024)
650643.90	4204218.18	110.00296	(16052024)
650703.90	4204218.18	90.98841	(16052024)
650723.90	4204218.18	84.22245	(16052024)
650743.90	4204218.18	82.44015	(17092024)
650763.90	4204218.18	80.73341	(17092024)
650903.90	4204218.18	68.98387	(17042424)
650923.90	4204218.18	67.76069	(17042424)
649923.90	4204238.18	117.06845	(13010824)
649943.90	4204238.18	119.88214	(13010824)
649963.90	4204238.18	122.49102	(13010824)
649983.90	4204238.18	128.79815	(14110524)
650003.90	4204238.18	138.43000	(14110524)
650023.90	4204238.18	147.60487	(14110524)

650043.90   4204238.18   156.61164 (14110524)
        650063.90   4204238.18   165.92814 (14110524)
650083.90   4204238.18   177.02031 (14110524)
        650103.90   4204238.18   190.18069 (14110524)
650123.90   4204238.18   238.76161 (15121724)
        650623.90   4204238.18   101.22671 (16052024)
650643.90   4204238.18   102.81062 (16052024)
        650703.90   4204238.18   94.83468 (16052024)
650723.90   4204238.18   89.74780 (16052024)
        650743.90   4204238.18   84.49616 (16052024)
650763.90   4204238.18   78.89306 (16052024)
        650903.90   4204238.18   65.28014 (17092024)
650923.90   4204238.18   63.22885 (17092024)
        649923.90   4204258.18   115.83168 (14110524)
649943.90   4204258.18   122.85968 (14110524)
        649963.90   4204258.18   129.85108 (14110524)
649983.90   4204258.18   136.57689 (14110524)
        650003.90   4204258.18   142.76497 (14110524)
650023.90   4204258.18   148.77454 (14110524)
        650043.90   4204258.18   155.97146 (14110524)
650063.90   4204258.18   162.53635 (14110524)
        650083.90   4204258.18   173.08941 (15121724)
650103.90   4204258.18   193.64114 (15121724)
        650117.35   4204260.99   207.82192 (15121724)
650623.90   4204258.18   90.57883 (16012324)
        650643.90   4204258.18   89.13314 (15122224)
650903.90   4204258.18   63.78847 (17092024)
        650923.90   4204258.18   62.07781 (17092024)
649923.90   4204278.18   123.16037 (14110524)
        649943.90   4204278.18   127.97162 (14110524)
649963.90   4204278.18   132.31386 (14110524)
        649983.90   4204278.18   136.78010 (14110524)
650003.90   4204278.18   140.49179 (14110524)
        650023.90   4204278.18   144.73244 (14110524)
650043.90   4204278.18   148.02175 (14110524)
        650063.90   4204278.18   158.35957 (15121724)
650083.90   4204278.18   174.45492 (15121724)
        650103.90   4204278.18   189.67824 (15121724)
650129.52   4204276.31   209.72726 (15121724)
        650623.90   4204278.18   96.11825 (16012324)
650643.90   4204278.18   87.41531 (16012324)
        650903.90   4204278.18   61.49542 (17092024)
650923.90   4204278.18   60.17584 (17092024)
        649923.90   4204298.18   123.79836 (14110524)
649943.90   4204298.18   127.11118 (14110524)
        649963.90   4204298.18   129.75294 (14110524)
649983.90   4204298.18   131.34658 (14110524)
        650003.90   4204298.18   133.55810 (14110524)
650023.90   4204298.18   133.13466 (14110524)
        650043.90   4204298.18   149.70212 (15121724)
650063.90   4204298.18   163.25461 (15121724)
        650083.90   4204298.18   174.83889 (15121724)

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650103.90   4204298.18      186.76606  (15121724)
        650883.90   4204298.18       65.80452  (16052024)
650903.90   4204298.18       62.30866  (16052024)
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650923.90	4204298.18	58.84540	(16052024)
649923.90	4204318.18	118.49962	(14110524)
649943.90	4204318.18	119.76185	(14110524)
649963.90	4204318.18	120.07845	(14110524)
649983.90	4204318.18	119.72861	(14110524)
650003.90	4204318.18	127.45227	(15121724)
650023.90	4204318.18	142.89752	(15121724)
650043.90	4204318.18	154.40720	(15121724)
650063.90	4204318.18	163.43622	(15121724)
650083.90	4204318.18	171.93010	(15121724)
650103.90	4204318.18	178.54020	(15121724)
650128.58	4204306.95	192.93655	(15121724)
650883.90	4204318.18	67.03834	(16052024)
650903.90	4204318.18	64.56319	(16052024)
650923.90	4204318.18	61.61025	(16052024)
649923.90	4204338.18	108.93531	(14110524)
649943.90	4204338.18	108.25922	(14110524)
649963.90	4204338.18	109.36344	(15121724)
649983.90	4204338.18	123.92240	(15121724)
650003.90	4204338.18	137.38327	(15121724)
650023.90	4204338.18	146.76176	(15121724)
650043.90	4204338.18	153.70486	(15121724)
650063.90	4204338.18	159.04793	(15121724)
650083.90	4204338.18	164.26170	(15121724)
650103.90	4204338.18	168.05865	(15121724)

650123.90   4204338.18   170.54612 (15121724)
        650295.82   4204357.27   76.89355 (16031124)
650883.90   4204338.18   66.09004 (16052024)
        650903.90   4204338.18   64.47088 (16052024)
650923.90   4204338.18   62.50512 (16052024)
        649923.90   4204358.18   98.91859 (15121724)
649943.90   4204358.18   108.13786 (15121724)
        649963.90   4204358.18   120.12859 (15121724)
649983.90   4204358.18   131.99250 (15121724)
        650003.90   4204358.18   138.75522 (15121724)
650023.90   4204358.18   145.05821 (15121724)
        650043.90   4204358.18   149.49175 (15121724)
650063.90   4204358.18   151.82805 (15121724)
        650083.90   4204358.18   154.91355 (15121724)
650103.90   4204358.18   154.78030 (15121724)
        650123.90   4204358.18   153.62161c (16010424)
650171.33   4204360.30   160.66286 (14020724)
        650181.51   4204363.22   159.42553 (14020724)
650883.90   4204358.18   64.09481 (16052024)
        650903.90   4204358.18   62.90549 (16052024)
650923.90   4204358.18   61.46903 (16052024)
        649923.90   4204378.18   105.48525 (15121724)
649943.90   4204378.18   114.54924 (15012024)
        649963.90   4204378.18   126.60802 (15121724)
649983.90   4204378.18   132.07148 (15121724)
        650003.90   4204378.18   137.88664 (15121724)
650023.90   4204378.18   139.15587 (15121724)
        650043.90   4204378.18   141.87215 (15121724)
650063.90   4204378.18   144.55543 (15121724)
        650083.90   4204378.18   141.84277 (15121724)
650103.90   4204378.18   138.58294c (16010424)
        650903.90   4204378.18   59.62362 (16052024)
650923.90   4204378.18   58.86838 (16052024)
        649923.90   4204398.18   113.34282 (15012024)
649943.90   4204398.18   121.30964 (15121724)
        649963.90   4204398.18   126.15416 (15121724)
649983.90   4204398.18   128.78783 (15121724)
        650003.90   4204398.18   130.76101 (15121724)
650023.90   4204398.18   134.06628 (15121724)
        650043.90   4204398.18   134.48367 (15121724)
650063.90   4204398.18   131.99804 (15121724)
        650083.90   4204398.18   129.92423b (16011424)
650103.90   4204398.18   131.57514 (14100524)
        649923.90   4204418.18   116.37341 (15012024)
649943.90   4204418.18   118.92151 (15012024)
        649963.90   4204418.18   122.01004 (15121724)
649983.90   4204418.18   124.29234 (15121724)
        650003.90   4204418.18   127.09331m (17120224)
650023.90   4204418.18   127.38487m (17120224)
        650043.90   4204418.18   124.40761m (17120224)
650103.90   4204418.18   126.57475 (14100524)
        649923.90   4204438.18   116.04058 (15012024)

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649943.90   4204438.18      115.96963  (15012024)
        649963.90   4204438.18      119.98579m (17120224)
649983.90   4204438.18      123.08665m (17120224)
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S):
STCK1 , STCK2 , STCK3 , STCK4 , STCK5 ,
STCK6 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
650003.90	4204438.18	123.28199m	(17120224)
650023.90	4204438.18	120.42687m	(17120224)
650043.90	4204438.18	118.36241b	(16011424)
650063.90	4204438.18	117.52483b	(16011424)
650083.90	4204438.18	120.34711	(14100524)
650143.90	4204438.18	115.76435	(14100524)
650209.72	4204428.68	133.53218	(17020624)
650229.72	4204428.68	125.41157	(17020624)
649923.90	4204458.18	112.54473	(15012024)
649943.90	4204458.18	116.36681m	(17120224)
649963.90	4204458.18	119.19286m	(17120224)
649983.90	4204458.18	119.32653m	(17120224)
650003.90	4204458.18	116.62144m	(17120224)
650023.90	4204458.18	110.47044b	(16011424)
650043.90	4204458.18	113.14967b	(16011424)
650063.90	4204458.18	114.01942	(14100524)
650083.90	4204458.18	119.82369	(14100524)
650143.90	4204458.18	106.73599	(16031324)
650203.90	4204458.18	117.76842	(17020624)
650223.90	4204458.18	103.06312	(17020624)
649923.90	4204478.18	112.89223m	(17120224)
649943.90	4204478.18	115.41959m	(17120224)
649963.90	4204478.18	115.51910m	(17120224)
649983.90	4204478.18	110.10082m	(17120224)
650003.90	4204478.18	106.19201b	(16011424)

650023.90   4204478.18   109.07136b (16011424)
        650043.90   4204478.18   110.07680b (16011424)
650063.90   4204478.18   114.63821 (14100524)
        650203.90   4204478.18   106.56632 (17020624)
649923.90   4204498.18   111.80824m (17120224)
        649943.90   4204498.18   111.86245m (17120224)
649963.90   4204498.18   104.28787m (17120224)
        649983.90   4204498.18   100.95078b (16011424)
650003.90   4204498.18   105.36034b (16011424)
        650023.90   4204498.18   106.68287b (16011424)
650043.90   4204498.18   109.27437 (14100524)
        650063.90   4204498.18   113.05207 (14100524)
650103.90   4204498.18   106.82573 (14100524)
        650123.90   4204498.18   99.67786 (13031124)
650143.90   4204498.18   98.13561 (13031124)
        650163.90   4204498.18   97.67153 (17020624)
650183.90   4204498.18   103.07611 (17020624)
        650203.90   4204498.18   92.84180 (17020624)
649923.90   4204518.18   108.38429m (17120224)
        649943.90   4204518.18   101.52355m (17120224)
649963.90   4204518.18   97.21151b (16011424)
        649983.90   4204518.18   101.90436b (16011424)
650003.90   4204518.18   103.53143b (16011424)
        650023.90   4204518.18   103.93697 (14100524)
650043.90   4204518.18   108.71463 (14100524)
        650063.90   4204518.18   109.52408 (14100524)
650103.90   4204518.18   98.49111 (14100524)
        650123.90   4204518.18   97.25724 (13031124)
650143.90   4204518.18   89.63832 (13031124)
        650163.90   4204518.18   95.47991 (17020624)
650183.90   4204518.18   95.22236 (17020624)
        650203.90   4204518.18   80.20527 (17020624)
650158.01   4204184.43   255.88755 (14110524)
        650190.84   4204367.10   158.38410 (17012124)
650200.65   4204370.01   164.27858 (15122124)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF MAXIMUM PERIOD (43824 HRS) RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

NETWORK GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	50.13206 AT	(650683.90, 4204038.18, 5.93, 5.93, 0.00)	DC
	2ND HIGHEST VALUE IS	47.70569 AT	(650703.90, 4204018.18, 5.93, 5.93, 0.00)	DC
	3RD HIGHEST VALUE IS	47.44971 AT	(650683.90, 4204058.18, 5.87, 5.87, 0.00)	DC
	4TH HIGHEST VALUE IS	47.01703 AT	(650703.90, 4204038.18, 5.86, 5.86, 0.00)	DC
	5TH HIGHEST VALUE IS	46.52697 AT	(650703.90, 4203998.18, 6.02, 6.02, 0.00)	DC
	6TH HIGHEST VALUE IS	45.94757 AT	(650145.46, 4204223.48, 5.26, 5.26, 0.00)	DC
	7TH HIGHEST VALUE IS	44.90870 AT	(650723.90, 4204018.18, 5.86, 5.86, 0.00)	DC
	8TH HIGHEST VALUE IS	44.24270 AT	(650723.90, 4203998.18, 5.93, 5.93, 0.00)	DC
	9TH HIGHEST VALUE IS	44.23078 AT	(650703.90, 4204058.18, 5.80, 5.80, 0.00)	DC
	10TH HIGHEST VALUE IS	44.11847 AT	(650703.90, 4203978.18, 6.10, 6.10, 0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

NETWORK GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	1145.85737	ON 13111523:	AT (650143.90, 4203938.18, 5.38, 5.38, 0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

NETWORK GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	313.50957	ON 14110524: AT (650145.46, 4204223.48, 5.26, 5.26, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 11 Warning Message(s)
A Total of 971 Informational Message(s)

A Total of 43824 Hours Were Processed

A Total of 442 Calm Hours Identified

A Total of 529 Missing Hours Identified (1.21 Percent)

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
ME W186 291 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used 0.50
ME W187 291 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
MX W420 34276 METQA: Wind Speed Out-of-Range. KURDAT = 16112904
MX W420 34282 METQA: Wind Speed Out-of-Range. KURDAT = 16112910
MX W420 34288 METQA: Wind Speed Out-of-Range. KURDAT = 16112916
MX W420 34294 METQA: Wind Speed Out-of-Range. KURDAT = 16112922
MX W420 34300 METQA: Wind Speed Out-of-Range. KURDAT = 16113004
MX W420 40768 METQA: Wind Speed Out-of-Range. KURDAT = 17082616
MX W420 40792 METQA: Wind Speed Out-of-Range. KURDAT = 17082716
MX W420 40798 METQA: Wind Speed Out-of-Range. KURDAT = 17082722
MX W420 40804 METQA: Wind Speed Out-of-Range. KURDAT = 17082804

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************************************
*** AERMOD Finishes Successfully ***
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*HARP - HRACalc v22118 3/29/2023 10:40:04 AM - Cancer Risk - Input File: C:\Users\imcintire\Desktop\HARP2\S.

REC	GRP	NETID	X	Y	CONC	POLID	POLABBREV	RISK_SUM
458	ALL		650683.9	4204038	0.006201	9901	DieselExhPM	4.62E-06
439	ALL		650703.9	4204018	0.005901	9901	DieselExhPM	4.39E-06
477	ALL		650683.9	4204058	0.005869	9901	DieselExhPM	4.37E-06
459	ALL		650703.9	4204038	0.005816	9901	DieselExhPM	4.33E-06
420	ALL		650703.9	4203998	0.005755	9901	DieselExhPM	4.28E-06
651	ALL		650145.5	4204223	0.005684	9901	DieselExhPM	4.23E-06
440	ALL		650723.9	4204018	0.005555	9901	DieselExhPM	4.13E-06
421	ALL		650723.9	4203998	0.005473	9901	DieselExhPM	4.07E-06
478	ALL		650703.9	4204058	0.005471	9901	DieselExhPM	4.07E-06
402	ALL		650703.9	4203978	0.005457	9901	DieselExhPM	4.06E-06
460	ALL		650723.9	4204038	0.005433	9901	DieselExhPM	4.04E-06
496	ALL		650683.9	4204078	0.005352	9901	DieselExhPM	3.98E-06
441	ALL		650743.9	4204018	0.005266	9901	DieselExhPM	3.92E-06
403	ALL		650723.9	4203978	0.00525	9901	DieselExhPM	3.91E-06
422	ALL		650743.9	4203998	0.005197	9901	DieselExhPM	3.87E-06
479	ALL		650723.9	4204058	0.00514	9901	DieselExhPM	3.83E-06
461	ALL		650743.9	4204038	0.005112	9901	DieselExhPM	3.80E-06
517	ALL		650663.9	4204098	0.005064	9901	DieselExhPM	3.77E-06
404	ALL		650743.9	4203978	0.005038	9901	DieselExhPM	3.75E-06
497	ALL		650703.9	4204078	0.005008	9901	DieselExhPM	3.73E-06
442	ALL		650763.9	4204018	0.004965	9901	DieselExhPM	3.70E-06
423	ALL		650763.9	4203998	0.004963	9901	DieselExhPM	3.69E-06
384	ALL		650723.9	4203958	0.004955	9901	DieselExhPM	3.69E-06
628	ALL		650143.9	4204198	0.004855	9901	DieselExhPM	3.61E-06
462	ALL		650763.9	4204038	0.004843	9901	DieselExhPM	3.60E-06
480	ALL		650743.9	4204058	0.004839	9901	DieselExhPM	3.60E-06
405	ALL		650763.9	4203978	0.004815	9901	DieselExhPM	3.58E-06
385	ALL		650743.9	4203958	0.004813	9901	DieselExhPM	3.58E-06
424	ALL		650783.9	4203998	0.004745	9901	DieselExhPM	3.53E-06
858	ALL		650158	4204184	0.00474	9901	DieselExhPM	3.53E-06
518	ALL		650683.9	4204098	0.004716	9901	DieselExhPM	3.51E-06
443	ALL		650783.9	4204018	0.004711	9901	DieselExhPM	3.51E-06
366	ALL		650723.9	4203938	0.004681	9901	DieselExhPM	3.48E-06
498	ALL		650723.9	4204078	0.004656	9901	DieselExhPM	3.47E-06
386	ALL		650763.9	4203958	0.004644	9901	DieselExhPM	3.46E-06
406	ALL		650783.9	4203978	0.004626	9901	DieselExhPM	3.44E-06
463	ALL		650783.9	4204038	0.004594	9901	DieselExhPM	3.42E-06
650	ALL		650123.9	4204218	0.004561	9901	DieselExhPM	3.39E-06
481	ALL		650763.9	4204058	0.004542	9901	DieselExhPM	3.38E-06
367	ALL		650743.9	4203938	0.004537	9901	DieselExhPM	3.38E-06
425	ALL		650803.9	4203998	0.004528	9901	DieselExhPM	3.37E-06
444	ALL		650803.9	4204018	0.004501	9901	DieselExhPM	3.35E-06
387	ALL		650783.9	4203958	0.004452	9901	DieselExhPM	3.31E-06
346	ALL		650723.9	4203918	0.004447	9901	DieselExhPM	3.31E-06
407	ALL		650803.9	4203978	0.004446	9901	DieselExhPM	3.31E-06

368	ALL	650763.9	4203938	0.004421	9901	DieselExhPM	3.29E-06
519	ALL	650703.9	4204098	0.004412	9901	DieselExhPM	3.28E-06
540	ALL	650663.9	4204118	0.004365	9901	DieselExhPM	3.25E-06
499	ALL	650743.9	4204078	0.004361	9901	DieselExhPM	3.25E-06
464	ALL	650803.9	4204038	0.004339	9901	DieselExhPM	3.23E-06
347	ALL	650743.9	4203918	0.004325	9901	DieselExhPM	3.22E-06
627	ALL	650123.9	4204198	0.00432	9901	DieselExhPM	3.22E-06
426	ALL	650823.9	4203998	0.004315	9901	DieselExhPM	3.21E-06
445	ALL	650823.9	4204018	0.004301	9901	DieselExhPM	3.20E-06
388	ALL	650803.9	4203958	0.004299	9901	DieselExhPM	3.20E-06
369	ALL	650783.9	4203938	0.004283	9901	DieselExhPM	3.19E-06
408	ALL	650823.9	4203978	0.004277	9901	DieselExhPM	3.18E-06
482	ALL	650783.9	4204058	0.004273	9901	DieselExhPM	3.18E-06
670	ALL	650123.9	4204238	0.004271	9901	DieselExhPM	3.18E-06
583	ALL	650177.4	4204158	0.004266	9901	DieselExhPM	3.18E-06
605	ALL	650143.9	4204178	0.00424	9901	DieselExhPM	3.16E-06
348	ALL	650763.9	4203918	0.004184	9901	DieselExhPM	3.11E-06
389	ALL	650823.9	4203958	0.004149	9901	DieselExhPM	3.09E-06
427	ALL	650843.9	4203998	0.004146	9901	DieselExhPM	3.09E-06
370	ALL	650803.9	4203938	0.004137	9901	DieselExhPM	3.08E-06
330	ALL	650743.9	4203898	0.00412	9901	DieselExhPM	3.07E-06
520	ALL	650723.9	4204098	0.004117	9901	DieselExhPM	3.06E-06
409	ALL	650843.9	4203978	0.004112	9901	DieselExhPM	3.06E-06
465	ALL	650823.9	4204038	0.004103	9901	DieselExhPM	3.05E-06
446	ALL	650843.9	4204018	0.004102	9901	DieselExhPM	3.05E-06
500	ALL	650763.9	4204078	0.004099	9901	DieselExhPM	3.05E-06
349	ALL	650783.9	4203918	0.00409	9901	DieselExhPM	3.04E-06
541	ALL	650683.9	4204118	0.004074	9901	DieselExhPM	3.03E-06
483	ALL	650803.9	4204058	0.00403	9901	DieselExhPM	3.00E-06
539	ALL	650181.7	4204111	0.004027	9901	DieselExhPM	3.00E-06
390	ALL	650843.9	4203958	0.004005	9901	DieselExhPM	2.98E-06
371	ALL	650823.9	4203938	0.004003	9901	DieselExhPM	2.98E-06
350	ALL	650803.9	4203918	0.003993	9901	DieselExhPM	2.97E-06
562	ALL	650643.9	4204138	0.003981	9901	DieselExhPM	2.96E-06
331	ALL	650763.9	4203898	0.00398	9901	DieselExhPM	2.96E-06
314	ALL	650743.9	4203878	0.003972	9901	DieselExhPM	2.96E-06
604	ALL	650123.9	4204178	0.003914	9901	DieselExhPM	2.91E-06
332	ALL	650783.9	4203898	0.003883	9901	DieselExhPM	2.89E-06
372	ALL	650843.9	4203938	0.003877	9901	DieselExhPM	2.89E-06
521	ALL	650743.9	4204098	0.003871	9901	DieselExhPM	2.88E-06
351	ALL	650823.9	4203918	0.00387	9901	DieselExhPM	2.88E-06
501	ALL	650783.9	4204078	0.00386	9901	DieselExhPM	2.87E-06
542	ALL	650703.9	4204118	0.003837	9901	DieselExhPM	2.86E-06
315	ALL	650763.9	4203878	0.003831	9901	DieselExhPM	2.85E-06
484	ALL	650823.9	4204058	0.003808	9901	DieselExhPM	2.83E-06
333	ALL	650803.9	4203898	0.003788	9901	DieselExhPM	2.82E-06
582	ALL	650143.9	4204158	0.003769	9901	DieselExhPM	2.81E-06

563	ALL	650663.9	4204138	0.003766	9901	DieselExhPM	2.80E-06
352	ALL	650843.9	4203918	0.00375	9901	DieselExhPM	2.79E-06
316	ALL	650783.9	4203878	0.003737	9901	DieselExhPM	2.78E-06
334	ALL	650823.9	4203898	0.003725	9901	DieselExhPM	2.77E-06
522	ALL	650763.9	4204098	0.003652	9901	DieselExhPM	2.72E-06
538	ALL	650163.9	4204118	0.003642	9901	DieselExhPM	2.71E-06
502	ALL	650803.9	4204078	0.003642	9901	DieselExhPM	2.71E-06
704	ALL	650129.5	4204276	0.003626	9901	DieselExhPM	2.70E-06
561	ALL	650163.9	4204138	0.003623	9901	DieselExhPM	2.70E-06
543	ALL	650723.9	4204118	0.003623	9901	DieselExhPM	2.70E-06
335	ALL	650843.9	4203898	0.003616	9901	DieselExhPM	2.69E-06
353	ALL	650863.9	4203918	0.003612	9901	DieselExhPM	2.69E-06
317	ALL	650803.9	4203878	0.00361	9901	DieselExhPM	2.69E-06
516	ALL	650163.9	4204098	0.003582	9901	DieselExhPM	2.67E-06
689	ALL	650117.4	4204261	0.003579	9901	DieselExhPM	2.66E-06
564	ALL	650683.9	4204138	0.003571	9901	DieselExhPM	2.66E-06
560	ALL	650143.9	4204138	0.003565	9901	DieselExhPM	2.65E-06
581	ALL	650123.9	4204158	0.003564	9901	DieselExhPM	2.65E-06
336	ALL	650863.9	4203898	0.003509	9901	DieselExhPM	2.61E-06
318	ALL	650823.9	4203878	0.003503	9901	DieselExhPM	2.61E-06
523	ALL	650783.9	4204098	0.003473	9901	DieselExhPM	2.59E-06
503	ALL	650823.9	4204078	0.003466	9901	DieselExhPM	2.58E-06
319	ALL	650843.9	4203878	0.003455	9901	DieselExhPM	2.57E-06
584	ALL	650643.9	4204158	0.003441	9901	DieselExhPM	2.56E-06
544	ALL	650743.9	4204118	0.00343	9901	DieselExhPM	2.55E-06
320	ALL	650863.9	4203878	0.003404	9901	DieselExhPM	2.53E-06
565	ALL	650703.9	4204138	0.003389	9901	DieselExhPM	2.52E-06
669	ALL	650103.9	4204238	0.003367	9901	DieselExhPM	2.51E-06
649	ALL	650103.9	4204218	0.003351	9901	DieselExhPM	2.49E-06
688	ALL	650103.9	4204258	0.003345	9901	DieselExhPM	2.49E-06
537	ALL	650143.9	4204118	0.003324	9901	DieselExhPM	2.47E-06
585	ALL	650663.9	4204158	0.003306	9901	DieselExhPM	2.46E-06
626	ALL	650103.9	4204198	0.003302	9901	DieselExhPM	2.46E-06
524	ALL	650803.9	4204098	0.003284	9901	DieselExhPM	2.44E-06
545	ALL	650763.9	4204118	0.003271	9901	DieselExhPM	2.43E-06
566	ALL	650723.9	4204138	0.003239	9901	DieselExhPM	2.41E-06
401	ALL	650130.1	4203978	0.003239	9901	DieselExhPM	2.41E-06
559	ALL	650123.9	4204138	0.00323	9901	DieselExhPM	2.40E-06
438	ALL	650123.9	4204018	0.003214	9901	DieselExhPM	2.39E-06
703	ALL	650103.9	4204278	0.003205	9901	DieselExhPM	2.39E-06
732	ALL	650128.6	4204307	0.003205	9901	DieselExhPM	2.39E-06
177	ALL	650643.9	4203658	0.003204	9901	DieselExhPM	2.38E-06
515	ALL	650143.9	4204098	0.003179	9901	DieselExhPM	2.37E-06
586	ALL	650683.9	4204158	0.003175	9901	DieselExhPM	2.36E-06
603	ALL	650103.9	4204178	0.00317	9901	DieselExhPM	2.36E-06
178	ALL	650663.9	4203658	0.003166	9901	DieselExhPM	2.36E-06
365	ALL	650143.9	4203938	0.003152	9901	DieselExhPM	2.35E-06

525	ALL	650823.9	4204098	0.00312	9901	DieselExhPM	2.32E-06
457	ALL	650123.9	4204038	0.003116	9901	DieselExhPM	2.32E-06
546	ALL	650783.9	4204118	0.003108	9901	DieselExhPM	2.31E-06
179	ALL	650683.9	4203658	0.003105	9901	DieselExhPM	2.31E-06
567	ALL	650743.9	4204138	0.003101	9901	DieselExhPM	2.31E-06
155	ALL	650643.9	4203638	0.003094	9901	DieselExhPM	2.30E-06
154	ALL	650623.9	4203638	0.003067	9901	DieselExhPM	2.28E-06
587	ALL	650703.9	4204158	0.003059	9901	DieselExhPM	2.28E-06
156	ALL	650663.9	4203638	0.003054	9901	DieselExhPM	2.27E-06
668	ALL	650083.9	4204238	0.003037	9901	DieselExhPM	2.26E-06
606	ALL	650643.9	4204178	0.003031	9901	DieselExhPM	2.26E-06
718	ALL	650103.9	4204298	0.003023	9901	DieselExhPM	2.25E-06
687	ALL	650083.9	4204258	0.003013	9901	DieselExhPM	2.24E-06
157	ALL	650683.9	4203638	0.003008	9901	DieselExhPM	2.24E-06
476	ALL	650123.9	4204058	0.002996	9901	DieselExhPM	2.23E-06
153	ALL	650603.9	4203638	0.00298	9901	DieselExhPM	2.22E-06
547	ALL	650803.9	4204118	0.002976	9901	DieselExhPM	2.21E-06
568	ALL	650763.9	4204138	0.002972	9901	DieselExhPM	2.21E-06
383	ALL	650123.9	4203958	0.002972	9901	DieselExhPM	2.21E-06
580	ALL	650103.9	4204158	0.002962	9901	DieselExhPM	2.20E-06
648	ALL	650083.9	4204218	0.002959	9901	DieselExhPM	2.20E-06
131	ALL	650643.9	4203618	0.002958	9901	DieselExhPM	2.20E-06
536	ALL	650123.9	4204118	0.002954	9901	DieselExhPM	2.20E-06
588	ALL	650723.9	4204158	0.002942	9901	DieselExhPM	2.19E-06
607	ALL	650663.9	4204178	0.002936	9901	DieselExhPM	2.19E-06
495	ALL	650123.9	4204078	0.002925	9901	DieselExhPM	2.18E-06
702	ALL	650083.9	4204278	0.002906	9901	DieselExhPM	2.16E-06
130	ALL	650623.9	4203618	0.002899	9901	DieselExhPM	2.16E-06
364	ALL	650123.9	4203938	0.002896	9901	DieselExhPM	2.16E-06
514	ALL	650123.9	4204098	0.00288	9901	DieselExhPM	2.14E-06
437	ALL	650103.9	4204018	0.002864	9901	DieselExhPM	2.13E-06
456	ALL	650103.9	4204038	0.002858	9901	DieselExhPM	2.13E-06
625	ALL	650083.9	4204198	0.002854	9901	DieselExhPM	2.12E-06
569	ALL	650783.9	4204138	0.002853	9901	DieselExhPM	2.12E-06
548	ALL	650823.9	4204118	0.002852	9901	DieselExhPM	2.12E-06
746	ALL	650123.9	4204338	0.002849	9901	DieselExhPM	2.12E-06
608	ALL	650683.9	4204178	0.002848	9901	DieselExhPM	2.12E-06
419	ALL	650103.9	4203998	0.002837	9901	DieselExhPM	2.11E-06
731	ALL	650103.9	4204318	0.002832	9901	DieselExhPM	2.11E-06
589	ALL	650743.9	4204158	0.002831	9901	DieselExhPM	2.11E-06
152	ALL	650583.9	4203638	0.002818	9901	DieselExhPM	2.10E-06
717	ALL	650083.9	4204298	0.002801	9901	DieselExhPM	2.08E-06
475	ALL	650103.9	4204058	0.002789	9901	DieselExhPM	2.08E-06
400	ALL	650103.9	4203978	0.002788	9901	DieselExhPM	2.08E-06
558	ALL	650103.9	4204138	0.002784	9901	DieselExhPM	2.07E-06
129	ALL	650603.9	4203618	0.002774	9901	DieselExhPM	2.06E-06
609	ALL	650703.9	4204178	0.002758	9901	DieselExhPM	2.05E-06

686	ALL	650063.9	4204258	0.00275	9901	DieselExhPM	2.05E-06
570	ALL	650803.9	4204138	0.002742	9901	DieselExhPM	2.04E-06
602	ALL	650083.9	4204178	0.002732	9901	DieselExhPM	2.03E-06
590	ALL	650763.9	4204158	0.002727	9901	DieselExhPM	2.03E-06
762	ALL	650171.3	4204360	0.00272	9901	DieselExhPM	2.02E-06
667	ALL	650063.9	4204238	0.002717	9901	DieselExhPM	2.02E-06
382	ALL	650103.9	4203958	0.002707	9901	DieselExhPM	2.01E-06
494	ALL	650103.9	4204078	0.002705	9901	DieselExhPM	2.01E-06
745	ALL	650103.9	4204338	0.002699	9901	DieselExhPM	2.01E-06
647	ALL	650063.9	4204218	0.002688	9901	DieselExhPM	2.00E-06
610	ALL	650723.9	4204178	0.002671	9901	DieselExhPM	1.99E-06
701	ALL	650063.9	4204278	0.002668	9901	DieselExhPM	1.99E-06
436	ALL	650083.9	4204018	0.002662	9901	DieselExhPM	1.98E-06
763	ALL	650181.5	4204363	0.002662	9901	DieselExhPM	1.98E-06
513	ALL	650103.9	4204098	0.002661	9901	DieselExhPM	1.98E-06
761	ALL	650123.9	4204358	0.00266	9901	DieselExhPM	1.98E-06
629	ALL	650643.9	4204198	0.00266	9901	DieselExhPM	1.98E-06
535	ALL	650103.9	4204118	0.002654	9901	DieselExhPM	1.98E-06
455	ALL	650083.9	4204038	0.002637	9901	DieselExhPM	1.96E-06
418	ALL	650083.9	4203998	0.002636	9901	DieselExhPM	1.96E-06
591	ALL	650783.9	4204158	0.002636	9901	DieselExhPM	1.96E-06
730	ALL	650083.9	4204318	0.00263	9901	DieselExhPM	1.96E-06
579	ALL	650083.9	4204158	0.002616	9901	DieselExhPM	1.95E-06
128	ALL	650583.9	4203618	0.002607	9901	DieselExhPM	1.94E-06
474	ALL	650083.9	4204058	0.002602	9901	DieselExhPM	1.94E-06
630	ALL	650663.9	4204198	0.002601	9901	DieselExhPM	1.94E-06
151	ALL	650563.9	4203638	0.0026	9901	DieselExhPM	1.94E-06
611	ALL	650743.9	4204178	0.002589	9901	DieselExhPM	1.93E-06
624	ALL	650063.9	4204198	0.002582	9901	DieselExhPM	1.92E-06
716	ALL	650063.9	4204298	0.002571	9901	DieselExhPM	1.91E-06
399	ALL	650083.9	4203978	0.002567	9901	DieselExhPM	1.91E-06
859	ALL	650190.8	4204367	0.002564	9901	DieselExhPM	1.91E-06
592	ALL	650803.9	4204158	0.002542	9901	DieselExhPM	1.89E-06
631	ALL	650683.9	4204198	0.002538	9901	DieselExhPM	1.89E-06
760	ALL	650103.9	4204358	0.002538	9901	DieselExhPM	1.89E-06
493	ALL	650083.9	4204078	0.002533	9901	DieselExhPM	1.89E-06
557	ALL	650083.9	4204138	0.00253	9901	DieselExhPM	1.88E-06
744	ALL	650083.9	4204338	0.002522	9901	DieselExhPM	1.88E-06
48	ALL	650683.9	4203538	0.002514	9901	DieselExhPM	1.87E-06
363	ALL	650103.9	4203938	0.002512	9901	DieselExhPM	1.87E-06
601	ALL	650063.9	4204178	0.002511	9901	DieselExhPM	1.87E-06
685	ALL	650043.9	4204258	0.002509	9901	DieselExhPM	1.87E-06
612	ALL	650763.9	4204178	0.002506	9901	DieselExhPM	1.87E-06
435	ALL	650063.9	4204018	0.002503	9901	DieselExhPM	1.86E-06
666	ALL	650043.9	4204238	0.0025	9901	DieselExhPM	1.86E-06
700	ALL	650043.9	4204278	0.002485	9901	DieselExhPM	1.85E-06
632	ALL	650703.9	4204198	0.002479	9901	DieselExhPM	1.85E-06

454	ALL	650063.9	4204038	0.002475	9901	DieselExhPM	1.84E-06
534	ALL	650083.9	4204118	0.002471	9901	DieselExhPM	1.84E-06
512	ALL	650083.9	4204098	0.002468	9901	DieselExhPM	1.84E-06
47	ALL	650663.9	4203538	0.002464	9901	DieselExhPM	1.83E-06
729	ALL	650063.9	4204318	0.002464	9901	DieselExhPM	1.83E-06
417	ALL	650063.9	4203998	0.002457	9901	DieselExhPM	1.83E-06
646	ALL	650043.9	4204218	0.002457	9901	DieselExhPM	1.83E-06
860	ALL	650200.7	4204370	0.002447	9901	DieselExhPM	1.82E-06
473	ALL	650063.9	4204058	0.00244	9901	DieselExhPM	1.82E-06
381	ALL	650083.9	4203958	0.002434	9901	DieselExhPM	1.81E-06
613	ALL	650783.9	4204178	0.002431	9901	DieselExhPM	1.81E-06
633	ALL	650723.9	4204198	0.00242	9901	DieselExhPM	1.80E-06
398	ALL	650063.9	4203978	0.002411	9901	DieselExhPM	1.79E-06
759	ALL	650083.9	4204358	0.00241	9901	DieselExhPM	1.79E-06
23	ALL	650683.9	4203518	0.002401	9901	DieselExhPM	1.79E-06
113	ALL	650583.9	4203598	0.002399	9901	DieselExhPM	1.79E-06
776	ALL	650103.9	4204378	0.002399	9901	DieselExhPM	1.79E-06
715	ALL	650043.9	4204298	0.002397	9901	DieselExhPM	1.78E-06
578	ALL	650063.9	4204158	0.002394	9901	DieselExhPM	1.78E-06
286	ALL	650163.9	4203818	0.002393	9901	DieselExhPM	1.78E-06
127	ALL	650563.9	4203618	0.002392	9901	DieselExhPM	1.78E-06
492	ALL	650063.9	4204078	0.002382	9901	DieselExhPM	1.77E-06
652	ALL	650623.9	4204218	0.002382	9901	DieselExhPM	1.77E-06
623	ALL	650043.9	4204198	0.00238	9901	DieselExhPM	1.77E-06
743	ALL	650063.9	4204338	0.002359	9901	DieselExhPM	1.76E-06
614	ALL	650803.9	4204178	0.002357	9901	DieselExhPM	1.75E-06
634	ALL	650743.9	4204198	0.002357	9901	DieselExhPM	1.75E-06
653	ALL	650643.9	4204218	0.002346	9901	DieselExhPM	1.75E-06
556	ALL	650063.9	4204138	0.002342	9901	DieselExhPM	1.74E-06
434	ALL	650043.9	4204018	0.002339	9901	DieselExhPM	1.74E-06
453	ALL	650043.9	4204038	0.002334	9901	DieselExhPM	1.74E-06
416	ALL	650043.9	4203998	0.00233	9901	DieselExhPM	1.73E-06
22	ALL	650663.9	4203518	0.002328	9901	DieselExhPM	1.73E-06
665	ALL	650023.9	4204238	0.002327	9901	DieselExhPM	1.73E-06
362	ALL	650083.9	4203938	0.002322	9901	DieselExhPM	1.73E-06
511	ALL	650063.9	4204098	0.002322	9901	DieselExhPM	1.73E-06
684	ALL	650023.9	4204258	0.002316	9901	DieselExhPM	1.72E-06
533	ALL	650063.9	4204118	0.002314	9901	DieselExhPM	1.72E-06
600	ALL	650043.9	4204178	0.002307	9901	DieselExhPM	1.72E-06
380	ALL	650063.9	4203958	0.002306	9901	DieselExhPM	1.72E-06
728	ALL	650043.9	4204318	0.002302	9901	DieselExhPM	1.71E-06
775	ALL	650083.9	4204378	0.002302	9901	DieselExhPM	1.71E-06
472	ALL	650043.9	4204058	0.002299	9901	DieselExhPM	1.71E-06
635	ALL	650763.9	4204198	0.002297	9901	DieselExhPM	1.71E-06
699	ALL	650023.9	4204278	0.002296	9901	DieselExhPM	1.71E-06
758	ALL	650063.9	4204358	0.002291	9901	DieselExhPM	1.70E-06
645	ALL	650023.9	4204218	0.002273	9901	DieselExhPM	1.69E-06

397	ALL	650043.9	4203978	0.002271	9901	DieselExhPM	1.69E-06
714	ALL	650023.9	4204298	0.002255	9901	DieselExhPM	1.68E-06
491	ALL	650043.9	4204078	0.002242	9901	DieselExhPM	1.67E-06
577	ALL	650043.9	4204158	0.002241	9901	DieselExhPM	1.67E-06
636	ALL	650783.9	4204198	0.002238	9901	DieselExhPM	1.67E-06
622	ALL	650023.9	4204198	0.002235	9901	DieselExhPM	1.66E-06
654	ALL	650703.9	4204218	0.002229	9901	DieselExhPM	1.66E-06
788	ALL	650103.9	4204398	0.002221	9901	DieselExhPM	1.65E-06
93	ALL	650583.9	4203578	0.002219	9901	DieselExhPM	1.65E-06
742	ALL	650043.9	4204338	0.002215	9901	DieselExhPM	1.65E-06
452	ALL	650023.9	4204038	0.00221	9901	DieselExhPM	1.64E-06
415	ALL	650023.9	4203998	0.002204	9901	DieselExhPM	1.64E-06
433	ALL	650023.9	4204018	0.002203	9901	DieselExhPM	1.64E-06
112	ALL	650563.9	4203598	0.002196	9901	DieselExhPM	1.63E-06
379	ALL	650043.9	4203958	0.002195	9901	DieselExhPM	1.63E-06
510	ALL	650043.9	4204098	0.002192	9901	DieselExhPM	1.63E-06
361	ALL	650063.9	4203938	0.002191	9901	DieselExhPM	1.63E-06
787	ALL	650083.9	4204398	0.002191	9901	DieselExhPM	1.63E-06
655	ALL	650723.9	4204218	0.002188	9901	DieselExhPM	1.63E-06
774	ALL	650063.9	4204378	0.002187	9901	DieselExhPM	1.63E-06
555	ALL	650043.9	4204138	0.002186	9901	DieselExhPM	1.63E-06
345	ALL	650083.9	4203918	0.002184	9901	DieselExhPM	1.63E-06
727	ALL	650023.9	4204318	0.002183	9901	DieselExhPM	1.62E-06
126	ALL	650543.9	4203618	0.002181	9901	DieselExhPM	1.62E-06
532	ALL	650043.9	4204118	0.002181	9901	DieselExhPM	1.62E-06
637	ALL	650803.9	4204198	0.002179	9901	DieselExhPM	1.62E-06
683	ALL	650003.9	4204258	0.002177	9901	DieselExhPM	1.62E-06
471	ALL	650023.9	4204058	0.002164	9901	DieselExhPM	1.61E-06
599	ALL	650023.9	4204178	0.00216	9901	DieselExhPM	1.61E-06
757	ALL	650043.9	4204358	0.002157	9901	DieselExhPM	1.61E-06
664	ALL	650003.9	4204238	0.002156	9901	DieselExhPM	1.60E-06
698	ALL	650003.9	4204278	0.002155	9901	DieselExhPM	1.60E-06
396	ALL	650023.9	4203978	0.002149	9901	DieselExhPM	1.60E-06
656	ALL	650743.9	4204218	0.002143	9901	DieselExhPM	1.60E-06
644	ALL	650003.9	4204218	0.002132	9901	DieselExhPM	1.59E-06
490	ALL	650023.9	4204078	0.002125	9901	DieselExhPM	1.58E-06
786	ALL	650063.9	4204398	0.002116	9901	DieselExhPM	1.57E-06
576	ALL	650023.9	4204158	0.00211	9901	DieselExhPM	1.57E-06
671	ALL	650623.9	4204238	0.002108	9901	DieselExhPM	1.57E-06
713	ALL	650003.9	4204298	0.002105	9901	DieselExhPM	1.57E-06
657	ALL	650763.9	4204218	0.002101	9901	DieselExhPM	1.56E-06
451	ALL	650003.9	4204038	0.002092	9901	DieselExhPM	1.56E-06
432	ALL	650003.9	4204018	0.002092	9901	DieselExhPM	1.56E-06
593	ALL	650923.9	4204158	0.00209	9901	DieselExhPM	1.56E-06
378	ALL	650023.9	4203958	0.002087	9901	DieselExhPM	1.55E-06
672	ALL	650643.9	4204238	0.002087	9901	DieselExhPM	1.55E-06
741	ALL	650023.9	4204338	0.002086	9901	DieselExhPM	1.55E-06

414	ALL	650003.9	4203998	0.002085	9901	DieselExhPM	1.55E-06
621	ALL	650003.9	4204198	0.002083	9901	DieselExhPM	1.55E-06
360	ALL	650043.9	4203938	0.002083	9901	DieselExhPM	1.55E-06
773	ALL	650043.9	4204378	0.002082	9901	DieselExhPM	1.55E-06
509	ALL	650023.9	4204098	0.002071	9901	DieselExhPM	1.54E-06
344	ALL	650063.9	4203918	0.00207	9901	DieselExhPM	1.54E-06
796	ALL	650103.9	4204418	0.00207	9901	DieselExhPM	1.54E-06
726	ALL	650003.9	4204318	0.002067	9901	DieselExhPM	1.54E-06
554	ALL	650023.9	4204138	0.002066	9901	DieselExhPM	1.54E-06
531	ALL	650023.9	4204118	0.002056	9901	DieselExhPM	1.53E-06
69	ALL	650583.9	4203558	0.002056	9901	DieselExhPM	1.53E-06
682	ALL	649983.9	4204258	0.002052	9901	DieselExhPM	1.53E-06
395	ALL	650003.9	4203978	0.002049	9901	DieselExhPM	1.52E-06
209	ALL	650443.9	4203698	0.002047	9901	DieselExhPM	1.52E-06
470	ALL	650003.9	4204058	0.002047	9901	DieselExhPM	1.52E-06
329	ALL	650083.9	4203898	0.002039	9901	DieselExhPM	1.52E-06
697	ALL	649983.9	4204278	0.002037	9901	DieselExhPM	1.52E-06
756	ALL	650023.9	4204358	0.002033	9901	DieselExhPM	1.51E-06
615	ALL	650903.9	4204178	0.002029	9901	DieselExhPM	1.51E-06
663	ALL	649983.9	4204238	0.002029	9901	DieselExhPM	1.51E-06
285	ALL	650143.9	4203818	0.002028	9901	DieselExhPM	1.51E-06
598	ALL	650003.9	4204178	0.002027	9901	DieselExhPM	1.51E-06
92	ALL	650563.9	4203578	0.002025	9901	DieselExhPM	1.51E-06
643	ALL	649983.9	4204218	0.002022	9901	DieselExhPM	1.51E-06
489	ALL	650003.9	4204078	0.002016	9901	DieselExhPM	1.50E-06
251	ALL	650203.9	4203758	0.002013	9901	DieselExhPM	1.50E-06
111	ALL	650543.9	4203598	0.002013	9901	DieselExhPM	1.50E-06
785	ALL	650043.9	4204398	0.002013	9901	DieselExhPM	1.50E-06
673	ALL	650703.9	4204238	0.00201	9901	DieselExhPM	1.50E-06
125	ALL	650523.9	4203618	0.002004	9901	DieselExhPM	1.49E-06
740	ALL	650003.9	4204338	0.001995	9901	DieselExhPM	1.49E-06
359	ALL	650023.9	4203938	0.001994	9901	DieselExhPM	1.48E-06
431	ALL	649983.9	4204018	0.001991	9901	DieselExhPM	1.48E-06
575	ALL	650003.9	4204158	0.001989	9901	DieselExhPM	1.48E-06
772	ALL	650023.9	4204378	0.001984	9901	DieselExhPM	1.48E-06
450	ALL	649983.9	4204038	0.001982	9901	DieselExhPM	1.48E-06
674	ALL	650723.9	4204238	0.00198	9901	DieselExhPM	1.47E-06
712	ALL	649983.9	4204298	0.001978	9901	DieselExhPM	1.47E-06
343	ALL	650043.9	4203918	0.001978	9901	DieselExhPM	1.47E-06
377	ALL	650003.9	4203958	0.001977	9901	DieselExhPM	1.47E-06
616	ALL	650923.9	4204178	0.001977	9901	DieselExhPM	1.47E-06
413	ALL	649983.9	4203998	0.001972	9901	DieselExhPM	1.47E-06
620	ALL	649983.9	4204198	0.001968	9901	DieselExhPM	1.47E-06
508	ALL	650003.9	4204098	0.001967	9901	DieselExhPM	1.46E-06
208	ALL	650423.9	4203698	0.001959	9901	DieselExhPM	1.46E-06
530	ALL	650003.9	4204118	0.001957	9901	DieselExhPM	1.46E-06
553	ALL	650003.9	4204138	0.001952	9901	DieselExhPM	1.45E-06

675	ALL	650743.9	4204238	0.001951	9901	DieselExhPM	1.45E-06
469	ALL	649983.9	4204058	0.00195	9901	DieselExhPM	1.45E-06
394	ALL	649983.9	4203978	0.001949	9901	DieselExhPM	1.45E-06
795	ALL	650043.9	4204418	0.001946	9901	DieselExhPM	1.45E-06
328	ALL	650063.9	4203898	0.00194	9901	DieselExhPM	1.44E-06
662	ALL	649963.9	4204238	0.001932	9901	DieselExhPM	1.44E-06
696	ALL	649963.9	4204278	0.00193	9901	DieselExhPM	1.44E-06
725	ALL	649983.9	4204318	0.00193	9901	DieselExhPM	1.44E-06
805	ALL	650083.9	4204438	0.001928	9901	DieselExhPM	1.43E-06
488	ALL	649983.9	4204078	0.001922	9901	DieselExhPM	1.43E-06
681	ALL	649963.9	4204258	0.001922	9901	DieselExhPM	1.43E-06
597	ALL	649983.9	4204178	0.001921	9901	DieselExhPM	1.43E-06
638	ALL	650903.9	4204198	0.001918	9901	DieselExhPM	1.43E-06
676	ALL	650763.9	4204238	0.001918	9901	DieselExhPM	1.43E-06
784	ALL	650023.9	4204398	0.001917	9901	DieselExhPM	1.43E-06
313	ALL	650083.9	4203878	0.001915	9901	DieselExhPM	1.43E-06
358	ALL	650003.9	4203938	0.001912	9901	DieselExhPM	1.42E-06
755	ALL	650003.9	4204358	0.001908	9901	DieselExhPM	1.42E-06
46	ALL	650583.9	4203538	0.001907	9901	DieselExhPM	1.42E-06
642	ALL	649963.9	4204218	0.001899	9901	DieselExhPM	1.41E-06
739	ALL	649983.9	4204338	0.001898	9901	DieselExhPM	1.41E-06
430	ALL	649963.9	4204018	0.001895	9901	DieselExhPM	1.41E-06
711	ALL	649963.9	4204298	0.001894	9901	DieselExhPM	1.41E-06
342	ALL	650023.9	4203918	0.001894	9901	DieselExhPM	1.41E-06
376	ALL	649983.9	4203958	0.001892	9901	DieselExhPM	1.41E-06
690	ALL	650623.9	4204258	0.00189	9901	DieselExhPM	1.41E-06
68	ALL	650563.9	4203558	0.001888	9901	DieselExhPM	1.41E-06
804	ALL	650063.9	4204438	0.001888	9901	DieselExhPM	1.41E-06
449	ALL	649963.9	4204038	0.001887	9901	DieselExhPM	1.40E-06
574	ALL	649983.9	4204158	0.001883	9901	DieselExhPM	1.40E-06
91	ALL	650543.9	4203578	0.001881	9901	DieselExhPM	1.40E-06
412	ALL	649963.9	4203998	0.001879	9901	DieselExhPM	1.40E-06
507	ALL	649983.9	4204098	0.001874	9901	DieselExhPM	1.39E-06
691	ALL	650643.9	4204258	0.001873	9901	DieselExhPM	1.39E-06
110	ALL	650523.9	4203598	0.001873	9901	DieselExhPM	1.39E-06
327	ALL	650043.9	4203898	0.001871	9901	DieselExhPM	1.39E-06
639	ALL	650923.9	4204198	0.00187	9901	DieselExhPM	1.39E-06
803	ALL	650043.9	4204438	0.001863	9901	DieselExhPM	1.39E-06
794	ALL	650023.9	4204418	0.001863	9901	DieselExhPM	1.39E-06
619	ALL	649963.9	4204198	0.001861	9901	DieselExhPM	1.39E-06
552	ALL	649983.9	4204138	0.001861	9901	DieselExhPM	1.38E-06
771	ALL	650003.9	4204378	0.00186	9901	DieselExhPM	1.38E-06
529	ALL	649983.9	4204118	0.001859	9901	DieselExhPM	1.38E-06
393	ALL	649963.9	4203978	0.001856	9901	DieselExhPM	1.38E-06
468	ALL	649963.9	4204058	0.001856	9901	DieselExhPM	1.38E-06
806	ALL	650143.9	4204438	0.001849	9901	DieselExhPM	1.38E-06
195	ALL	650423.9	4203678	0.001844	9901	DieselExhPM	1.37E-06

661	ALL	649943.9	4204238	0.001843	9901	DieselExhPM	1.37E-06
724	ALL	649963.9	4204318	0.00184	9901	DieselExhPM	1.37E-06
783	ALL	650003.9	4204398	0.00184	9901	DieselExhPM	1.37E-06
680	ALL	649943.9	4204258	0.001838	9901	DieselExhPM	1.37E-06
596	ALL	649963.9	4204178	0.001827	9901	DieselExhPM	1.36E-06
487	ALL	649963.9	4204078	0.001826	9901	DieselExhPM	1.36E-06
357	ALL	649983.9	4203938	0.001823	9901	DieselExhPM	1.36E-06
312	ALL	650063.9	4203878	0.001822	9901	DieselExhPM	1.36E-06
341	ALL	650003.9	4203918	0.001821	9901	DieselExhPM	1.36E-06
695	ALL	649943.9	4204278	0.001819	9901	DieselExhPM	1.35E-06
754	ALL	649983.9	4204358	0.001816	9901	DieselExhPM	1.35E-06
250	ALL	650183.9	4203758	0.001816	9901	DieselExhPM	1.35E-06
817	ALL	650083.9	4204458	0.001815	9901	DieselExhPM	1.35E-06
429	ALL	649943.9	4204018	0.001809	9901	DieselExhPM	1.35E-06
375	ALL	649963.9	4203958	0.001809	9901	DieselExhPM	1.35E-06
658	ALL	650903.9	4204218	0.001806	9901	DieselExhPM	1.34E-06
710	ALL	649943.9	4204298	0.001803	9901	DieselExhPM	1.34E-06
641	ALL	649943.9	4204218	0.001802	9901	DieselExhPM	1.34E-06
802	ALL	650023.9	4204438	0.001802	9901	DieselExhPM	1.34E-06
304	ALL	650083.9	4203858	0.001799	9901	DieselExhPM	1.34E-06
411	ALL	649943.9	4203998	0.001795	9901	DieselExhPM	1.34E-06
448	ALL	649943.9	4204038	0.001794	9901	DieselExhPM	1.34E-06
326	ALL	650023.9	4203898	0.001793	9901	DieselExhPM	1.33E-06
816	ALL	650063.9	4204458	0.001793	9901	DieselExhPM	1.33E-06
738	ALL	649963.9	4204338	0.00179	9901	DieselExhPM	1.33E-06
284	ALL	650123.9	4203818	0.001786	9901	DieselExhPM	1.33E-06
194	ALL	650403.9	4203678	0.001785	9901	DieselExhPM	1.33E-06
236	ALL	650203.9	4203738	0.001784	9901	DieselExhPM	1.33E-06
506	ALL	649963.9	4204098	0.001784	9901	DieselExhPM	1.33E-06
793	ALL	650003.9	4204418	0.001781	9901	DieselExhPM	1.33E-06
573	ALL	649963.9	4204158	0.001779	9901	DieselExhPM	1.32E-06
770	ALL	649983.9	4204378	0.001775	9901	DieselExhPM	1.32E-06
618	ALL	649943.9	4204198	0.001775	9901	DieselExhPM	1.32E-06
528	ALL	649963.9	4204118	0.001774	9901	DieselExhPM	1.32E-06
45	ALL	650563.9	4203538	0.001772	9901	DieselExhPM	1.32E-06
467	ALL	649943.9	4204058	0.001772	9901	DieselExhPM	1.32E-06
551	ALL	649963.9	4204138	0.001771	9901	DieselExhPM	1.32E-06
392	ALL	649943.9	4203978	0.00177	9901	DieselExhPM	1.32E-06
659	ALL	650923.9	4204218	0.001765	9901	DieselExhPM	1.31E-06
815	ALL	650043.9	4204458	0.001763	9901	DieselExhPM	1.31E-06
67	ALL	650543.9	4203558	0.001762	9901	DieselExhPM	1.31E-06
311	ALL	650043.9	4203878	0.00176	9901	DieselExhPM	1.31E-06
679	ALL	649923.9	4204258	0.00176	9901	DieselExhPM	1.31E-06
90	ALL	650523.9	4203578	0.001757	9901	DieselExhPM	1.31E-06
340	ALL	649983.9	4203918	0.001752	9901	DieselExhPM	1.30E-06
660	ALL	649923.9	4204238	0.001751	9901	DieselExhPM	1.30E-06
723	ALL	649943.9	4204318	0.00175	9901	DieselExhPM	1.30E-06

753	ALL	649963.9	4204358	0.00175	9901	DieselExhPM	1.30E-06
486	ALL	649943.9	4204078	0.001747	9901	DieselExhPM	1.30E-06
356	ALL	649963.9	4203938	0.001746	9901	DieselExhPM	1.30E-06
193	ALL	650383.9	4203678	0.001742	9901	DieselExhPM	1.30E-06
694	ALL	649923.9	4204278	0.001742	9901	DieselExhPM	1.30E-06
595	ALL	649943.9	4204178	0.00174	9901	DieselExhPM	1.30E-06
782	ALL	649983.9	4204398	0.00174	9901	DieselExhPM	1.29E-06
374	ALL	649943.9	4203958	0.001737	9901	DieselExhPM	1.29E-06
801	ALL	650003.9	4204438	0.001726	9901	DieselExhPM	1.28E-06
428	ALL	649923.9	4204018	0.001725	9901	DieselExhPM	1.28E-06
303	ALL	650063.9	4203858	0.001724	9901	DieselExhPM	1.28E-06
325	ALL	650003.9	4203898	0.001724	9901	DieselExhPM	1.28E-06
410	ALL	649923.9	4203998	0.001719	9901	DieselExhPM	1.28E-06
814	ALL	650023.9	4204458	0.001718	9901	DieselExhPM	1.28E-06
447	ALL	649923.9	4204038	0.001715	9901	DieselExhPM	1.28E-06
192	ALL	650363.9	4203678	0.001713	9901	DieselExhPM	1.27E-06
640	ALL	649923.9	4204218	0.001712	9901	DieselExhPM	1.27E-06
249	ALL	650163.9	4203758	0.001711	9901	DieselExhPM	1.27E-06
737	ALL	649943.9	4204338	0.001711	9901	DieselExhPM	1.27E-06
235	ALL	650183.9	4203738	0.001708	9901	DieselExhPM	1.27E-06
505	ALL	649943.9	4204098	0.001706	9901	DieselExhPM	1.27E-06
709	ALL	649923.9	4204298	0.001705	9901	DieselExhPM	1.27E-06
828	ALL	650063.9	4204478	0.001703	9901	DieselExhPM	1.27E-06
310	ALL	650023.9	4203878	0.001702	9901	DieselExhPM	1.27E-06
705	ALL	650623.9	4204278	0.001701	9901	DieselExhPM	1.27E-06
550	ALL	649943.9	4204138	0.001697	9901	DieselExhPM	1.26E-06
818	ALL	650143.9	4204458	0.001697	9901	DieselExhPM	1.26E-06
677	ALL	650903.9	4204238	0.001694	9901	DieselExhPM	1.26E-06
617	ALL	649923.9	4204198	0.001694	9901	DieselExhPM	1.26E-06
466	ALL	649923.9	4204058	0.001694	9901	DieselExhPM	1.26E-06
295	ALL	650083.9	4203838	0.001693	9901	DieselExhPM	1.26E-06
792	ALL	649983.9	4204418	0.001693	9901	DieselExhPM	1.26E-06
527	ALL	649943.9	4204118	0.001693	9901	DieselExhPM	1.26E-06
572	ALL	649943.9	4204158	0.001692	9901	DieselExhPM	1.26E-06
176	ALL	650403.9	4203658	0.001691	9901	DieselExhPM	1.26E-06
769	ALL	649963.9	4204378	0.00169	9901	DieselExhPM	1.26E-06
706	ALL	650643.9	4204278	0.001688	9901	DieselExhPM	1.26E-06
273	ALL	650123.9	4203798	0.001687	9901	DieselExhPM	1.26E-06
283	ALL	650103.9	4203818	0.001687	9901	DieselExhPM	1.26E-06
391	ALL	649923.9	4203978	0.001684	9901	DieselExhPM	1.25E-06
827	ALL	650043.9	4204478	0.001683	9901	DieselExhPM	1.25E-06
355	ALL	649943.9	4203938	0.001681	9901	DieselExhPM	1.25E-06
339	ALL	649963.9	4203918	0.00168	9901	DieselExhPM	1.25E-06
813	ALL	650003.9	4204458	0.001679	9901	DieselExhPM	1.25E-06
722	ALL	649923.9	4204318	0.001679	9901	DieselExhPM	1.25E-06
485	ALL	649923.9	4204078	0.001672	9901	DieselExhPM	1.24E-06
373	ALL	649923.9	4203958	0.001668	9901	DieselExhPM	1.24E-06

752	ALL	649943.9	4204358	0.001666	9901	DieselExhPM	1.24E-06
800	ALL	649983.9	4204438	0.001666	9901	DieselExhPM	1.24E-06
324	ALL	649983.9	4203898	0.001665	9901	DieselExhPM	1.24E-06
44	ALL	650543.9	4203538	0.001661	9901	DieselExhPM	1.24E-06
781	ALL	649963.9	4204398	0.001661	9901	DieselExhPM	1.24E-06
678	ALL	650923.9	4204238	0.00166	9901	DieselExhPM	1.24E-06
302	ALL	650043.9	4203858	0.00166	9901	DieselExhPM	1.24E-06
175	ALL	650383.9	4203658	0.001655	9901	DieselExhPM	1.23E-06
66	ALL	650523.9	4203558	0.001651	9901	DieselExhPM	1.23E-06
594	ALL	649923.9	4204178	0.001651	9901	DieselExhPM	1.23E-06
826	ALL	650023.9	4204478	0.001647	9901	DieselExhPM	1.23E-06
309	ALL	650003.9	4203878	0.001638	9901	DieselExhPM	1.22E-06
234	ALL	650163.9	4203738	0.001636	9901	DieselExhPM	1.22E-06
736	ALL	649923.9	4204338	0.001636	9901	DieselExhPM	1.22E-06
504	ALL	649923.9	4204098	0.001634	9901	DieselExhPM	1.22E-06
294	ALL	650063.9	4203838	0.00163	9901	DieselExhPM	1.21E-06
248	ALL	650143.9	4203758	0.001626	9901	DieselExhPM	1.21E-06
812	ALL	649983.9	4204458	0.001625	9901	DieselExhPM	1.21E-06
571	ALL	649923.9	4204158	0.001625	9901	DieselExhPM	1.21E-06
174	ALL	650363.9	4203658	0.001624	9901	DieselExhPM	1.21E-06
526	ALL	649923.9	4204118	0.001624	9901	DieselExhPM	1.21E-06
549	ALL	649923.9	4204138	0.00162	9901	DieselExhPM	1.21E-06
807	ALL	650209.7	4204429	0.001615	9901	DieselExhPM	1.20E-06
354	ALL	649923.9	4203938	0.001615	9901	DieselExhPM	1.20E-06
323	ALL	649963.9	4203898	0.001614	9901	DieselExhPM	1.20E-06
338	ALL	649943.9	4203918	0.001613	9901	DieselExhPM	1.20E-06
791	ALL	649963.9	4204418	0.001613	9901	DieselExhPM	1.20E-06
768	ALL	649943.9	4204378	0.00161	9901	DieselExhPM	1.20E-06
262	ALL	650123.9	4203778	0.001605	9901	DieselExhPM	1.19E-06
282	ALL	650083.9	4203818	0.001603	9901	DieselExhPM	1.19E-06
825	ALL	650003.9	4204478	0.001603	9901	DieselExhPM	1.19E-06
301	ALL	650023.9	4203858	0.001603	9901	DieselExhPM	1.19E-06
837	ALL	650063.9	4204498	0.001602	9901	DieselExhPM	1.19E-06
272	ALL	650103.9	4203798	0.001602	9901	DieselExhPM	1.19E-06
836	ALL	650043.9	4204498	0.001597	9901	DieselExhPM	1.19E-06
780	ALL	649943.9	4204398	0.001587	9901	DieselExhPM	1.18E-06
799	ALL	649963.9	4204438	0.001586	9901	DieselExhPM	1.18E-06
835	ALL	650023.9	4204498	0.001585	9901	DieselExhPM	1.18E-06
692	ALL	650903.9	4204258	0.001584	9901	DieselExhPM	1.18E-06
751	ALL	649923.9	4204358	0.001581	9901	DieselExhPM	1.18E-06
173	ALL	650303.9	4203658	0.001576	9901	DieselExhPM	1.17E-06
308	ALL	649983.9	4203878	0.001576	9901	DieselExhPM	1.17E-06
293	ALL	650043.9	4203838	0.001575	9901	DieselExhPM	1.17E-06
824	ALL	649983.9	4204478	0.001571	9901	DieselExhPM	1.17E-06
233	ALL	650143.9	4203738	0.001567	9901	DieselExhPM	1.17E-06
172	ALL	650283.9	4203658	0.001567	9901	DieselExhPM	1.17E-06
43	ALL	650523.9	4203538	0.001566	9901	DieselExhPM	1.17E-06

811	ALL	649963.9	4204458	0.001564	9901	DieselExhPM	1.16E-06
790	ALL	649943.9	4204418	0.001561	9901	DieselExhPM	1.16E-06
171	ALL	650263.9	4203658	0.001561	9901	DieselExhPM	1.16E-06
322	ALL	649943.9	4203898	0.001557	9901	DieselExhPM	1.16E-06
693	ALL	650923.9	4204258	0.001557	9901	DieselExhPM	1.16E-06
458	ALL	650683.9	4204038	2.02E-05	1151	PAHs-w/o	1.16E-06
300	ALL	650003.9	4203858	0.001554	9901	DieselExhPM	1.16E-06
838	ALL	650103.9	4204498	0.001552	9901	DieselExhPM	1.15E-06
337	ALL	649923.9	4203918	0.001551	9901	DieselExhPM	1.15E-06
281	ALL	650063.9	4203818	0.001548	9901	DieselExhPM	1.15E-06
170	ALL	650243.9	4203658	0.001547	9901	DieselExhPM	1.15E-06
109	ALL	650443.9	4203598	0.001547	9901	DieselExhPM	1.15E-06
150	ALL	650363.9	4203638	0.001545	9901	DieselExhPM	1.15E-06
247	ALL	650123.9	4203758	0.001545	9901	DieselExhPM	1.15E-06
767	ALL	649923.9	4204378	0.00154	9901	DieselExhPM	1.15E-06
834	ALL	650003.9	4204498	0.001538	9901	DieselExhPM	1.15E-06
271	ALL	650083.9	4203798	0.001537	9901	DieselExhPM	1.14E-06
307	ALL	649963.9	4203878	0.001535	9901	DieselExhPM	1.14E-06
261	ALL	650103.9	4203778	0.001533	9901	DieselExhPM	1.14E-06
169	ALL	650223.9	4203658	0.001528	9901	DieselExhPM	1.14E-06
823	ALL	649963.9	4204478	0.001519	9901	DieselExhPM	1.13E-06
292	ALL	650023.9	4203838	0.001517	9901	DieselExhPM	1.13E-06
779	ALL	649923.9	4204398	0.001517	9901	DieselExhPM	1.13E-06
850	ALL	650043.9	4204518	0.001514	9901	DieselExhPM	1.13E-06
149	ALL	650323.9	4203638	0.001514	9901	DieselExhPM	1.13E-06
221	ALL	650143.9	4203718	0.001511	9901	DieselExhPM	1.12E-06
849	ALL	650023.9	4204518	0.00151	9901	DieselExhPM	1.12E-06
839	ALL	650123.9	4204498	0.00151	9901	DieselExhPM	1.12E-06
798	ALL	649943.9	4204438	0.001507	9901	DieselExhPM	1.12E-06
299	ALL	649983.9	4203858	0.001503	9901	DieselExhPM	1.12E-06
108	ALL	650423.9	4203598	0.001502	9901	DieselExhPM	1.12E-06
148	ALL	650303.9	4203638	0.001501	9901	DieselExhPM	1.12E-06
321	ALL	649923.9	4203898	0.001501	9901	DieselExhPM	1.12E-06
833	ALL	649983.9	4204498	0.001498	9901	DieselExhPM	1.12E-06
232	ALL	650123.9	4203738	0.001497	9901	DieselExhPM	1.11E-06
851	ALL	650063.9	4204518	0.001497	9901	DieselExhPM	1.11E-06
147	ALL	650283.9	4203638	0.001493	9901	DieselExhPM	1.11E-06
280	ALL	650043.9	4203818	0.001493	9901	DieselExhPM	1.11E-06
848	ALL	650003.9	4204518	0.001493	9901	DieselExhPM	1.11E-06
789	ALL	649923.9	4204418	0.001491	9901	DieselExhPM	1.11E-06
146	ALL	650263.9	4203638	0.001488	9901	DieselExhPM	1.11E-06
306	ALL	649943.9	4203878	0.001485	9901	DieselExhPM	1.11E-06
439	ALL	650703.9	4204018	1.92E-05	1151	PAHs-w/o	1.10E-06
89	ALL	650443.9	4203578	0.001479	9901	DieselExhPM	1.10E-06
145	ALL	650243.9	4203638	0.001478	9901	DieselExhPM	1.10E-06
707	ALL	650903.9	4204278	0.001478	9901	DieselExhPM	1.10E-06
810	ALL	649943.9	4204458	0.001478	9901	DieselExhPM	1.10E-06

270	ALL	650063.9	4203798	0.001474	9901	DieselExhPM	1.10E-06
246	ALL	650103.9	4203758	0.001474	9901	DieselExhPM	1.10E-06
291	ALL	650003.9	4203838	0.001474	9901	DieselExhPM	1.10E-06
477	ALL	650683.9	4204058	1.91E-05	1151	PAHs-w/o	1.09E-06
260	ALL	650083.9	4203778	0.00147	9901	DieselExhPM	1.09E-06
144	ALL	650223.9	4203638	0.001465	9901	DieselExhPM	1.09E-06
107	ALL	650403.9	4203598	0.001461	9901	DieselExhPM	1.09E-06
207	ALL	650143.9	4203698	0.001461	9901	DieselExhPM	1.09E-06
832	ALL	649963.9	4204498	0.001461	9901	DieselExhPM	1.09E-06
808	ALL	650229.7	4204429	0.00146	9901	DieselExhPM	1.09E-06
822	ALL	649943.9	4204478	0.00146	9901	DieselExhPM	1.09E-06
459	ALL	650703.9	4204038	1.89E-05	1151	PAHs-w/o	1.08E-06
852	ALL	650103.9	4204518	0.001457	9901	DieselExhPM	1.08E-06
298	ALL	649963.9	4203858	0.001456	9901	DieselExhPM	1.08E-06
708	ALL	650923.9	4204278	0.001455	9901	DieselExhPM	1.08E-06
797	ALL	649923.9	4204438	0.001454	9901	DieselExhPM	1.08E-06
847	ALL	649983.9	4204518	0.001449	9901	DieselExhPM	1.08E-06
220	ALL	650123.9	4203718	0.001446	9901	DieselExhPM	1.08E-06
279	ALL	650023.9	4203818	0.001445	9901	DieselExhPM	1.08E-06
143	ALL	650203.9	4203638	0.001444	9901	DieselExhPM	1.08E-06
124	ALL	650323.9	4203618	0.001443	9901	DieselExhPM	1.07E-06
420	ALL	650703.9	4203998	1.87E-05	1151	PAHs-w/o	1.07E-06
305	ALL	649923.9	4203878	0.00144	9901	DieselExhPM	1.07E-06
88	ALL	650423.9	4203578	0.001436	9901	DieselExhPM	1.07E-06
831	ALL	649943.9	4204498	0.001433	9901	DieselExhPM	1.07E-06
840	ALL	650143.9	4204498	0.001431	9901	DieselExhPM	1.06E-06
123	ALL	650303.9	4203618	0.001431	9901	DieselExhPM	1.06E-06
290	ALL	649983.9	4203838	0.001429	9901	DieselExhPM	1.06E-06
122	ALL	650283.9	4203618	0.001426	9901	DieselExhPM	1.06E-06
269	ALL	650043.9	4203798	0.001425	9901	DieselExhPM	1.06E-06
809	ALL	649923.9	4204458	0.001425	9901	DieselExhPM	1.06E-06
651	ALL	650145.5	4204223	1.85E-05	1151	PAHs-w/o	1.06E-06
231	ALL	650103.9	4203738	0.001422	9901	DieselExhPM	1.06E-06
121	ALL	650263.9	4203618	0.00142	9901	DieselExhPM	1.06E-06
120	ALL	650243.9	4203618	0.001417	9901	DieselExhPM	1.05E-06
65	ALL	650443.9	4203558	0.001415	9901	DieselExhPM	1.05E-06
245	ALL	650083.9	4203758	0.001415	9901	DieselExhPM	1.05E-06
747	ALL	650295.8	4204357	0.001413	9901	DieselExhPM	1.05E-06
297	ALL	649943.9	4203858	0.001413	9901	DieselExhPM	1.05E-06
142	ALL	650183.9	4203638	0.001412	9901	DieselExhPM	1.05E-06
191	ALL	650143.9	4203678	0.001412	9901	DieselExhPM	1.05E-06
819	ALL	650203.9	4204458	0.00141	9901	DieselExhPM	1.05E-06
259	ALL	650063.9	4203778	0.001408	9901	DieselExhPM	1.05E-06
846	ALL	649963.9	4204518	0.001408	9901	DieselExhPM	1.05E-06
119	ALL	650223.9	4203618	0.001405	9901	DieselExhPM	1.05E-06
853	ALL	650123.9	4204518	0.001401	9901	DieselExhPM	1.04E-06
278	ALL	650003.9	4203818	0.0014	9901	DieselExhPM	1.04E-06

206	ALL	650123.9	4203698	0.001399	9901	DieselExhPM	1.04E-06
87	ALL	650403.9	4203578	0.001396	9901	DieselExhPM	1.04E-06
42	ALL	650463.9	4203538	0.001395	9901	DieselExhPM	1.04E-06
821	ALL	649923.9	4204478	0.001394	9901	DieselExhPM	1.04E-06
719	ALL	650883.9	4204298	0.001392	9901	DieselExhPM	1.04E-06
440	ALL	650723.9	4204018	1.81E-05	1151	PAHs-w/o	1.04E-06
118	ALL	650203.9	4203618	0.001391	9901	DieselExhPM	1.04E-06
289	ALL	649963.9	4203838	0.001389	9901	DieselExhPM	1.03E-06
845	ALL	649943.9	4204518	0.001381	9901	DieselExhPM	1.03E-06
219	ALL	650103.9	4203718	0.001378	9901	DieselExhPM	1.03E-06
830	ALL	649923.9	4204498	0.001378	9901	DieselExhPM	1.03E-06
720	ALL	650903.9	4204298	0.001378	9901	DieselExhPM	1.03E-06
268	ALL	650023.9	4203798	0.001377	9901	DieselExhPM	1.03E-06
64	ALL	650423.9	4203558	0.001376	9901	DieselExhPM	1.02E-06
296	ALL	649923.9	4203858	0.001376	9901	DieselExhPM	1.02E-06
141	ALL	650163.9	4203638	0.001373	9901	DieselExhPM	1.02E-06
106	ALL	650323.9	4203598	0.001372	9901	DieselExhPM	1.02E-06
421	ALL	650723.9	4203998	1.78E-05	1151	PAHs-w/o	1.02E-06
478	ALL	650703.9	4204058	1.78E-05	1151	PAHs-w/o	1.02E-06
402	ALL	650703.9	4203978	1.78E-05	1151	PAHs-w/o	1.02E-06
86	ALL	650383.9	4203578	0.001367	9901	DieselExhPM	1.02E-06
117	ALL	650183.9	4203618	0.001366	9901	DieselExhPM	1.02E-06
105	ALL	650303.9	4203598	0.001366	9901	DieselExhPM	1.02E-06
230	ALL	650083.9	4203738	0.001365	9901	DieselExhPM	1.02E-06
104	ALL	650283.9	4203598	0.001365	9901	DieselExhPM	1.02E-06
103	ALL	650263.9	4203598	0.001362	9901	DieselExhPM	1.01E-06
460	ALL	650723.9	4204038	1.77E-05	1151	PAHs-w/o	1.01E-06
244	ALL	650063.9	4203758	0.001361	9901	DieselExhPM	1.01E-06
102	ALL	650243.9	4203598	0.00136	9901	DieselExhPM	1.01E-06
277	ALL	649983.9	4203818	0.00136	9901	DieselExhPM	1.01E-06
721	ALL	650923.9	4204298	0.00136	9901	DieselExhPM	1.01E-06
258	ALL	650043.9	4203778	0.00136	9901	DieselExhPM	1.01E-06
190	ALL	650123.9	4203678	0.001358	9901	DieselExhPM	1.01E-06
841	ALL	650163.9	4204498	0.001355	9901	DieselExhPM	1.01E-06
844	ALL	649923.9	4204518	0.001355	9901	DieselExhPM	1.01E-06
41	ALL	650443.9	4203538	0.001353	9901	DieselExhPM	1.01E-06
101	ALL	650223.9	4203598	0.001349	9901	DieselExhPM	1.00E-06
288	ALL	649943.9	4203838	0.001345	9901	DieselExhPM	1.00E-06
496	ALL	650683.9	4204078	1.74E-05	1151	PAHs-w/o	9.98E-07
21	ALL	650463.9	4203518	0.001339	9901	DieselExhPM	9.97E-07
63	ALL	650403.9	4203558	0.001339	9901	DieselExhPM	9.96E-07
100	ALL	650203.9	4203598	0.001337	9901	DieselExhPM	9.95E-07
205	ALL	650103.9	4203698	0.001336	9901	DieselExhPM	9.95E-07
267	ALL	650003.9	4203798	0.001333	9901	DieselExhPM	9.92E-07
116	ALL	650163.9	4203618	0.001329	9901	DieselExhPM	9.89E-07
140	ALL	650143.9	4203638	0.001327	9901	DieselExhPM	9.88E-07
40	ALL	650423.9	4203538	0.001322	9901	DieselExhPM	9.84E-07

276	ALL	649963.9	4203818	0.001322	9901	DieselExhPM	9.84E-07
218	ALL	650083.9	4203718	0.001321	9901	DieselExhPM	9.83E-07
854	ALL	650143.9	4204518	0.001321	9901	DieselExhPM	9.83E-07
441	ALL	650743.9	4204018	1.71E-05	1151	PAHs-w/o	9.82E-07
257	ALL	650023.9	4203778	0.001319	9901	DieselExhPM	9.82E-07
99	ALL	650183.9	4203598	0.001318	9901	DieselExhPM	9.81E-07
403	ALL	650723.9	4203978	1.71E-05	1151	PAHs-w/o	9.79E-07
85	ALL	650323.9	4203578	0.001315	9901	DieselExhPM	9.79E-07
168	ALL	650123.9	4203658	0.001315	9901	DieselExhPM	9.79E-07
62	ALL	650383.9	4203558	0.001312	9901	DieselExhPM	9.77E-07
229	ALL	650063.9	4203738	0.00131	9901	DieselExhPM	9.75E-07
287	ALL	649923.9	4203838	0.001309	9901	DieselExhPM	9.74E-07
82	ALL	650263.9	4203578	0.001307	9901	DieselExhPM	9.73E-07
84	ALL	650303.9	4203578	0.001306	9901	DieselExhPM	9.72E-07
83	ALL	650283.9	4203578	0.001306	9901	DieselExhPM	9.72E-07
81	ALL	650243.9	4203578	0.001305	9901	DieselExhPM	9.72E-07
243	ALL	650043.9	4203758	0.001305	9901	DieselExhPM	9.72E-07
422	ALL	650743.9	4203998	1.69E-05	1151	PAHs-w/o	9.69E-07
80	ALL	650223.9	4203578	0.001299	9901	DieselExhPM	9.67E-07
20	ALL	650443.9	4203518	0.001298	9901	DieselExhPM	9.66E-07
266	ALL	649983.9	4203798	0.001297	9901	DieselExhPM	9.65E-07
189	ALL	650103.9	4203678	0.001295	9901	DieselExhPM	9.64E-07
733	ALL	650883.9	4204318	0.001291	9901	DieselExhPM	9.61E-07
115	ALL	650143.9	4203618	0.001289	9901	DieselExhPM	9.60E-07
79	ALL	650203.9	4203578	0.001289	9901	DieselExhPM	9.59E-07
275	ALL	649943.9	4203818	0.001288	9901	DieselExhPM	9.59E-07
479	ALL	650723.9	4204058	1.67E-05	1151	PAHs-w/o	9.59E-07
98	ALL	650163.9	4203598	0.001287	9901	DieselExhPM	9.58E-07
39	ALL	650403.9	4203538	0.001285	9901	DieselExhPM	9.57E-07
461	ALL	650743.9	4204038	1.66E-05	1151	PAHs-w/o	9.53E-07
139	ALL	650123.9	4203638	0.001281	9901	DieselExhPM	9.53E-07
734	ALL	650903.9	4204318	0.00128	9901	DieselExhPM	9.53E-07
256	ALL	650003.9	4203778	0.00128	9901	DieselExhPM	9.53E-07
820	ALL	650223.9	4204458	0.001279	9901	DieselExhPM	9.52E-07
204	ALL	650083.9	4203698	0.001276	9901	DieselExhPM	9.50E-07
78	ALL	650183.9	4203578	0.001274	9901	DieselExhPM	9.48E-07
842	ALL	650183.9	4204498	0.001273	9901	DieselExhPM	9.48E-07
829	ALL	650203.9	4204478	0.001272	9901	DieselExhPM	9.46E-07
517	ALL	650663.9	4204098	1.65E-05	1151	PAHs-w/o	9.45E-07
735	ALL	650923.9	4204318	0.001267	9901	DieselExhPM	9.43E-07
217	ALL	650063.9	4203718	0.001266	9901	DieselExhPM	9.43E-07
19	ALL	650423.9	4203518	0.001265	9901	DieselExhPM	9.42E-07
167	ALL	650103.9	4203658	0.001265	9901	DieselExhPM	9.41E-07
404	ALL	650743.9	4203978	1.64E-05	1151	PAHs-w/o	9.40E-07
265	ALL	649963.9	4203798	0.001262	9901	DieselExhPM	9.39E-07
242	ALL	650023.9	4203758	0.001261	9901	DieselExhPM	9.38E-07
38	ALL	650383.9	4203538	0.00126	9901	DieselExhPM	9.38E-07

228	ALL	650043.9	4203738	0.00126	9901	DieselExhPM	9.38E-07
61	ALL	650323.9	4203558	0.001257	9901	DieselExhPM	9.35E-07
57	ALL	650243.9	4203558	0.001255	9901	DieselExhPM	9.34E-07
497	ALL	650703.9	4204078	1.63E-05	1151	PAHs-w/o	9.34E-07
60	ALL	650303.9	4203558	0.001255	9901	DieselExhPM	9.34E-07
59	ALL	650283.9	4203558	0.001255	9901	DieselExhPM	9.34E-07
58	ALL	650263.9	4203558	0.001253	9901	DieselExhPM	9.33E-07
97	ALL	650143.9	4203598	0.001253	9901	DieselExhPM	9.32E-07
56	ALL	650223.9	4203558	0.001251	9901	DieselExhPM	9.31E-07
855	ALL	650163.9	4204518	0.001251	9901	DieselExhPM	9.31E-07
274	ALL	649923.9	4203818	0.001248	9901	DieselExhPM	9.29E-07
77	ALL	650163.9	4203578	0.001244	9901	DieselExhPM	9.26E-07
442	ALL	650763.9	4204018	1.62E-05	1151	PAHs-w/o	9.26E-07
423	ALL	650763.9	4203998	1.62E-05	1151	PAHs-w/o	9.26E-07
114	ALL	650123.9	4203618	0.001243	9901	DieselExhPM	9.25E-07
55	ALL	650203.9	4203558	0.001242	9901	DieselExhPM	9.25E-07
384	ALL	650723.9	4203958	1.61E-05	1151	PAHs-w/o	9.24E-07
188	ALL	650083.9	4203678	0.00124	9901	DieselExhPM	9.23E-07
255	ALL	649983.9	4203778	0.001237	9901	DieselExhPM	9.21E-07
18	ALL	650403.9	4203518	0.001237	9901	DieselExhPM	9.20E-07
264	ALL	649943.9	4203798	0.00123	9901	DieselExhPM	9.16E-07
54	ALL	650183.9	4203558	0.00123	9901	DieselExhPM	9.15E-07
203	ALL	650063.9	4203698	0.001225	9901	DieselExhPM	9.12E-07
241	ALL	650003.9	4203758	0.001224	9901	DieselExhPM	9.11E-07
216	ALL	650043.9	4203718	0.001221	9901	DieselExhPM	9.09E-07
628	ALL	650143.9	4204198	1.58E-05	1151	PAHs-w/o	9.05E-07
76	ALL	650143.9	4203578	0.001214	9901	DieselExhPM	9.04E-07
462	ALL	650763.9	4204038	1.58E-05	1151	PAHs-w/o	9.03E-07
480	ALL	650743.9	4204058	1.58E-05	1151	PAHs-w/o	9.03E-07
17	ALL	650383.9	4203518	0.001212	9901	DieselExhPM	9.02E-07
227	ALL	650023.9	4203738	0.001212	9901	DieselExhPM	9.02E-07
96	ALL	650123.9	4203598	0.001211	9901	DieselExhPM	9.02E-07
166	ALL	650083.9	4203658	0.00121	9901	DieselExhPM	9.01E-07
53	ALL	650163.9	4203558	0.00121	9901	DieselExhPM	9.00E-07
37	ALL	650323.9	4203538	0.001208	9901	DieselExhPM	8.99E-07
35	ALL	650283.9	4203538	0.001207	9901	DieselExhPM	8.98E-07
405	ALL	650763.9	4203978	1.57E-05	1151	PAHs-w/o	8.98E-07
385	ALL	650743.9	4203958	1.57E-05	1151	PAHs-w/o	8.98E-07
34	ALL	650263.9	4203538	0.001206	9901	DieselExhPM	8.98E-07
33	ALL	650243.9	4203538	0.001206	9901	DieselExhPM	8.98E-07
36	ALL	650303.9	4203538	0.001205	9901	DieselExhPM	8.97E-07
32	ALL	650223.9	4203538	0.001204	9901	DieselExhPM	8.96E-07
254	ALL	649963.9	4203778	0.001202	9901	DieselExhPM	8.95E-07
263	ALL	649923.9	4203798	0.001201	9901	DieselExhPM	8.94E-07
31	ALL	650203.9	4203538	0.001199	9901	DieselExhPM	8.93E-07
748	ALL	650883.9	4204338	0.001195	9901	DieselExhPM	8.89E-07
240	ALL	649983.9	4203758	0.00119	9901	DieselExhPM	8.86E-07

187	ALL	650063.9	4203678	0.00119	9901	DieselExhPM	8.86E-07
30	ALL	650183.9	4203538	0.00119	9901	DieselExhPM	8.85E-07
424	ALL	650783.9	4203998	1.54E-05	1151	PAHs-w/o	8.85E-07
858	ALL	650158	4204184	1.54E-05	1151	PAHs-w/o	8.84E-07
749	ALL	650903.9	4204338	0.001188	9901	DieselExhPM	8.84E-07
518	ALL	650683.9	4204098	1.54E-05	1151	PAHs-w/o	8.80E-07
52	ALL	650143.9	4203558	0.001181	9901	DieselExhPM	8.79E-07
443	ALL	650783.9	4204018	1.53E-05	1151	PAHs-w/o	8.79E-07
750	ALL	650923.9	4204338	0.00118	9901	DieselExhPM	8.78E-07
202	ALL	650043.9	4203698	0.00118	9901	DieselExhPM	8.78E-07
138	ALL	650083.9	4203638	0.001179	9901	DieselExhPM	8.78E-07
75	ALL	650123.9	4203578	0.001178	9901	DieselExhPM	8.77E-07
253	ALL	649943.9	4203778	0.001178	9901	DieselExhPM	8.77E-07
226	ALL	650003.9	4203738	0.001177	9901	DieselExhPM	8.76E-07
215	ALL	650023.9	4203718	0.001174	9901	DieselExhPM	8.74E-07
366	ALL	650723.9	4203938	1.52E-05	1151	PAHs-w/o	8.73E-07
29	ALL	650163.9	4203538	0.00117	9901	DieselExhPM	8.71E-07
498	ALL	650723.9	4204078	1.52E-05	1151	PAHs-w/o	8.68E-07
16	ALL	650323.9	4203518	0.001165	9901	DieselExhPM	8.67E-07
856	ALL	650183.9	4204518	0.001164	9901	DieselExhPM	8.66E-07
386	ALL	650763.9	4203958	1.51E-05	1151	PAHs-w/o	8.66E-07
12	ALL	650243.9	4203518	0.001162	9901	DieselExhPM	8.65E-07
843	ALL	650203.9	4204498	0.001162	9901	DieselExhPM	8.65E-07
11	ALL	650223.9	4203518	0.001162	9901	DieselExhPM	8.65E-07
165	ALL	650063.9	4203658	0.001161	9901	DieselExhPM	8.64E-07
15	ALL	650303.9	4203518	0.001161	9901	DieselExhPM	8.64E-07
13	ALL	650263.9	4203518	0.00116	9901	DieselExhPM	8.63E-07
14	ALL	650283.9	4203518	0.001159	9901	DieselExhPM	8.63E-07
406	ALL	650783.9	4203978	1.51E-05	1151	PAHs-w/o	8.63E-07
10	ALL	650203.9	4203518	0.001159	9901	DieselExhPM	8.62E-07
239	ALL	649963.9	4203758	0.001156	9901	DieselExhPM	8.61E-07
463	ALL	650783.9	4204038	1.50E-05	1151	PAHs-w/o	8.57E-07
9	ALL	650183.9	4203518	0.001148	9901	DieselExhPM	8.55E-07
252	ALL	649923.9	4203778	0.001148	9901	DieselExhPM	8.54E-07
186	ALL	650043.9	4203678	0.001147	9901	DieselExhPM	8.54E-07
28	ALL	650143.9	4203538	0.001146	9901	DieselExhPM	8.53E-07
225	ALL	649983.9	4203738	0.001143	9901	DieselExhPM	8.51E-07
650	ALL	650123.9	4204218	1.48E-05	1151	PAHs-w/o	8.51E-07
481	ALL	650763.9	4204058	1.48E-05	1151	PAHs-w/o	8.47E-07
8	ALL	650163.9	4203518	0.001137	9901	DieselExhPM	8.46E-07
367	ALL	650743.9	4203938	1.48E-05	1151	PAHs-w/o	8.46E-07
214	ALL	650003.9	4203718	0.001137	9901	DieselExhPM	8.46E-07
425	ALL	650803.9	4203998	1.47E-05	1151	PAHs-w/o	8.44E-07
201	ALL	650023.9	4203698	0.001134	9901	DieselExhPM	8.44E-07
137	ALL	650063.9	4203638	0.001133	9901	DieselExhPM	8.43E-07
444	ALL	650803.9	4204018	1.47E-05	1151	PAHs-w/o	8.39E-07
95	ALL	650083.9	4203598	0.001127	9901	DieselExhPM	8.39E-07

238	ALL	649943.9	4203758	0.001123	9901	DieselExhPM	8.36E-07
164	ALL	650043.9	4203658	0.001116	9901	DieselExhPM	8.30E-07
387	ALL	650783.9	4203958	1.45E-05	1151	PAHs-w/o	8.30E-07
346	ALL	650723.9	4203918	1.45E-05	1151	PAHs-w/o	8.29E-07
407	ALL	650803.9	4203978	1.45E-05	1151	PAHs-w/o	8.29E-07
7	ALL	650143.9	4203518	0.001111	9901	DieselExhPM	8.27E-07
51	ALL	650103.9	4203558	0.001111	9901	DieselExhPM	8.27E-07
224	ALL	649963.9	4203738	0.001111	9901	DieselExhPM	8.27E-07
185	ALL	650023.9	4203678	0.001108	9901	DieselExhPM	8.25E-07
368	ALL	650763.9	4203938	1.44E-05	1151	PAHs-w/o	8.25E-07
519	ALL	650703.9	4204098	1.44E-05	1151	PAHs-w/o	8.23E-07
213	ALL	649983.9	4203718	0.001105	9901	DieselExhPM	8.22E-07
764	ALL	650883.9	4204358	0.001104	9901	DieselExhPM	8.22E-07
765	ALL	650903.9	4204358	0.001099	9901	DieselExhPM	8.18E-07
237	ALL	649923.9	4203758	0.001099	9901	DieselExhPM	8.18E-07
74	ALL	650083.9	4203578	0.001099	9901	DieselExhPM	8.18E-07
200	ALL	650003.9	4203698	0.001098	9901	DieselExhPM	8.17E-07
766	ALL	650923.9	4204358	0.001095	9901	DieselExhPM	8.15E-07
540	ALL	650663.9	4204118	1.42E-05	1151	PAHs-w/o	8.14E-07
499	ALL	650743.9	4204078	1.42E-05	1151	PAHs-w/o	8.13E-07
136	ALL	650043.9	4203638	0.001089	9901	DieselExhPM	8.11E-07
464	ALL	650803.9	4204038	1.41E-05	1151	PAHs-w/o	8.09E-07
347	ALL	650743.9	4203918	1.41E-05	1151	PAHs-w/o	8.07E-07
27	ALL	650103.9	4203538	0.001083	9901	DieselExhPM	8.06E-07
627	ALL	650123.9	4204198	1.41E-05	1151	PAHs-w/o	8.06E-07
426	ALL	650823.9	4203998	1.40E-05	1151	PAHs-w/o	8.05E-07
94	ALL	650063.9	4203598	0.001079	9901	DieselExhPM	8.03E-07
223	ALL	649943.9	4203738	0.001079	9901	DieselExhPM	8.03E-07
445	ALL	650823.9	4204018	1.40E-05	1151	PAHs-w/o	8.02E-07
388	ALL	650803.9	4203958	1.40E-05	1151	PAHs-w/o	8.02E-07
163	ALL	650023.9	4203658	0.001076	9901	DieselExhPM	8.01E-07
369	ALL	650783.9	4203938	1.39E-05	1151	PAHs-w/o	7.99E-07
212	ALL	649963.9	4203718	0.001073	9901	DieselExhPM	7.99E-07
50	ALL	650083.9	4203558	0.001072	9901	DieselExhPM	7.98E-07
408	ALL	650823.9	4203978	1.39E-05	1151	PAHs-w/o	7.98E-07
482	ALL	650783.9	4204058	1.39E-05	1151	PAHs-w/o	7.97E-07
670	ALL	650123.9	4204238	1.39E-05	1151	PAHs-w/o	7.97E-07
583	ALL	650177.4	4204158	1.39E-05	1151	PAHs-w/o	7.96E-07
199	ALL	649983.9	4203698	0.001067	9901	DieselExhPM	7.94E-07
857	ALL	650203.9	4204518	0.001065	9901	DieselExhPM	7.93E-07
184	ALL	650003.9	4203678	0.001065	9901	DieselExhPM	7.93E-07
605	ALL	650143.9	4204178	1.38E-05	1151	PAHs-w/o	7.91E-07
6	ALL	650103.9	4203518	0.001058	9901	DieselExhPM	7.88E-07
73	ALL	650063.9	4203578	0.001056	9901	DieselExhPM	7.86E-07
222	ALL	649923.9	4203738	0.001056	9901	DieselExhPM	7.86E-07
135	ALL	650023.9	4203638	0.00105	9901	DieselExhPM	7.81E-07
348	ALL	650763.9	4203918	1.36E-05	1151	PAHs-w/o	7.80E-07

26	ALL	650083.9	4203538	0.001044	9901	DieselExhPM	7.77E-07
211	ALL	649943.9	4203718	0.001041	9901	DieselExhPM	7.75E-07
389	ALL	650823.9	4203958	1.35E-05	1151	PAHs-w/o	7.74E-07
427	ALL	650843.9	4203998	1.35E-05	1151	PAHs-w/o	7.73E-07
370	ALL	650803.9	4203938	1.35E-05	1151	PAHs-w/o	7.72E-07
198	ALL	649963.9	4203698	0.001036	9901	DieselExhPM	7.71E-07
162	ALL	650003.9	4203658	0.001035	9901	DieselExhPM	7.70E-07
330	ALL	650743.9	4203898	1.34E-05	1151	PAHs-w/o	7.68E-07
49	ALL	650063.9	4203558	0.001032	9901	DieselExhPM	7.68E-07
183	ALL	649983.9	4203678	0.001032	9901	DieselExhPM	7.68E-07
520	ALL	650723.9	4204098	1.34E-05	1151	PAHs-w/o	7.68E-07
409	ALL	650843.9	4203978	1.34E-05	1151	PAHs-w/o	7.67E-07
465	ALL	650823.9	4204038	1.34E-05	1151	PAHs-w/o	7.65E-07
446	ALL	650843.9	4204018	1.34E-05	1151	PAHs-w/o	7.65E-07
500	ALL	650763.9	4204078	1.33E-05	1151	PAHs-w/o	7.65E-07
349	ALL	650783.9	4203918	1.33E-05	1151	PAHs-w/o	7.63E-07
5	ALL	650083.9	4203518	0.001024	9901	DieselExhPM	7.62E-07
541	ALL	650683.9	4204118	1.33E-05	1151	PAHs-w/o	7.60E-07
72	ALL	650043.9	4203578	0.001017	9901	DieselExhPM	7.57E-07
777	ALL	650903.9	4204378	0.001016	9901	DieselExhPM	7.56E-07
210	ALL	649923.9	4203718	0.001014	9901	DieselExhPM	7.55E-07
778	ALL	650923.9	4204378	0.001013	9901	DieselExhPM	7.54E-07
25	ALL	650063.9	4203538	0.001012	9901	DieselExhPM	7.53E-07
134	ALL	650003.9	4203638	0.00101	9901	DieselExhPM	7.52E-07
483	ALL	650803.9	4204058	1.31E-05	1151	PAHs-w/o	7.52E-07
539	ALL	650181.7	4204111	1.31E-05	1151	PAHs-w/o	7.51E-07
197	ALL	649943.9	4203698	0.001008	9901	DieselExhPM	7.50E-07
390	ALL	650843.9	4203958	1.30E-05	1151	PAHs-w/o	7.47E-07
182	ALL	649963.9	4203678	0.001003	9901	DieselExhPM	7.47E-07
371	ALL	650823.9	4203938	1.30E-05	1151	PAHs-w/o	7.47E-07
161	ALL	649983.9	4203658	0.001003	9901	DieselExhPM	7.46E-07
350	ALL	650803.9	4203918	1.30E-05	1151	PAHs-w/o	7.45E-07
562	ALL	650643.9	4204138	1.30E-05	1151	PAHs-w/o	7.43E-07
331	ALL	650763.9	4203898	1.30E-05	1151	PAHs-w/o	7.42E-07
314	ALL	650743.9	4203878	1.29E-05	1151	PAHs-w/o	7.41E-07
4	ALL	650063.9	4203518	0.000989	9901	DieselExhPM	7.36E-07
604	ALL	650123.9	4204178	1.27E-05	1151	PAHs-w/o	7.30E-07
181	ALL	649943.9	4203678	0.000978	9901	DieselExhPM	7.28E-07
196	ALL	649923.9	4203698	0.000977	9901	DieselExhPM	7.27E-07
71	ALL	650023.9	4203578	0.000977	9901	DieselExhPM	7.27E-07
133	ALL	649983.9	4203638	0.000974	9901	DieselExhPM	7.25E-07
332	ALL	650783.9	4203898	1.26E-05	1151	PAHs-w/o	7.24E-07
24	ALL	650043.9	4203538	0.000973	9901	DieselExhPM	7.24E-07
372	ALL	650843.9	4203938	1.26E-05	1151	PAHs-w/o	7.23E-07
160	ALL	649963.9	4203658	0.000971	9901	DieselExhPM	7.23E-07
521	ALL	650743.9	4204098	1.26E-05	1151	PAHs-w/o	7.22E-07
351	ALL	650823.9	4203918	1.26E-05	1151	PAHs-w/o	7.22E-07

501	ALL	650783.9	4204078	1.26E-05	1151	PAHs-w/o	7.20E-07
542	ALL	650703.9	4204118	1.25E-05	1151	PAHs-w/o	7.16E-07
315	ALL	650763.9	4203878	1.25E-05	1151	PAHs-w/o	7.15E-07
3	ALL	650043.9	4203518	0.000956	9901	DieselExhPM	7.12E-07
484	ALL	650823.9	4204058	1.24E-05	1151	PAHs-w/o	7.10E-07
180	ALL	649923.9	4203678	0.000952	9901	DieselExhPM	7.09E-07
333	ALL	650803.9	4203898	1.23E-05	1151	PAHs-w/o	7.07E-07
159	ALL	649943.9	4203658	0.000949	9901	DieselExhPM	7.06E-07
582	ALL	650143.9	4204158	1.23E-05	1151	PAHs-w/o	7.03E-07
132	ALL	649963.9	4203638	0.000944	9901	DieselExhPM	7.03E-07
563	ALL	650663.9	4204138	1.23E-05	1151	PAHs-w/o	7.02E-07
70	ALL	650003.9	4203578	0.000941	9901	DieselExhPM	7.01E-07
352	ALL	650843.9	4203918	1.22E-05	1151	PAHs-w/o	7.00E-07
316	ALL	650783.9	4203878	1.22E-05	1151	PAHs-w/o	6.97E-07
334	ALL	650823.9	4203898	1.21E-05	1151	PAHs-w/o	6.95E-07
158	ALL	649923.9	4203658	0.000923	9901	DieselExhPM	6.87E-07
522	ALL	650763.9	4204098	1.19E-05	1151	PAHs-w/o	6.81E-07
538	ALL	650163.9	4204118	1.19E-05	1151	PAHs-w/o	6.79E-07
502	ALL	650803.9	4204078	1.19E-05	1151	PAHs-w/o	6.79E-07
704	ALL	650129.5	4204276	1.18E-05	1151	PAHs-w/o	6.76E-07
561	ALL	650163.9	4204138	1.18E-05	1151	PAHs-w/o	6.76E-07
543	ALL	650723.9	4204118	1.18E-05	1151	PAHs-w/o	6.76E-07
335	ALL	650843.9	4203898	1.18E-05	1151	PAHs-w/o	6.74E-07
353	ALL	650863.9	4203918	1.18E-05	1151	PAHs-w/o	6.74E-07
317	ALL	650803.9	4203878	1.18E-05	1151	PAHs-w/o	6.73E-07
516	ALL	650163.9	4204098	1.17E-05	1151	PAHs-w/o	6.68E-07
689	ALL	650117.4	4204261	1.17E-05	1151	PAHs-w/o	6.68E-07
564	ALL	650683.9	4204138	1.16E-05	1151	PAHs-w/o	6.66E-07
560	ALL	650143.9	4204138	1.16E-05	1151	PAHs-w/o	6.65E-07
581	ALL	650123.9	4204158	1.16E-05	1151	PAHs-w/o	6.65E-07
336	ALL	650863.9	4203898	1.14E-05	1151	PAHs-w/o	6.54E-07
318	ALL	650823.9	4203878	1.14E-05	1151	PAHs-w/o	6.53E-07
523	ALL	650783.9	4204098	1.13E-05	1151	PAHs-w/o	6.48E-07
503	ALL	650823.9	4204078	1.13E-05	1151	PAHs-w/o	6.46E-07
319	ALL	650843.9	4203878	1.12E-05	1151	PAHs-w/o	6.44E-07
584	ALL	650643.9	4204158	1.12E-05	1151	PAHs-w/o	6.42E-07
544	ALL	650743.9	4204118	1.12E-05	1151	PAHs-w/o	6.40E-07
320	ALL	650863.9	4203878	1.11E-05	1151	PAHs-w/o	6.35E-07
565	ALL	650703.9	4204138	1.10E-05	1151	PAHs-w/o	6.32E-07
669	ALL	650103.9	4204238	1.10E-05	1151	PAHs-w/o	6.28E-07
649	ALL	650103.9	4204218	1.09E-05	1151	PAHs-w/o	6.25E-07
688	ALL	650103.9	4204258	1.09E-05	1151	PAHs-w/o	6.24E-07
537	ALL	650143.9	4204118	1.08E-05	1151	PAHs-w/o	6.20E-07
585	ALL	650663.9	4204158	1.08E-05	1151	PAHs-w/o	6.17E-07
626	ALL	650103.9	4204198	1.07E-05	1151	PAHs-w/o	6.16E-07
524	ALL	650803.9	4204098	1.07E-05	1151	PAHs-w/o	6.13E-07
545	ALL	650763.9	4204118	1.07E-05	1151	PAHs-w/o	6.10E-07

566	ALL	650723.9	4204138	1.05E-05	1151	PAHs-w/o	6.04E-07
401	ALL	650130.1	4203978	1.05E-05	1151	PAHs-w/o	6.04E-07
559	ALL	650123.9	4204138	1.05E-05	1151	PAHs-w/o	6.02E-07
438	ALL	650123.9	4204018	1.05E-05	1151	PAHs-w/o	5.99E-07
732	ALL	650128.6	4204307	1.04E-05	1151	PAHs-w/o	5.98E-07
703	ALL	650103.9	4204278	1.04E-05	1151	PAHs-w/o	5.98E-07
177	ALL	650643.9	4203658	1.04E-05	1151	PAHs-w/o	5.98E-07
515	ALL	650143.9	4204098	1.03E-05	1151	PAHs-w/o	5.93E-07
586	ALL	650683.9	4204158	1.03E-05	1151	PAHs-w/o	5.92E-07
603	ALL	650103.9	4204178	1.03E-05	1151	PAHs-w/o	5.91E-07
178	ALL	650663.9	4203658	1.03E-05	1151	PAHs-w/o	5.91E-07
365	ALL	650143.9	4203938	1.03E-05	1151	PAHs-w/o	5.88E-07
525	ALL	650823.9	4204098	1.02E-05	1151	PAHs-w/o	5.82E-07
457	ALL	650123.9	4204038	1.01E-05	1151	PAHs-w/o	5.81E-07
546	ALL	650783.9	4204118	1.01E-05	1151	PAHs-w/o	5.80E-07
179	ALL	650683.9	4203658	1.01E-05	1151	PAHs-w/o	5.79E-07
567	ALL	650743.9	4204138	1.01E-05	1151	PAHs-w/o	5.78E-07
2	ALL	649918.4	4203526	0.000777	9901	DieselExhPM	5.78E-07
155	ALL	650643.9	4203638	1.01E-05	1151	PAHs-w/o	5.77E-07
154	ALL	650623.9	4203638	9.98E-06	1151	PAHs-w/o	5.72E-07
587	ALL	650703.9	4204158	9.96E-06	1151	PAHs-w/o	5.71E-07
156	ALL	650663.9	4203638	9.94E-06	1151	PAHs-w/o	5.70E-07
668	ALL	650083.9	4204238	9.89E-06	1151	PAHs-w/o	5.66E-07
606	ALL	650643.9	4204178	9.87E-06	1151	PAHs-w/o	5.65E-07
718	ALL	650103.9	4204298	9.84E-06	1151	PAHs-w/o	5.64E-07
687	ALL	650083.9	4204258	9.81E-06	1151	PAHs-w/o	5.62E-07
157	ALL	650683.9	4203638	9.79E-06	1151	PAHs-w/o	5.61E-07
1	ALL	649898.4	4203526	0.000751	9901	DieselExhPM	5.59E-07
476	ALL	650123.9	4204058	9.75E-06	1151	PAHs-w/o	5.59E-07
153	ALL	650603.9	4203638	9.70E-06	1151	PAHs-w/o	5.56E-07
547	ALL	650803.9	4204118	9.69E-06	1151	PAHs-w/o	5.55E-07
568	ALL	650763.9	4204138	9.68E-06	1151	PAHs-w/o	5.54E-07
383	ALL	650123.9	4203958	9.68E-06	1151	PAHs-w/o	5.54E-07
580	ALL	650103.9	4204158	9.64E-06	1151	PAHs-w/o	5.52E-07
648	ALL	650083.9	4204218	9.63E-06	1151	PAHs-w/o	5.52E-07
131	ALL	650643.9	4203618	9.63E-06	1151	PAHs-w/o	5.52E-07
536	ALL	650123.9	4204118	9.62E-06	1151	PAHs-w/o	5.51E-07
588	ALL	650723.9	4204158	9.58E-06	1151	PAHs-w/o	5.49E-07
607	ALL	650663.9	4204178	9.56E-06	1151	PAHs-w/o	5.48E-07
495	ALL	650123.9	4204078	9.52E-06	1151	PAHs-w/o	5.46E-07
702	ALL	650083.9	4204278	9.46E-06	1151	PAHs-w/o	5.42E-07
130	ALL	650623.9	4203618	9.44E-06	1151	PAHs-w/o	5.41E-07
364	ALL	650123.9	4203938	9.43E-06	1151	PAHs-w/o	5.40E-07
514	ALL	650123.9	4204098	9.38E-06	1151	PAHs-w/o	5.37E-07
437	ALL	650103.9	4204018	9.32E-06	1151	PAHs-w/o	5.34E-07
456	ALL	650103.9	4204038	9.30E-06	1151	PAHs-w/o	5.33E-07
625	ALL	650083.9	4204198	9.29E-06	1151	PAHs-w/o	5.32E-07

569	ALL	650783.9	4204138	9.29E-06	1151	PAHs-w/o	5.32E-07
548	ALL	650823.9	4204118	9.29E-06	1151	PAHs-w/o	5.32E-07
746	ALL	650123.9	4204338	9.28E-06	1151	PAHs-w/o	5.31E-07
608	ALL	650683.9	4204178	9.27E-06	1151	PAHs-w/o	5.31E-07
419	ALL	650103.9	4203998	9.24E-06	1151	PAHs-w/o	5.29E-07
731	ALL	650103.9	4204318	9.22E-06	1151	PAHs-w/o	5.28E-07
589	ALL	650743.9	4204158	9.22E-06	1151	PAHs-w/o	5.28E-07
152	ALL	650583.9	4203638	9.17E-06	1151	PAHs-w/o	5.26E-07
717	ALL	650083.9	4204298	9.12E-06	1151	PAHs-w/o	5.22E-07
475	ALL	650103.9	4204058	9.08E-06	1151	PAHs-w/o	5.20E-07
400	ALL	650103.9	4203978	9.08E-06	1151	PAHs-w/o	5.20E-07
558	ALL	650103.9	4204138	9.06E-06	1151	PAHs-w/o	5.19E-07
129	ALL	650603.9	4203618	9.03E-06	1151	PAHs-w/o	5.17E-07
609	ALL	650703.9	4204178	8.98E-06	1151	PAHs-w/o	5.14E-07
686	ALL	650063.9	4204258	8.95E-06	1151	PAHs-w/o	5.13E-07
570	ALL	650803.9	4204138	8.93E-06	1151	PAHs-w/o	5.11E-07
602	ALL	650083.9	4204178	8.89E-06	1151	PAHs-w/o	5.10E-07
590	ALL	650763.9	4204158	8.88E-06	1151	PAHs-w/o	5.09E-07
762	ALL	650171.3	4204360	8.86E-06	1151	PAHs-w/o	5.07E-07
667	ALL	650063.9	4204238	8.85E-06	1151	PAHs-w/o	5.07E-07
382	ALL	650103.9	4203958	8.81E-06	1151	PAHs-w/o	5.05E-07
494	ALL	650103.9	4204078	8.81E-06	1151	PAHs-w/o	5.04E-07
745	ALL	650103.9	4204338	8.79E-06	1151	PAHs-w/o	5.03E-07
647	ALL	650063.9	4204218	8.75E-06	1151	PAHs-w/o	5.01E-07
610	ALL	650723.9	4204178	8.70E-06	1151	PAHs-w/o	4.98E-07
701	ALL	650063.9	4204278	8.69E-06	1151	PAHs-w/o	4.98E-07
436	ALL	650083.9	4204018	8.67E-06	1151	PAHs-w/o	4.97E-07
763	ALL	650181.5	4204363	8.67E-06	1151	PAHs-w/o	4.97E-07
513	ALL	650103.9	4204098	8.66E-06	1151	PAHs-w/o	4.96E-07
761	ALL	650123.9	4204358	8.66E-06	1151	PAHs-w/o	4.96E-07
629	ALL	650643.9	4204198	8.66E-06	1151	PAHs-w/o	4.96E-07
535	ALL	650103.9	4204118	8.64E-06	1151	PAHs-w/o	4.95E-07
455	ALL	650083.9	4204038	8.59E-06	1151	PAHs-w/o	4.92E-07
418	ALL	650083.9	4203998	8.58E-06	1151	PAHs-w/o	4.92E-07
591	ALL	650783.9	4204158	8.58E-06	1151	PAHs-w/o	4.92E-07
730	ALL	650083.9	4204318	8.56E-06	1151	PAHs-w/o	4.91E-07
579	ALL	650083.9	4204158	8.52E-06	1151	PAHs-w/o	4.88E-07
128	ALL	650583.9	4203618	8.49E-06	1151	PAHs-w/o	4.86E-07
474	ALL	650083.9	4204058	8.47E-06	1151	PAHs-w/o	4.85E-07
630	ALL	650663.9	4204198	8.47E-06	1151	PAHs-w/o	4.85E-07
151	ALL	650563.9	4203638	8.47E-06	1151	PAHs-w/o	4.85E-07
611	ALL	650743.9	4204178	8.43E-06	1151	PAHs-w/o	4.83E-07
624	ALL	650063.9	4204198	8.41E-06	1151	PAHs-w/o	4.82E-07
716	ALL	650063.9	4204298	8.37E-06	1151	PAHs-w/o	4.80E-07
399	ALL	650083.9	4203978	8.36E-06	1151	PAHs-w/o	4.79E-07
859	ALL	650190.8	4204367	8.35E-06	1151	PAHs-w/o	4.78E-07
592	ALL	650803.9	4204158	8.28E-06	1151	PAHs-w/o	4.74E-07

631	ALL	650683.9	4204198	8.26E-06	1151	PAHs-w/o	4.73E-07
760	ALL	650103.9	4204358	8.26E-06	1151	PAHs-w/o	4.73E-07
493	ALL	650083.9	4204078	8.25E-06	1151	PAHs-w/o	4.72E-07
557	ALL	650083.9	4204138	8.24E-06	1151	PAHs-w/o	4.72E-07
744	ALL	650083.9	4204338	8.21E-06	1151	PAHs-w/o	4.70E-07
48	ALL	650683.9	4203538	8.19E-06	1151	PAHs-w/o	4.69E-07
363	ALL	650103.9	4203938	8.18E-06	1151	PAHs-w/o	4.69E-07
601	ALL	650063.9	4204178	8.18E-06	1151	PAHs-w/o	4.68E-07
685	ALL	650043.9	4204258	8.17E-06	1151	PAHs-w/o	4.68E-07
612	ALL	650763.9	4204178	8.16E-06	1151	PAHs-w/o	4.67E-07
435	ALL	650063.9	4204018	8.15E-06	1151	PAHs-w/o	4.67E-07
666	ALL	650043.9	4204238	8.14E-06	1151	PAHs-w/o	4.66E-07
700	ALL	650043.9	4204278	8.09E-06	1151	PAHs-w/o	4.63E-07
632	ALL	650703.9	4204198	8.07E-06	1151	PAHs-w/o	4.62E-07
454	ALL	650063.9	4204038	8.06E-06	1151	PAHs-w/o	4.62E-07
534	ALL	650083.9	4204118	8.04E-06	1151	PAHs-w/o	4.61E-07
512	ALL	650083.9	4204098	8.03E-06	1151	PAHs-w/o	4.60E-07
47	ALL	650663.9	4203538	8.02E-06	1151	PAHs-w/o	4.60E-07
729	ALL	650063.9	4204318	8.02E-06	1151	PAHs-w/o	4.60E-07
417	ALL	650063.9	4203998	8.00E-06	1151	PAHs-w/o	4.58E-07
646	ALL	650043.9	4204218	8.00E-06	1151	PAHs-w/o	4.58E-07
860	ALL	650200.7	4204370	7.97E-06	1151	PAHs-w/o	4.56E-07
473	ALL	650063.9	4204058	7.94E-06	1151	PAHs-w/o	4.55E-07
381	ALL	650083.9	4203958	7.93E-06	1151	PAHs-w/o	4.54E-07
613	ALL	650783.9	4204178	7.91E-06	1151	PAHs-w/o	4.53E-07
633	ALL	650723.9	4204198	7.88E-06	1151	PAHs-w/o	4.51E-07
398	ALL	650063.9	4203978	7.85E-06	1151	PAHs-w/o	4.50E-07
759	ALL	650083.9	4204358	7.85E-06	1151	PAHs-w/o	4.50E-07
23	ALL	650683.9	4203518	7.82E-06	1151	PAHs-w/o	4.48E-07
113	ALL	650583.9	4203598	7.81E-06	1151	PAHs-w/o	4.47E-07
776	ALL	650103.9	4204378	7.81E-06	1151	PAHs-w/o	4.47E-07
715	ALL	650043.9	4204298	7.80E-06	1151	PAHs-w/o	4.47E-07
578	ALL	650063.9	4204158	7.79E-06	1151	PAHs-w/o	4.47E-07
286	ALL	650163.9	4203818	7.79E-06	1151	PAHs-w/o	4.46E-07
127	ALL	650563.9	4203618	7.79E-06	1151	PAHs-w/o	4.46E-07
492	ALL	650063.9	4204078	7.76E-06	1151	PAHs-w/o	4.44E-07
652	ALL	650623.9	4204218	7.76E-06	1151	PAHs-w/o	4.44E-07
623	ALL	650043.9	4204198	7.75E-06	1151	PAHs-w/o	4.44E-07
743	ALL	650063.9	4204338	7.68E-06	1151	PAHs-w/o	4.40E-07
614	ALL	650803.9	4204178	7.68E-06	1151	PAHs-w/o	4.40E-07
634	ALL	650743.9	4204198	7.67E-06	1151	PAHs-w/o	4.40E-07
653	ALL	650643.9	4204218	7.64E-06	1151	PAHs-w/o	4.38E-07
556	ALL	650063.9	4204138	7.63E-06	1151	PAHs-w/o	4.37E-07
434	ALL	650043.9	4204018	7.62E-06	1151	PAHs-w/o	4.36E-07
453	ALL	650043.9	4204038	7.60E-06	1151	PAHs-w/o	4.35E-07
416	ALL	650043.9	4203998	7.58E-06	1151	PAHs-w/o	4.34E-07
22	ALL	650663.9	4203518	7.58E-06	1151	PAHs-w/o	4.34E-07

665	ALL	650023.9	4204238	7.58E-06	1151 PAHs-w/o	4.34E-07
362	ALL	650083.9	4203938	7.56E-06	1151 PAHs-w/o	4.33E-07
511	ALL	650063.9	4204098	7.56E-06	1151 PAHs-w/o	4.33E-07
684	ALL	650023.9	4204258	7.54E-06	1151 PAHs-w/o	4.32E-07
533	ALL	650063.9	4204118	7.54E-06	1151 PAHs-w/o	4.32E-07
600	ALL	650043.9	4204178	7.51E-06	1151 PAHs-w/o	4.30E-07
380	ALL	650063.9	4203958	7.51E-06	1151 PAHs-w/o	4.30E-07
728	ALL	650043.9	4204318	7.50E-06	1151 PAHs-w/o	4.29E-07
775	ALL	650083.9	4204378	7.49E-06	1151 PAHs-w/o	4.29E-07
472	ALL	650043.9	4204058	7.49E-06	1151 PAHs-w/o	4.29E-07
635	ALL	650763.9	4204198	7.48E-06	1151 PAHs-w/o	4.28E-07
699	ALL	650023.9	4204278	7.47E-06	1151 PAHs-w/o	4.28E-07
758	ALL	650063.9	4204358	7.46E-06	1151 PAHs-w/o	4.27E-07
645	ALL	650023.9	4204218	7.40E-06	1151 PAHs-w/o	4.24E-07
397	ALL	650043.9	4203978	7.39E-06	1151 PAHs-w/o	4.24E-07
714	ALL	650023.9	4204298	7.34E-06	1151 PAHs-w/o	4.21E-07
491	ALL	650043.9	4204078	7.30E-06	1151 PAHs-w/o	4.18E-07
577	ALL	650043.9	4204158	7.30E-06	1151 PAHs-w/o	4.18E-07
636	ALL	650783.9	4204198	7.29E-06	1151 PAHs-w/o	4.17E-07
622	ALL	650023.9	4204198	7.28E-06	1151 PAHs-w/o	4.17E-07
654	ALL	650703.9	4204218	7.26E-06	1151 PAHs-w/o	4.16E-07
788	ALL	650103.9	4204398	7.23E-06	1151 PAHs-w/o	4.14E-07
93	ALL	650583.9	4203578	7.22E-06	1151 PAHs-w/o	4.14E-07
742	ALL	650043.9	4204338	7.21E-06	1151 PAHs-w/o	4.13E-07
452	ALL	650023.9	4204038	7.19E-06	1151 PAHs-w/o	4.12E-07
415	ALL	650023.9	4203998	7.18E-06	1151 PAHs-w/o	4.11E-07
433	ALL	650023.9	4204018	7.17E-06	1151 PAHs-w/o	4.11E-07
112	ALL	650563.9	4203598	7.15E-06	1151 PAHs-w/o	4.10E-07
379	ALL	650043.9	4203958	7.15E-06	1151 PAHs-w/o	4.09E-07
510	ALL	650043.9	4204098	7.14E-06	1151 PAHs-w/o	4.09E-07
361	ALL	650063.9	4203938	7.13E-06	1151 PAHs-w/o	4.09E-07
787	ALL	650083.9	4204398	7.13E-06	1151 PAHs-w/o	4.09E-07
655	ALL	650723.9	4204218	7.12E-06	1151 PAHs-w/o	4.08E-07
774	ALL	650063.9	4204378	7.12E-06	1151 PAHs-w/o	4.08E-07
555	ALL	650043.9	4204138	7.12E-06	1151 PAHs-w/o	4.08E-07
345	ALL	650083.9	4203918	7.11E-06	1151 PAHs-w/o	4.07E-07
727	ALL	650023.9	4204318	7.11E-06	1151 PAHs-w/o	4.07E-07
532	ALL	650043.9	4204118	7.10E-06	1151 PAHs-w/o	4.07E-07
126	ALL	650543.9	4203618	7.10E-06	1151 PAHs-w/o	4.07E-07
637	ALL	650803.9	4204198	7.10E-06	1151 PAHs-w/o	4.06E-07
683	ALL	650003.9	4204258	7.09E-06	1151 PAHs-w/o	4.06E-07
471	ALL	650023.9	4204058	7.04E-06	1151 PAHs-w/o	4.04E-07
599	ALL	650023.9	4204178	7.03E-06	1151 PAHs-w/o	4.03E-07
757	ALL	650043.9	4204358	7.02E-06	1151 PAHs-w/o	4.02E-07
664	ALL	650003.9	4204238	7.02E-06	1151 PAHs-w/o	4.02E-07
698	ALL	650003.9	4204278	7.02E-06	1151 PAHs-w/o	4.02E-07
396	ALL	650023.9	4203978	7.00E-06	1151 PAHs-w/o	4.01E-07

656	ALL	650743.9	4204218	6.98E-06	1151	PAHs-w/o	4.00E-07
644	ALL	650003.9	4204218	6.94E-06	1151	PAHs-w/o	3.98E-07
490	ALL	650023.9	4204078	6.92E-06	1151	PAHs-w/o	3.96E-07
786	ALL	650063.9	4204398	6.89E-06	1151	PAHs-w/o	3.95E-07
576	ALL	650023.9	4204158	6.87E-06	1151	PAHs-w/o	3.94E-07
671	ALL	650623.9	4204238	6.86E-06	1151	PAHs-w/o	3.93E-07
713	ALL	650003.9	4204298	6.85E-06	1151	PAHs-w/o	3.93E-07
657	ALL	650763.9	4204218	6.84E-06	1151	PAHs-w/o	3.92E-07
451	ALL	650003.9	4204038	6.81E-06	1151	PAHs-w/o	3.90E-07
432	ALL	650003.9	4204018	6.81E-06	1151	PAHs-w/o	3.90E-07
593	ALL	650923.9	4204158	6.80E-06	1151	PAHs-w/o	3.90E-07
378	ALL	650023.9	4203958	6.80E-06	1151	PAHs-w/o	3.89E-07
672	ALL	650643.9	4204238	6.79E-06	1151	PAHs-w/o	3.89E-07
741	ALL	650023.9	4204338	6.79E-06	1151	PAHs-w/o	3.89E-07
414	ALL	650003.9	4203998	6.79E-06	1151	PAHs-w/o	3.89E-07
621	ALL	650003.9	4204198	6.78E-06	1151	PAHs-w/o	3.89E-07
360	ALL	650043.9	4203938	6.78E-06	1151	PAHs-w/o	3.89E-07
773	ALL	650043.9	4204378	6.78E-06	1151	PAHs-w/o	3.88E-07
509	ALL	650023.9	4204098	6.74E-06	1151	PAHs-w/o	3.86E-07
344	ALL	650063.9	4203918	6.74E-06	1151	PAHs-w/o	3.86E-07
796	ALL	650103.9	4204418	6.74E-06	1151	PAHs-w/o	3.86E-07
726	ALL	650003.9	4204318	6.73E-06	1151	PAHs-w/o	3.86E-07
554	ALL	650023.9	4204138	6.73E-06	1151	PAHs-w/o	3.85E-07
69	ALL	650583.9	4203558	6.70E-06	1151	PAHs-w/o	3.84E-07
531	ALL	650023.9	4204118	6.70E-06	1151	PAHs-w/o	3.84E-07
682	ALL	649983.9	4204258	6.68E-06	1151	PAHs-w/o	3.83E-07
395	ALL	650003.9	4203978	6.67E-06	1151	PAHs-w/o	3.82E-07
209	ALL	650443.9	4203698	6.66E-06	1151	PAHs-w/o	3.82E-07
470	ALL	650003.9	4204058	6.66E-06	1151	PAHs-w/o	3.82E-07
329	ALL	650083.9	4203898	6.64E-06	1151	PAHs-w/o	3.80E-07
697	ALL	649983.9	4204278	6.63E-06	1151	PAHs-w/o	3.80E-07
756	ALL	650023.9	4204358	6.62E-06	1151	PAHs-w/o	3.79E-07
615	ALL	650903.9	4204178	6.61E-06	1151	PAHs-w/o	3.78E-07
663	ALL	649983.9	4204238	6.60E-06	1151	PAHs-w/o	3.78E-07
285	ALL	650143.9	4203818	6.60E-06	1151	PAHs-w/o	3.78E-07
598	ALL	650003.9	4204178	6.60E-06	1151	PAHs-w/o	3.78E-07
92	ALL	650563.9	4203578	6.59E-06	1151	PAHs-w/o	3.78E-07
643	ALL	649983.9	4204218	6.58E-06	1151	PAHs-w/o	3.77E-07
489	ALL	650003.9	4204078	6.56E-06	1151	PAHs-w/o	3.76E-07
251	ALL	650203.9	4203758	6.55E-06	1151	PAHs-w/o	3.76E-07
111	ALL	650543.9	4203598	6.55E-06	1151	PAHs-w/o	3.75E-07
785	ALL	650043.9	4204398	6.55E-06	1151	PAHs-w/o	3.75E-07
673	ALL	650703.9	4204238	6.55E-06	1151	PAHs-w/o	3.75E-07
125	ALL	650523.9	4203618	6.53E-06	1151	PAHs-w/o	3.74E-07
740	ALL	650003.9	4204338	6.50E-06	1151	PAHs-w/o	3.72E-07
359	ALL	650023.9	4203938	6.49E-06	1151	PAHs-w/o	3.72E-07
431	ALL	649983.9	4204018	6.48E-06	1151	PAHs-w/o	3.71E-07

575	ALL	650003.9	4204158	6.48E-06	1151 PAHs-w/o	3.71E-07
772	ALL	650023.9	4204378	6.46E-06	1151 PAHs-w/o	3.70E-07
450	ALL	649983.9	4204038	6.45E-06	1151 PAHs-w/o	3.70E-07
674	ALL	650723.9	4204238	6.45E-06	1151 PAHs-w/o	3.69E-07
712	ALL	649983.9	4204298	6.44E-06	1151 PAHs-w/o	3.69E-07
343	ALL	650043.9	4203918	6.44E-06	1151 PAHs-w/o	3.69E-07
377	ALL	650003.9	4203958	6.44E-06	1151 PAHs-w/o	3.69E-07
616	ALL	650923.9	4204178	6.44E-06	1151 PAHs-w/o	3.69E-07
413	ALL	649983.9	4203998	6.42E-06	1151 PAHs-w/o	3.68E-07
620	ALL	649983.9	4204198	6.41E-06	1151 PAHs-w/o	3.67E-07
508	ALL	650003.9	4204098	6.41E-06	1151 PAHs-w/o	3.67E-07
208	ALL	650423.9	4203698	6.38E-06	1151 PAHs-w/o	3.65E-07
530	ALL	650003.9	4204118	6.37E-06	1151 PAHs-w/o	3.65E-07
553	ALL	650003.9	4204138	6.35E-06	1151 PAHs-w/o	3.64E-07
675	ALL	650743.9	4204238	6.35E-06	1151 PAHs-w/o	3.64E-07
469	ALL	649983.9	4204058	6.35E-06	1151 PAHs-w/o	3.64E-07
394	ALL	649983.9	4203978	6.35E-06	1151 PAHs-w/o	3.64E-07
795	ALL	650043.9	4204418	6.34E-06	1151 PAHs-w/o	3.63E-07
328	ALL	650063.9	4203898	6.32E-06	1151 PAHs-w/o	3.62E-07
662	ALL	649963.9	4204238	6.29E-06	1151 PAHs-w/o	3.60E-07
696	ALL	649963.9	4204278	6.29E-06	1151 PAHs-w/o	3.60E-07
725	ALL	649983.9	4204318	6.28E-06	1151 PAHs-w/o	3.60E-07
805	ALL	650083.9	4204438	6.28E-06	1151 PAHs-w/o	3.60E-07
488	ALL	649983.9	4204078	6.26E-06	1151 PAHs-w/o	3.58E-07
681	ALL	649963.9	4204258	6.26E-06	1151 PAHs-w/o	3.58E-07
597	ALL	649983.9	4204178	6.25E-06	1151 PAHs-w/o	3.58E-07
638	ALL	650903.9	4204198	6.25E-06	1151 PAHs-w/o	3.58E-07
676	ALL	650763.9	4204238	6.24E-06	1151 PAHs-w/o	3.58E-07
784	ALL	650023.9	4204398	6.24E-06	1151 PAHs-w/o	3.58E-07
313	ALL	650083.9	4203878	6.23E-06	1151 PAHs-w/o	3.57E-07
358	ALL	650003.9	4203938	6.22E-06	1151 PAHs-w/o	3.57E-07
755	ALL	650003.9	4204358	6.21E-06	1151 PAHs-w/o	3.56E-07
46	ALL	650583.9	4203538	6.21E-06	1151 PAHs-w/o	3.56E-07
642	ALL	649963.9	4204218	6.18E-06	1151 PAHs-w/o	3.54E-07
739	ALL	649983.9	4204338	6.18E-06	1151 PAHs-w/o	3.54E-07
430	ALL	649963.9	4204018	6.17E-06	1151 PAHs-w/o	3.54E-07
711	ALL	649963.9	4204298	6.17E-06	1151 PAHs-w/o	3.53E-07
342	ALL	650023.9	4203918	6.16E-06	1151 PAHs-w/o	3.53E-07
376	ALL	649983.9	4203958	6.16E-06	1151 PAHs-w/o	3.53E-07
690	ALL	650623.9	4204258	6.15E-06	1151 PAHs-w/o	3.53E-07
68	ALL	650563.9	4203558	6.15E-06	1151 PAHs-w/o	3.52E-07
804	ALL	650063.9	4204438	6.15E-06	1151 PAHs-w/o	3.52E-07
449	ALL	649963.9	4204038	6.14E-06	1151 PAHs-w/o	3.52E-07
574	ALL	649983.9	4204158	6.13E-06	1151 PAHs-w/o	3.51E-07
91	ALL	650543.9	4203578	6.13E-06	1151 PAHs-w/o	3.51E-07
412	ALL	649963.9	4203998	6.12E-06	1151 PAHs-w/o	3.51E-07
507	ALL	649983.9	4204098	6.10E-06	1151 PAHs-w/o	3.50E-07

691	ALL	650643.9	4204258	6.10E-06	1151 PAHs-w/o	3.49E-07
110	ALL	650523.9	4203598	6.10E-06	1151 PAHs-w/o	3.49E-07
327	ALL	650043.9	4203898	6.09E-06	1151 PAHs-w/o	3.49E-07
639	ALL	650923.9	4204198	6.09E-06	1151 PAHs-w/o	3.49E-07
803	ALL	650043.9	4204438	6.07E-06	1151 PAHs-w/o	3.48E-07
794	ALL	650023.9	4204418	6.06E-06	1151 PAHs-w/o	3.47E-07
619	ALL	649963.9	4204198	6.06E-06	1151 PAHs-w/o	3.47E-07
552	ALL	649983.9	4204138	6.06E-06	1151 PAHs-w/o	3.47E-07
771	ALL	650003.9	4204378	6.06E-06	1151 PAHs-w/o	3.47E-07
529	ALL	649983.9	4204118	6.05E-06	1151 PAHs-w/o	3.47E-07
393	ALL	649963.9	4203978	6.04E-06	1151 PAHs-w/o	3.46E-07
468	ALL	649963.9	4204058	6.04E-06	1151 PAHs-w/o	3.46E-07
806	ALL	650143.9	4204438	6.02E-06	1151 PAHs-w/o	3.45E-07
195	ALL	650423.9	4203678	6.00E-06	1151 PAHs-w/o	3.44E-07
661	ALL	649943.9	4204238	6.00E-06	1151 PAHs-w/o	3.44E-07
724	ALL	649963.9	4204318	5.99E-06	1151 PAHs-w/o	3.43E-07
783	ALL	650003.9	4204398	5.99E-06	1151 PAHs-w/o	3.43E-07
680	ALL	649943.9	4204258	5.98E-06	1151 PAHs-w/o	3.43E-07
596	ALL	649963.9	4204178	5.95E-06	1151 PAHs-w/o	3.41E-07
487	ALL	649963.9	4204078	5.94E-06	1151 PAHs-w/o	3.41E-07
357	ALL	649983.9	4203938	5.93E-06	1151 PAHs-w/o	3.40E-07
312	ALL	650063.9	4203878	5.93E-06	1151 PAHs-w/o	3.40E-07
341	ALL	650003.9	4203918	5.93E-06	1151 PAHs-w/o	3.40E-07
695	ALL	649943.9	4204278	5.92E-06	1151 PAHs-w/o	3.39E-07
754	ALL	649983.9	4204358	5.91E-06	1151 PAHs-w/o	3.39E-07
250	ALL	650183.9	4203758	5.91E-06	1151 PAHs-w/o	3.39E-07
817	ALL	650083.9	4204458	5.91E-06	1151 PAHs-w/o	3.39E-07
429	ALL	649943.9	4204018	5.89E-06	1151 PAHs-w/o	3.37E-07
375	ALL	649963.9	4203958	5.89E-06	1151 PAHs-w/o	3.37E-07
658	ALL	650903.9	4204218	5.88E-06	1151 PAHs-w/o	3.37E-07
710	ALL	649943.9	4204298	5.87E-06	1151 PAHs-w/o	3.36E-07
641	ALL	649943.9	4204218	5.87E-06	1151 PAHs-w/o	3.36E-07
802	ALL	650023.9	4204438	5.87E-06	1151 PAHs-w/o	3.36E-07
304	ALL	650083.9	4203858	5.86E-06	1151 PAHs-w/o	3.36E-07
411	ALL	649943.9	4203998	5.85E-06	1151 PAHs-w/o	3.35E-07
448	ALL	649943.9	4204038	5.84E-06	1151 PAHs-w/o	3.35E-07
326	ALL	650023.9	4203898	5.84E-06	1151 PAHs-w/o	3.35E-07
816	ALL	650063.9	4204458	5.84E-06	1151 PAHs-w/o	3.34E-07
738	ALL	649963.9	4204338	5.83E-06	1151 PAHs-w/o	3.34E-07
284	ALL	650123.9	4203818	5.81E-06	1151 PAHs-w/o	3.33E-07
194	ALL	650403.9	4203678	5.81E-06	1151 PAHs-w/o	3.33E-07
236	ALL	650203.9	4203738	5.81E-06	1151 PAHs-w/o	3.33E-07
506	ALL	649963.9	4204098	5.81E-06	1151 PAHs-w/o	3.33E-07
793	ALL	650003.9	4204418	5.80E-06	1151 PAHs-w/o	3.32E-07
573	ALL	649963.9	4204158	5.79E-06	1151 PAHs-w/o	3.32E-07
770	ALL	649983.9	4204378	5.78E-06	1151 PAHs-w/o	3.31E-07
618	ALL	649943.9	4204198	5.78E-06	1151 PAHs-w/o	3.31E-07

528	ALL	649963.9	4204118	5.77E-06	1151	PAHs-w/o	3.31E-07
45	ALL	650563.9	4203538	5.77E-06	1151	PAHs-w/o	3.30E-07
467	ALL	649943.9	4204058	5.77E-06	1151	PAHs-w/o	3.30E-07
551	ALL	649963.9	4204138	5.77E-06	1151	PAHs-w/o	3.30E-07
392	ALL	649943.9	4203978	5.76E-06	1151	PAHs-w/o	3.30E-07
659	ALL	650923.9	4204218	5.75E-06	1151	PAHs-w/o	3.29E-07
815	ALL	650043.9	4204458	5.74E-06	1151	PAHs-w/o	3.29E-07
67	ALL	650543.9	4203558	5.74E-06	1151	PAHs-w/o	3.29E-07
311	ALL	650043.9	4203878	5.73E-06	1151	PAHs-w/o	3.28E-07
679	ALL	649923.9	4204258	5.73E-06	1151	PAHs-w/o	3.28E-07
90	ALL	650523.9	4203578	5.72E-06	1151	PAHs-w/o	3.28E-07
340	ALL	649983.9	4203918	5.70E-06	1151	PAHs-w/o	3.27E-07
660	ALL	649923.9	4204238	5.70E-06	1151	PAHs-w/o	3.27E-07
723	ALL	649943.9	4204318	5.70E-06	1151	PAHs-w/o	3.26E-07
753	ALL	649963.9	4204358	5.70E-06	1151	PAHs-w/o	3.26E-07
486	ALL	649943.9	4204078	5.69E-06	1151	PAHs-w/o	3.26E-07
356	ALL	649963.9	4203938	5.68E-06	1151	PAHs-w/o	3.26E-07
193	ALL	650383.9	4203678	5.67E-06	1151	PAHs-w/o	3.25E-07
694	ALL	649923.9	4204278	5.67E-06	1151	PAHs-w/o	3.25E-07
595	ALL	649943.9	4204178	5.67E-06	1151	PAHs-w/o	3.25E-07
782	ALL	649983.9	4204398	5.66E-06	1151	PAHs-w/o	3.24E-07
374	ALL	649943.9	4203958	5.65E-06	1151	PAHs-w/o	3.24E-07
801	ALL	650003.9	4204438	5.62E-06	1151	PAHs-w/o	3.22E-07
428	ALL	649923.9	4204018	5.62E-06	1151	PAHs-w/o	3.22E-07
303	ALL	650063.9	4203858	5.61E-06	1151	PAHs-w/o	3.22E-07
325	ALL	650003.9	4203898	5.61E-06	1151	PAHs-w/o	3.22E-07
410	ALL	649923.9	4203998	5.60E-06	1151	PAHs-w/o	3.21E-07
814	ALL	650023.9	4204458	5.59E-06	1151	PAHs-w/o	3.20E-07
447	ALL	649923.9	4204038	5.58E-06	1151	PAHs-w/o	3.20E-07
192	ALL	650363.9	4203678	5.58E-06	1151	PAHs-w/o	3.19E-07
640	ALL	649923.9	4204218	5.57E-06	1151	PAHs-w/o	3.19E-07
249	ALL	650163.9	4203758	5.57E-06	1151	PAHs-w/o	3.19E-07
737	ALL	649943.9	4204338	5.57E-06	1151	PAHs-w/o	3.19E-07
235	ALL	650183.9	4203738	5.56E-06	1151	PAHs-w/o	3.19E-07
505	ALL	649943.9	4204098	5.55E-06	1151	PAHs-w/o	3.18E-07
709	ALL	649923.9	4204298	5.55E-06	1151	PAHs-w/o	3.18E-07
828	ALL	650063.9	4204478	5.54E-06	1151	PAHs-w/o	3.18E-07
310	ALL	650023.9	4203878	5.54E-06	1151	PAHs-w/o	3.17E-07
705	ALL	650623.9	4204278	5.54E-06	1151	PAHs-w/o	3.17E-07
550	ALL	649943.9	4204138	5.53E-06	1151	PAHs-w/o	3.17E-07
818	ALL	650143.9	4204458	5.52E-06	1151	PAHs-w/o	3.16E-07
677	ALL	650903.9	4204238	5.52E-06	1151	PAHs-w/o	3.16E-07
617	ALL	649923.9	4204198	5.51E-06	1151	PAHs-w/o	3.16E-07
466	ALL	649923.9	4204058	5.51E-06	1151	PAHs-w/o	3.16E-07
295	ALL	650083.9	4203838	5.51E-06	1151	PAHs-w/o	3.16E-07
792	ALL	649983.9	4204418	5.51E-06	1151	PAHs-w/o	3.16E-07
527	ALL	649943.9	4204118	5.51E-06	1151	PAHs-w/o	3.16E-07

572	ALL	649943.9	4204158	5.51E-06	1151 PAHs-w/o	3.16E-07
176	ALL	650403.9	4203658	5.51E-06	1151 PAHs-w/o	3.15E-07
769	ALL	649963.9	4204378	5.50E-06	1151 PAHs-w/o	3.15E-07
706	ALL	650643.9	4204278	5.50E-06	1151 PAHs-w/o	3.15E-07
273	ALL	650123.9	4203798	5.49E-06	1151 PAHs-w/o	3.15E-07
283	ALL	650103.9	4203818	5.49E-06	1151 PAHs-w/o	3.15E-07
391	ALL	649923.9	4203978	5.48E-06	1151 PAHs-w/o	3.14E-07
827	ALL	650043.9	4204478	5.48E-06	1151 PAHs-w/o	3.14E-07
355	ALL	649943.9	4203938	5.47E-06	1151 PAHs-w/o	3.13E-07
339	ALL	649963.9	4203918	5.47E-06	1151 PAHs-w/o	3.13E-07
813	ALL	650003.9	4204458	5.47E-06	1151 PAHs-w/o	3.13E-07
722	ALL	649923.9	4204318	5.47E-06	1151 PAHs-w/o	3.13E-07
485	ALL	649923.9	4204078	5.45E-06	1151 PAHs-w/o	3.12E-07
373	ALL	649923.9	4203958	5.43E-06	1151 PAHs-w/o	3.11E-07
752	ALL	649943.9	4204358	5.42E-06	1151 PAHs-w/o	3.11E-07
800	ALL	649983.9	4204438	5.42E-06	1151 PAHs-w/o	3.11E-07
324	ALL	649983.9	4203898	5.42E-06	1151 PAHs-w/o	3.11E-07
44	ALL	650543.9	4203538	5.41E-06	1151 PAHs-w/o	3.10E-07
781	ALL	649963.9	4204398	5.41E-06	1151 PAHs-w/o	3.10E-07
678	ALL	650923.9	4204238	5.41E-06	1151 PAHs-w/o	3.10E-07
302	ALL	650043.9	4203858	5.40E-06	1151 PAHs-w/o	3.10E-07
175	ALL	650383.9	4203658	5.39E-06	1151 PAHs-w/o	3.09E-07
66	ALL	650523.9	4203558	5.38E-06	1151 PAHs-w/o	3.08E-07
594	ALL	649923.9	4204178	5.37E-06	1151 PAHs-w/o	3.08E-07
826	ALL	650023.9	4204478	5.36E-06	1151 PAHs-w/o	3.07E-07
309	ALL	650003.9	4203878	5.33E-06	1151 PAHs-w/o	3.05E-07
234	ALL	650163.9	4203738	5.33E-06	1151 PAHs-w/o	3.05E-07
736	ALL	649923.9	4204338	5.33E-06	1151 PAHs-w/o	3.05E-07
504	ALL	649923.9	4204098	5.32E-06	1151 PAHs-w/o	3.05E-07
294	ALL	650063.9	4203838	5.31E-06	1151 PAHs-w/o	3.04E-07
248	ALL	650143.9	4203758	5.29E-06	1151 PAHs-w/o	3.03E-07
812	ALL	649983.9	4204458	5.29E-06	1151 PAHs-w/o	3.03E-07
571	ALL	649923.9	4204158	5.29E-06	1151 PAHs-w/o	3.03E-07
174	ALL	650363.9	4203658	5.29E-06	1151 PAHs-w/o	3.03E-07
526	ALL	649923.9	4204118	5.29E-06	1151 PAHs-w/o	3.03E-07
549	ALL	649923.9	4204138	5.28E-06	1151 PAHs-w/o	3.02E-07
807	ALL	650209.7	4204429	5.26E-06	1151 PAHs-w/o	3.01E-07
354	ALL	649923.9	4203938	5.26E-06	1151 PAHs-w/o	3.01E-07
323	ALL	649963.9	4203898	5.25E-06	1151 PAHs-w/o	3.01E-07
338	ALL	649943.9	4203918	5.25E-06	1151 PAHs-w/o	3.01E-07
791	ALL	649963.9	4204418	5.25E-06	1151 PAHs-w/o	3.01E-07
768	ALL	649943.9	4204378	5.24E-06	1151 PAHs-w/o	3.00E-07
262	ALL	650123.9	4203778	5.23E-06	1151 PAHs-w/o	2.99E-07
282	ALL	650083.9	4203818	5.22E-06	1151 PAHs-w/o	2.99E-07
825	ALL	650003.9	4204478	5.22E-06	1151 PAHs-w/o	2.99E-07
301	ALL	650023.9	4203858	5.22E-06	1151 PAHs-w/o	2.99E-07
837	ALL	650063.9	4204498	5.22E-06	1151 PAHs-w/o	2.99E-07

272	ALL	650103.9	4203798	5.21E-06	1151 PAHs-w/o	2.99E-07
836	ALL	650043.9	4204498	5.20E-06	1151 PAHs-w/o	2.98E-07
780	ALL	649943.9	4204398	5.17E-06	1151 PAHs-w/o	2.96E-07
799	ALL	649963.9	4204438	5.16E-06	1151 PAHs-w/o	2.96E-07
835	ALL	650023.9	4204498	5.16E-06	1151 PAHs-w/o	2.96E-07
692	ALL	650903.9	4204258	5.16E-06	1151 PAHs-w/o	2.96E-07
751	ALL	649923.9	4204358	5.15E-06	1151 PAHs-w/o	2.95E-07
173	ALL	650303.9	4203658	5.13E-06	1151 PAHs-w/o	2.94E-07
308	ALL	649983.9	4203878	5.13E-06	1151 PAHs-w/o	2.94E-07
293	ALL	650043.9	4203838	5.13E-06	1151 PAHs-w/o	2.94E-07
824	ALL	649983.9	4204478	5.12E-06	1151 PAHs-w/o	2.93E-07
233	ALL	650143.9	4203738	5.10E-06	1151 PAHs-w/o	2.92E-07
172	ALL	650283.9	4203658	5.10E-06	1151 PAHs-w/o	2.92E-07
43	ALL	650523.9	4203538	5.10E-06	1151 PAHs-w/o	2.92E-07
811	ALL	649963.9	4204458	5.09E-06	1151 PAHs-w/o	2.92E-07
790	ALL	649943.9	4204418	5.08E-06	1151 PAHs-w/o	2.91E-07
171	ALL	650263.9	4203658	5.08E-06	1151 PAHs-w/o	2.91E-07
322	ALL	649943.9	4203898	5.07E-06	1151 PAHs-w/o	2.90E-07
693	ALL	650923.9	4204258	5.07E-06	1151 PAHs-w/o	2.90E-07
300	ALL	650003.9	4203858	5.06E-06	1151 PAHs-w/o	2.90E-07
838	ALL	650103.9	4204498	5.05E-06	1151 PAHs-w/o	2.89E-07
337	ALL	649923.9	4203918	5.05E-06	1151 PAHs-w/o	2.89E-07
281	ALL	650063.9	4203818	5.04E-06	1151 PAHs-w/o	2.89E-07
170	ALL	650243.9	4203658	5.04E-06	1151 PAHs-w/o	2.89E-07
109	ALL	650443.9	4203598	5.04E-06	1151 PAHs-w/o	2.89E-07
150	ALL	650363.9	4203638	5.03E-06	1151 PAHs-w/o	2.88E-07
247	ALL	650123.9	4203758	5.03E-06	1151 PAHs-w/o	2.88E-07
767	ALL	649923.9	4204378	5.01E-06	1151 PAHs-w/o	2.87E-07
834	ALL	650003.9	4204498	5.01E-06	1151 PAHs-w/o	2.87E-07
271	ALL	650083.9	4203798	5.01E-06	1151 PAHs-w/o	2.87E-07
307	ALL	649963.9	4203878	5.00E-06	1151 PAHs-w/o	2.86E-07
261	ALL	650103.9	4203778	4.99E-06	1151 PAHs-w/o	2.86E-07
169	ALL	650223.9	4203658	4.97E-06	1151 PAHs-w/o	2.85E-07
823	ALL	649963.9	4204478	4.94E-06	1151 PAHs-w/o	2.83E-07
292	ALL	650023.9	4203838	4.94E-06	1151 PAHs-w/o	2.83E-07
779	ALL	649923.9	4204398	4.94E-06	1151 PAHs-w/o	2.83E-07
850	ALL	650043.9	4204518	4.93E-06	1151 PAHs-w/o	2.82E-07
149	ALL	650323.9	4203638	4.93E-06	1151 PAHs-w/o	2.82E-07
221	ALL	650143.9	4203718	4.92E-06	1151 PAHs-w/o	2.82E-07
849	ALL	650023.9	4204518	4.92E-06	1151 PAHs-w/o	2.82E-07
839	ALL	650123.9	4204498	4.92E-06	1151 PAHs-w/o	2.82E-07
798	ALL	649943.9	4204438	4.91E-06	1151 PAHs-w/o	2.81E-07
299	ALL	649983.9	4203858	4.89E-06	1151 PAHs-w/o	2.80E-07
108	ALL	650423.9	4203598	4.89E-06	1151 PAHs-w/o	2.80E-07
148	ALL	650303.9	4203638	4.89E-06	1151 PAHs-w/o	2.80E-07
321	ALL	649923.9	4203898	4.89E-06	1151 PAHs-w/o	2.80E-07
833	ALL	649983.9	4204498	4.88E-06	1151 PAHs-w/o	2.79E-07

232	ALL	650123.9	4203738	4.87E-06	1151 PAHs-w/o	2.79E-07
851	ALL	650063.9	4204518	4.87E-06	1151 PAHs-w/o	2.79E-07
147	ALL	650283.9	4203638	4.86E-06	1151 PAHs-w/o	2.79E-07
280	ALL	650043.9	4203818	4.86E-06	1151 PAHs-w/o	2.79E-07
848	ALL	650003.9	4204518	4.86E-06	1151 PAHs-w/o	2.78E-07
789	ALL	649923.9	4204418	4.86E-06	1151 PAHs-w/o	2.78E-07
146	ALL	650263.9	4203638	4.85E-06	1151 PAHs-w/o	2.78E-07
306	ALL	649943.9	4203878	4.84E-06	1151 PAHs-w/o	2.77E-07
89	ALL	650443.9	4203578	4.81E-06	1151 PAHs-w/o	2.76E-07
145	ALL	650243.9	4203638	4.81E-06	1151 PAHs-w/o	2.76E-07
810	ALL	649943.9	4204458	4.81E-06	1151 PAHs-w/o	2.76E-07
707	ALL	650903.9	4204278	4.81E-06	1151 PAHs-w/o	2.76E-07
270	ALL	650063.9	4203798	4.80E-06	1151 PAHs-w/o	2.75E-07
246	ALL	650103.9	4203758	4.80E-06	1151 PAHs-w/o	2.75E-07
291	ALL	650003.9	4203838	4.80E-06	1151 PAHs-w/o	2.75E-07
260	ALL	650083.9	4203778	4.79E-06	1151 PAHs-w/o	2.74E-07
144	ALL	650223.9	4203638	4.77E-06	1151 PAHs-w/o	2.73E-07
107	ALL	650403.9	4203598	4.76E-06	1151 PAHs-w/o	2.73E-07
832	ALL	649963.9	4204498	4.76E-06	1151 PAHs-w/o	2.73E-07
207	ALL	650143.9	4203698	4.76E-06	1151 PAHs-w/o	2.73E-07
808	ALL	650229.7	4204429	4.75E-06	1151 PAHs-w/o	2.72E-07
822	ALL	649943.9	4204478	4.75E-06	1151 PAHs-w/o	2.72E-07
852	ALL	650103.9	4204518	4.74E-06	1151 PAHs-w/o	2.72E-07
298	ALL	649963.9	4203858	4.74E-06	1151 PAHs-w/o	2.71E-07
708	ALL	650923.9	4204278	4.74E-06	1151 PAHs-w/o	2.71E-07
797	ALL	649923.9	4204438	4.73E-06	1151 PAHs-w/o	2.71E-07
847	ALL	649983.9	4204518	4.72E-06	1151 PAHs-w/o	2.70E-07
220	ALL	650123.9	4203718	4.71E-06	1151 PAHs-w/o	2.70E-07
279	ALL	650023.9	4203818	4.70E-06	1151 PAHs-w/o	2.69E-07
143	ALL	650203.9	4203638	4.70E-06	1151 PAHs-w/o	2.69E-07
124	ALL	650323.9	4203618	4.70E-06	1151 PAHs-w/o	2.69E-07
305	ALL	649923.9	4203878	4.69E-06	1151 PAHs-w/o	2.69E-07
88	ALL	650423.9	4203578	4.68E-06	1151 PAHs-w/o	2.68E-07
831	ALL	649943.9	4204498	4.66E-06	1151 PAHs-w/o	2.67E-07
840	ALL	650143.9	4204498	4.66E-06	1151 PAHs-w/o	2.67E-07
123	ALL	650303.9	4203618	4.66E-06	1151 PAHs-w/o	2.67E-07
290	ALL	649983.9	4203838	4.65E-06	1151 PAHs-w/o	2.67E-07
122	ALL	650283.9	4203618	4.64E-06	1151 PAHs-w/o	2.66E-07
269	ALL	650043.9	4203798	4.64E-06	1151 PAHs-w/o	2.66E-07
809	ALL	649923.9	4204458	4.64E-06	1151 PAHs-w/o	2.66E-07
231	ALL	650103.9	4203738	4.63E-06	1151 PAHs-w/o	2.65E-07
121	ALL	650263.9	4203618	4.62E-06	1151 PAHs-w/o	2.65E-07
120	ALL	650243.9	4203618	4.61E-06	1151 PAHs-w/o	2.64E-07
65	ALL	650443.9	4203558	4.61E-06	1151 PAHs-w/o	2.64E-07
245	ALL	650083.9	4203758	4.61E-06	1151 PAHs-w/o	2.64E-07
747	ALL	650295.8	4204357	4.60E-06	1151 PAHs-w/o	2.64E-07
297	ALL	649943.9	4203858	4.60E-06	1151 PAHs-w/o	2.64E-07

142	ALL	650183.9	4203638	4.60E-06	1151	PAHs-w/o	2.63E-07
191	ALL	650143.9	4203678	4.60E-06	1151	PAHs-w/o	2.63E-07
819	ALL	650203.9	4204458	4.59E-06	1151	PAHs-w/o	2.63E-07
259	ALL	650063.9	4203778	4.58E-06	1151	PAHs-w/o	2.63E-07
846	ALL	649963.9	4204518	4.58E-06	1151	PAHs-w/o	2.63E-07
119	ALL	650223.9	4203618	4.57E-06	1151	PAHs-w/o	2.62E-07
853	ALL	650123.9	4204518	4.56E-06	1151	PAHs-w/o	2.61E-07
278	ALL	650003.9	4203818	4.56E-06	1151	PAHs-w/o	2.61E-07
206	ALL	650123.9	4203698	4.56E-06	1151	PAHs-w/o	2.61E-07
87	ALL	650403.9	4203578	4.55E-06	1151	PAHs-w/o	2.60E-07
42	ALL	650463.9	4203538	4.54E-06	1151	PAHs-w/o	2.60E-07
821	ALL	649923.9	4204478	4.54E-06	1151	PAHs-w/o	2.60E-07
719	ALL	650883.9	4204298	4.53E-06	1151	PAHs-w/o	2.60E-07
118	ALL	650203.9	4203618	4.53E-06	1151	PAHs-w/o	2.59E-07
289	ALL	649963.9	4203838	4.52E-06	1151	PAHs-w/o	2.59E-07
845	ALL	649943.9	4204518	4.50E-06	1151	PAHs-w/o	2.58E-07
219	ALL	650103.9	4203718	4.49E-06	1151	PAHs-w/o	2.57E-07
830	ALL	649923.9	4204498	4.49E-06	1151	PAHs-w/o	2.57E-07
720	ALL	650903.9	4204298	4.49E-06	1151	PAHs-w/o	2.57E-07
268	ALL	650023.9	4203798	4.48E-06	1151	PAHs-w/o	2.57E-07
64	ALL	650423.9	4203558	4.48E-06	1151	PAHs-w/o	2.57E-07
296	ALL	649923.9	4203858	4.48E-06	1151	PAHs-w/o	2.57E-07
141	ALL	650163.9	4203638	4.47E-06	1151	PAHs-w/o	2.56E-07
106	ALL	650323.9	4203598	4.47E-06	1151	PAHs-w/o	2.56E-07
86	ALL	650383.9	4203578	4.45E-06	1151	PAHs-w/o	2.55E-07
117	ALL	650183.9	4203618	4.45E-06	1151	PAHs-w/o	2.55E-07
105	ALL	650303.9	4203598	4.45E-06	1151	PAHs-w/o	2.55E-07
230	ALL	650083.9	4203738	4.44E-06	1151	PAHs-w/o	2.55E-07
104	ALL	650283.9	4203598	4.44E-06	1151	PAHs-w/o	2.55E-07
103	ALL	650263.9	4203598	4.43E-06	1151	PAHs-w/o	2.54E-07
244	ALL	650063.9	4203758	4.43E-06	1151	PAHs-w/o	2.54E-07
102	ALL	650243.9	4203598	4.43E-06	1151	PAHs-w/o	2.54E-07
277	ALL	649983.9	4203818	4.43E-06	1151	PAHs-w/o	2.54E-07
721	ALL	650923.9	4204298	4.43E-06	1151	PAHs-w/o	2.54E-07
258	ALL	650043.9	4203778	4.43E-06	1151	PAHs-w/o	2.54E-07
190	ALL	650123.9	4203678	4.42E-06	1151	PAHs-w/o	2.53E-07
841	ALL	650163.9	4204498	4.41E-06	1151	PAHs-w/o	2.53E-07
844	ALL	649923.9	4204518	4.41E-06	1151	PAHs-w/o	2.53E-07
41	ALL	650443.9	4203538	4.41E-06	1151	PAHs-w/o	2.52E-07
101	ALL	650223.9	4203598	4.39E-06	1151	PAHs-w/o	2.52E-07
288	ALL	649943.9	4203838	4.38E-06	1151	PAHs-w/o	2.51E-07
21	ALL	650463.9	4203518	4.36E-06	1151	PAHs-w/o	2.50E-07
63	ALL	650403.9	4203558	4.36E-06	1151	PAHs-w/o	2.50E-07
100	ALL	650203.9	4203598	4.35E-06	1151	PAHs-w/o	2.49E-07
205	ALL	650103.9	4203698	4.35E-06	1151	PAHs-w/o	2.49E-07
267	ALL	650003.9	4203798	4.34E-06	1151	PAHs-w/o	2.49E-07
116	ALL	650163.9	4203618	4.33E-06	1151	PAHs-w/o	2.48E-07

140	ALL	650143.9	4203638	4.32E-06	1151 PAHs-w/o	2.48E-07
40	ALL	650423.9	4203538	4.31E-06	1151 PAHs-w/o	2.47E-07
276	ALL	649963.9	4203818	4.30E-06	1151 PAHs-w/o	2.47E-07
218	ALL	650083.9	4203718	4.30E-06	1151 PAHs-w/o	2.46E-07
854	ALL	650143.9	4204518	4.30E-06	1151 PAHs-w/o	2.46E-07
257	ALL	650023.9	4203778	4.30E-06	1151 PAHs-w/o	2.46E-07
99	ALL	650183.9	4203598	4.29E-06	1151 PAHs-w/o	2.46E-07
85	ALL	650323.9	4203578	4.28E-06	1151 PAHs-w/o	2.45E-07
168	ALL	650123.9	4203658	4.28E-06	1151 PAHs-w/o	2.45E-07
62	ALL	650383.9	4203558	4.27E-06	1151 PAHs-w/o	2.45E-07
229	ALL	650063.9	4203738	4.26E-06	1151 PAHs-w/o	2.44E-07
287	ALL	649923.9	4203838	4.26E-06	1151 PAHs-w/o	2.44E-07
82	ALL	650263.9	4203578	4.26E-06	1151 PAHs-w/o	2.44E-07
84	ALL	650303.9	4203578	4.25E-06	1151 PAHs-w/o	2.44E-07
83	ALL	650283.9	4203578	4.25E-06	1151 PAHs-w/o	2.44E-07
81	ALL	650243.9	4203578	4.25E-06	1151 PAHs-w/o	2.43E-07
243	ALL	650043.9	4203758	4.25E-06	1151 PAHs-w/o	2.43E-07
80	ALL	650223.9	4203578	4.23E-06	1151 PAHs-w/o	2.42E-07
20	ALL	650443.9	4203518	4.23E-06	1151 PAHs-w/o	2.42E-07
266	ALL	649983.9	4203798	4.22E-06	1151 PAHs-w/o	2.42E-07
189	ALL	650103.9	4203678	4.22E-06	1151 PAHs-w/o	2.42E-07
733	ALL	650883.9	4204318	4.20E-06	1151 PAHs-w/o	2.41E-07
115	ALL	650143.9	4203618	4.20E-06	1151 PAHs-w/o	2.41E-07
79	ALL	650203.9	4203578	4.20E-06	1151 PAHs-w/o	2.40E-07
275	ALL	649943.9	4203818	4.19E-06	1151 PAHs-w/o	2.40E-07
98	ALL	650163.9	4203598	4.19E-06	1151 PAHs-w/o	2.40E-07
39	ALL	650403.9	4203538	4.19E-06	1151 PAHs-w/o	2.40E-07
139	ALL	650123.9	4203638	4.17E-06	1151 PAHs-w/o	2.39E-07
734	ALL	650903.9	4204318	4.17E-06	1151 PAHs-w/o	2.39E-07
256	ALL	650003.9	4203778	4.17E-06	1151 PAHs-w/o	2.39E-07
820	ALL	650223.9	4204458	4.16E-06	1151 PAHs-w/o	2.39E-07
204	ALL	650083.9	4203698	4.15E-06	1151 PAHs-w/o	2.38E-07
78	ALL	650183.9	4203578	4.15E-06	1151 PAHs-w/o	2.38E-07
842	ALL	650183.9	4204498	4.15E-06	1151 PAHs-w/o	2.37E-07
829	ALL	650203.9	4204478	4.14E-06	1151 PAHs-w/o	2.37E-07
735	ALL	650923.9	4204318	4.13E-06	1151 PAHs-w/o	2.36E-07
217	ALL	650063.9	4203718	4.12E-06	1151 PAHs-w/o	2.36E-07
19	ALL	650423.9	4203518	4.12E-06	1151 PAHs-w/o	2.36E-07
167	ALL	650103.9	4203658	4.12E-06	1151 PAHs-w/o	2.36E-07
265	ALL	649963.9	4203798	4.11E-06	1151 PAHs-w/o	2.35E-07
242	ALL	650023.9	4203758	4.11E-06	1151 PAHs-w/o	2.35E-07
38	ALL	650383.9	4203538	4.10E-06	1151 PAHs-w/o	2.35E-07
228	ALL	650043.9	4203738	4.10E-06	1151 PAHs-w/o	2.35E-07
61	ALL	650323.9	4203558	4.09E-06	1151 PAHs-w/o	2.34E-07
57	ALL	650243.9	4203558	4.09E-06	1151 PAHs-w/o	2.34E-07
60	ALL	650303.9	4203558	4.09E-06	1151 PAHs-w/o	2.34E-07
59	ALL	650283.9	4203558	4.09E-06	1151 PAHs-w/o	2.34E-07

58	ALL	650263.9	4203558	4.08E-06	1151	PAHs-w/o	2.34E-07
97	ALL	650143.9	4203598	4.08E-06	1151	PAHs-w/o	2.34E-07
56	ALL	650223.9	4203558	4.07E-06	1151	PAHs-w/o	2.33E-07
855	ALL	650163.9	4204518	4.07E-06	1151	PAHs-w/o	2.33E-07
274	ALL	649923.9	4203818	4.06E-06	1151	PAHs-w/o	2.33E-07
77	ALL	650163.9	4203578	4.05E-06	1151	PAHs-w/o	2.32E-07
114	ALL	650123.9	4203618	4.05E-06	1151	PAHs-w/o	2.32E-07
55	ALL	650203.9	4203558	4.04E-06	1151	PAHs-w/o	2.32E-07
188	ALL	650083.9	4203678	4.04E-06	1151	PAHs-w/o	2.31E-07
255	ALL	649983.9	4203778	4.03E-06	1151	PAHs-w/o	2.31E-07
18	ALL	650403.9	4203518	4.03E-06	1151	PAHs-w/o	2.31E-07
264	ALL	649943.9	4203798	4.00E-06	1151	PAHs-w/o	2.29E-07
54	ALL	650183.9	4203558	4.00E-06	1151	PAHs-w/o	2.29E-07
203	ALL	650063.9	4203698	3.99E-06	1151	PAHs-w/o	2.29E-07
241	ALL	650003.9	4203758	3.99E-06	1151	PAHs-w/o	2.28E-07
216	ALL	650043.9	4203718	3.97E-06	1151	PAHs-w/o	2.28E-07
76	ALL	650143.9	4203578	3.95E-06	1151	PAHs-w/o	2.27E-07
17	ALL	650383.9	4203518	3.95E-06	1151	PAHs-w/o	2.26E-07
227	ALL	650023.9	4203738	3.95E-06	1151	PAHs-w/o	2.26E-07
96	ALL	650123.9	4203598	3.94E-06	1151	PAHs-w/o	2.26E-07
166	ALL	650083.9	4203658	3.94E-06	1151	PAHs-w/o	2.26E-07
53	ALL	650163.9	4203558	3.94E-06	1151	PAHs-w/o	2.26E-07
37	ALL	650323.9	4203538	3.93E-06	1151	PAHs-w/o	2.25E-07
35	ALL	650283.9	4203538	3.93E-06	1151	PAHs-w/o	2.25E-07
34	ALL	650263.9	4203538	3.93E-06	1151	PAHs-w/o	2.25E-07
33	ALL	650243.9	4203538	3.93E-06	1151	PAHs-w/o	2.25E-07
36	ALL	650303.9	4203538	3.92E-06	1151	PAHs-w/o	2.25E-07
32	ALL	650223.9	4203538	3.92E-06	1151	PAHs-w/o	2.25E-07
254	ALL	649963.9	4203778	3.91E-06	1151	PAHs-w/o	2.24E-07
263	ALL	649923.9	4203798	3.91E-06	1151	PAHs-w/o	2.24E-07
31	ALL	650203.9	4203538	3.91E-06	1151	PAHs-w/o	2.24E-07
748	ALL	650883.9	4204338	3.89E-06	1151	PAHs-w/o	2.23E-07
240	ALL	649983.9	4203758	3.87E-06	1151	PAHs-w/o	2.22E-07
187	ALL	650063.9	4203678	3.87E-06	1151	PAHs-w/o	2.22E-07
30	ALL	650183.9	4203538	3.87E-06	1151	PAHs-w/o	2.22E-07
749	ALL	650903.9	4204338	3.87E-06	1151	PAHs-w/o	2.21E-07
52	ALL	650143.9	4203558	3.84E-06	1151	PAHs-w/o	2.20E-07
750	ALL	650923.9	4204338	3.84E-06	1151	PAHs-w/o	2.20E-07
202	ALL	650043.9	4203698	3.84E-06	1151	PAHs-w/o	2.20E-07
138	ALL	650083.9	4203638	3.84E-06	1151	PAHs-w/o	2.20E-07
75	ALL	650123.9	4203578	3.84E-06	1151	PAHs-w/o	2.20E-07
253	ALL	649943.9	4203778	3.83E-06	1151	PAHs-w/o	2.20E-07
226	ALL	650003.9	4203738	3.83E-06	1151	PAHs-w/o	2.19E-07
215	ALL	650023.9	4203718	3.82E-06	1151	PAHs-w/o	2.19E-07
29	ALL	650163.9	4203538	3.81E-06	1151	PAHs-w/o	2.18E-07
16	ALL	650323.9	4203518	3.79E-06	1151	PAHs-w/o	2.17E-07
856	ALL	650183.9	4204518	3.79E-06	1151	PAHs-w/o	2.17E-07

12	ALL	650243.9	4203518	3.78E-06	1151	PAHs-w/o	2.17E-07
843	ALL	650203.9	4204498	3.78E-06	1151	PAHs-w/o	2.17E-07
11	ALL	650223.9	4203518	3.78E-06	1151	PAHs-w/o	2.17E-07
165	ALL	650063.9	4203658	3.78E-06	1151	PAHs-w/o	2.17E-07
15	ALL	650303.9	4203518	3.78E-06	1151	PAHs-w/o	2.16E-07
13	ALL	650263.9	4203518	3.78E-06	1151	PAHs-w/o	2.16E-07
14	ALL	650283.9	4203518	3.78E-06	1151	PAHs-w/o	2.16E-07
10	ALL	650203.9	4203518	3.77E-06	1151	PAHs-w/o	2.16E-07
239	ALL	649963.9	4203758	3.76E-06	1151	PAHs-w/o	2.16E-07
9	ALL	650183.9	4203518	3.74E-06	1151	PAHs-w/o	2.14E-07
252	ALL	649923.9	4203778	3.74E-06	1151	PAHs-w/o	2.14E-07
186	ALL	650043.9	4203678	3.73E-06	1151	PAHs-w/o	2.14E-07
28	ALL	650143.9	4203538	3.73E-06	1151	PAHs-w/o	2.14E-07
225	ALL	649983.9	4203738	3.72E-06	1151	PAHs-w/o	2.13E-07
8	ALL	650163.9	4203518	3.70E-06	1151	PAHs-w/o	2.12E-07
214	ALL	650003.9	4203718	3.70E-06	1151	PAHs-w/o	2.12E-07
201	ALL	650023.9	4203698	3.69E-06	1151	PAHs-w/o	2.11E-07
137	ALL	650063.9	4203638	3.69E-06	1151	PAHs-w/o	2.11E-07
95	ALL	650083.9	4203598	3.67E-06	1151	PAHs-w/o	2.10E-07
238	ALL	649943.9	4203758	3.66E-06	1151	PAHs-w/o	2.09E-07
164	ALL	650043.9	4203658	3.63E-06	1151	PAHs-w/o	2.08E-07
7	ALL	650143.9	4203518	3.62E-06	1151	PAHs-w/o	2.07E-07
51	ALL	650103.9	4203558	3.62E-06	1151	PAHs-w/o	2.07E-07
224	ALL	649963.9	4203738	3.62E-06	1151	PAHs-w/o	2.07E-07
185	ALL	650023.9	4203678	3.61E-06	1151	PAHs-w/o	2.07E-07
213	ALL	649983.9	4203718	3.60E-06	1151	PAHs-w/o	2.06E-07
764	ALL	650883.9	4204358	3.59E-06	1151	PAHs-w/o	2.06E-07
765	ALL	650903.9	4204358	3.58E-06	1151	PAHs-w/o	2.05E-07
237	ALL	649923.9	4203758	3.58E-06	1151	PAHs-w/o	2.05E-07
74	ALL	650083.9	4203578	3.58E-06	1151	PAHs-w/o	2.05E-07
200	ALL	650003.9	4203698	3.57E-06	1151	PAHs-w/o	2.05E-07
766	ALL	650923.9	4204358	3.56E-06	1151	PAHs-w/o	2.04E-07
136	ALL	650043.9	4203638	3.55E-06	1151	PAHs-w/o	2.03E-07
27	ALL	650103.9	4203538	3.53E-06	1151	PAHs-w/o	2.02E-07
94	ALL	650063.9	4203598	3.51E-06	1151	PAHs-w/o	2.01E-07
223	ALL	649943.9	4203738	3.51E-06	1151	PAHs-w/o	2.01E-07
163	ALL	650023.9	4203658	3.50E-06	1151	PAHs-w/o	2.01E-07
212	ALL	649963.9	4203718	3.49E-06	1151	PAHs-w/o	2.00E-07
50	ALL	650083.9	4203558	3.49E-06	1151	PAHs-w/o	2.00E-07
199	ALL	649983.9	4203698	3.47E-06	1151	PAHs-w/o	1.99E-07
857	ALL	650203.9	4204518	3.47E-06	1151	PAHs-w/o	1.99E-07
184	ALL	650003.9	4203678	3.47E-06	1151	PAHs-w/o	1.99E-07
6	ALL	650103.9	4203518	3.45E-06	1151	PAHs-w/o	1.97E-07
73	ALL	650063.9	4203578	3.44E-06	1151	PAHs-w/o	1.97E-07
222	ALL	649923.9	4203738	3.44E-06	1151	PAHs-w/o	1.97E-07
135	ALL	650023.9	4203638	3.42E-06	1151	PAHs-w/o	1.96E-07
26	ALL	650083.9	4203538	3.40E-06	1151	PAHs-w/o	1.95E-07

211	ALL	649943.9	4203718	3.39E-06	1151	PAHs-w/o	1.94E-07
198	ALL	649963.9	4203698	3.37E-06	1151	PAHs-w/o	1.93E-07
162	ALL	650003.9	4203658	3.37E-06	1151	PAHs-w/o	1.93E-07
49	ALL	650063.9	4203558	3.36E-06	1151	PAHs-w/o	1.92E-07
183	ALL	649983.9	4203678	3.36E-06	1151	PAHs-w/o	1.92E-07
5	ALL	650083.9	4203518	3.34E-06	1151	PAHs-w/o	1.91E-07
72	ALL	650043.9	4203578	3.31E-06	1151	PAHs-w/o	1.90E-07
777	ALL	650903.9	4204378	3.31E-06	1151	PAHs-w/o	1.89E-07
210	ALL	649923.9	4203718	3.30E-06	1151	PAHs-w/o	1.89E-07
778	ALL	650923.9	4204378	3.30E-06	1151	PAHs-w/o	1.89E-07
25	ALL	650063.9	4203538	3.29E-06	1151	PAHs-w/o	1.89E-07
134	ALL	650003.9	4203638	3.29E-06	1151	PAHs-w/o	1.88E-07
197	ALL	649943.9	4203698	3.28E-06	1151	PAHs-w/o	1.88E-07
182	ALL	649963.9	4203678	3.27E-06	1151	PAHs-w/o	1.87E-07
161	ALL	649983.9	4203658	3.26E-06	1151	PAHs-w/o	1.87E-07
4	ALL	650063.9	4203518	3.22E-06	1151	PAHs-w/o	1.84E-07
181	ALL	649943.9	4203678	3.19E-06	1151	PAHs-w/o	1.83E-07
196	ALL	649923.9	4203698	3.18E-06	1151	PAHs-w/o	1.82E-07
71	ALL	650023.9	4203578	3.18E-06	1151	PAHs-w/o	1.82E-07
133	ALL	649983.9	4203638	3.17E-06	1151	PAHs-w/o	1.82E-07
24	ALL	650043.9	4203538	3.17E-06	1151	PAHs-w/o	1.81E-07
160	ALL	649963.9	4203658	3.16E-06	1151	PAHs-w/o	1.81E-07
3	ALL	650043.9	4203518	3.11E-06	1151	PAHs-w/o	1.78E-07
180	ALL	649923.9	4203678	3.10E-06	1151	PAHs-w/o	1.78E-07
159	ALL	649943.9	4203658	3.09E-06	1151	PAHs-w/o	1.77E-07
132	ALL	649963.9	4203638	3.07E-06	1151	PAHs-w/o	1.76E-07
70	ALL	650003.9	4203578	3.06E-06	1151	PAHs-w/o	1.76E-07
158	ALL	649923.9	4203658	3.01E-06	1151	PAHs-w/o	1.72E-07
2	ALL	649918.4	4203526	2.53E-06	1151	PAHs-w/o	1.45E-07
1	ALL	649898.4	4203526	2.44E-06	1151	PAHs-w/o	1.40E-07
458	ALL	650683.9	4204038	0.000415	71432	Benzene	2.81E-08
439	ALL	650703.9	4204018	0.000395	71432	Benzene	2.67E-08
477	ALL	650683.9	4204058	0.000393	71432	Benzene	2.66E-08
459	ALL	650703.9	4204038	0.00039	71432	Benzene	2.64E-08
420	ALL	650703.9	4203998	0.000385	71432	Benzene	2.61E-08
651	ALL	650145.5	4204223	0.000381	71432	Benzene	2.58E-08
440	ALL	650723.9	4204018	0.000372	71432	Benzene	2.52E-08
421	ALL	650723.9	4203998	0.000367	71432	Benzene	2.48E-08
478	ALL	650703.9	4204058	0.000366	71432	Benzene	2.48E-08
402	ALL	650703.9	4203978	0.000366	71432	Benzene	2.47E-08
460	ALL	650723.9	4204038	0.000364	71432	Benzene	2.46E-08
496	ALL	650683.9	4204078	0.000358	71432	Benzene	2.43E-08
441	ALL	650743.9	4204018	0.000353	71432	Benzene	2.39E-08
403	ALL	650723.9	4203978	0.000352	71432	Benzene	2.38E-08
422	ALL	650743.9	4203998	0.000348	71432	Benzene	2.36E-08
479	ALL	650723.9	4204058	0.000344	71432	Benzene	2.33E-08
461	ALL	650743.9	4204038	0.000342	71432	Benzene	2.32E-08

517	ALL	650663.9	4204098	0.000339	71432	Benzene	2.29E-08
404	ALL	650743.9	4203978	0.000337	71432	Benzene	2.28E-08
497	ALL	650703.9	4204078	0.000335	71432	Benzene	2.27E-08
442	ALL	650763.9	4204018	0.000333	71432	Benzene	2.25E-08
423	ALL	650763.9	4203998	0.000332	71432	Benzene	2.25E-08
384	ALL	650723.9	4203958	0.000332	71432	Benzene	2.25E-08
628	ALL	650143.9	4204198	0.000325	71432	Benzene	2.20E-08
462	ALL	650763.9	4204038	0.000324	71432	Benzene	2.20E-08
480	ALL	650743.9	4204058	0.000324	71432	Benzene	2.19E-08
405	ALL	650763.9	4203978	0.000322	71432	Benzene	2.18E-08
385	ALL	650743.9	4203958	0.000322	71432	Benzene	2.18E-08
424	ALL	650783.9	4203998	0.000318	71432	Benzene	2.15E-08
858	ALL	650158	4204184	0.000317	71432	Benzene	2.15E-08
518	ALL	650683.9	4204098	0.000316	71432	Benzene	2.14E-08
443	ALL	650783.9	4204018	0.000316	71432	Benzene	2.14E-08
366	ALL	650723.9	4203938	0.000314	71432	Benzene	2.12E-08
498	ALL	650723.9	4204078	0.000312	71432	Benzene	2.11E-08
386	ALL	650763.9	4203958	0.000311	71432	Benzene	2.10E-08
406	ALL	650783.9	4203978	0.00031	71432	Benzene	2.10E-08
463	ALL	650783.9	4204038	0.000308	71432	Benzene	2.08E-08
650	ALL	650123.9	4204218	0.000305	71432	Benzene	2.07E-08
481	ALL	650763.9	4204058	0.000304	71432	Benzene	2.06E-08
367	ALL	650743.9	4203938	0.000304	71432	Benzene	2.06E-08
425	ALL	650803.9	4203998	0.000303	71432	Benzene	2.05E-08
444	ALL	650803.9	4204018	0.000301	71432	Benzene	2.04E-08
387	ALL	650783.9	4203958	0.000298	71432	Benzene	2.02E-08
346	ALL	650723.9	4203918	0.000298	71432	Benzene	2.02E-08
407	ALL	650803.9	4203978	0.000298	71432	Benzene	2.01E-08
368	ALL	650763.9	4203938	0.000296	71432	Benzene	2.00E-08
519	ALL	650703.9	4204098	0.000295	71432	Benzene	2.00E-08
540	ALL	650663.9	4204118	0.000292	71432	Benzene	1.98E-08
499	ALL	650743.9	4204078	0.000292	71432	Benzene	1.98E-08
464	ALL	650803.9	4204038	0.000291	71432	Benzene	1.97E-08
347	ALL	650743.9	4203918	0.00029	71432	Benzene	1.96E-08
627	ALL	650123.9	4204198	0.000289	71432	Benzene	1.96E-08
426	ALL	650823.9	4203998	0.000289	71432	Benzene	1.96E-08
445	ALL	650823.9	4204018	0.000288	71432	Benzene	1.95E-08
388	ALL	650803.9	4203958	0.000288	71432	Benzene	1.95E-08
369	ALL	650783.9	4203938	0.000287	71432	Benzene	1.94E-08
408	ALL	650823.9	4203978	0.000286	71432	Benzene	1.94E-08
482	ALL	650783.9	4204058	0.000286	71432	Benzene	1.94E-08
670	ALL	650123.9	4204238	0.000286	71432	Benzene	1.94E-08
583	ALL	650177.4	4204158	0.000286	71432	Benzene	1.93E-08
605	ALL	650143.9	4204178	0.000284	71432	Benzene	1.92E-08
348	ALL	650763.9	4203918	0.00028	71432	Benzene	1.90E-08
389	ALL	650823.9	4203958	0.000278	71432	Benzene	1.88E-08
427	ALL	650843.9	4203998	0.000278	71432	Benzene	1.88E-08

370	ALL	650803.9	4203938	0.000277	71432	Benzene	1.87E-08
330	ALL	650743.9	4203898	0.000276	71432	Benzene	1.87E-08
520	ALL	650723.9	4204098	0.000276	71432	Benzene	1.87E-08
409	ALL	650843.9	4203978	0.000275	71432	Benzene	1.86E-08
465	ALL	650823.9	4204038	0.000275	71432	Benzene	1.86E-08
446	ALL	650843.9	4204018	0.000275	71432	Benzene	1.86E-08
500	ALL	650763.9	4204078	0.000275	71432	Benzene	1.86E-08
349	ALL	650783.9	4203918	0.000274	71432	Benzene	1.85E-08
541	ALL	650683.9	4204118	0.000273	71432	Benzene	1.85E-08
483	ALL	650803.9	4204058	0.00027	71432	Benzene	1.83E-08
539	ALL	650181.7	4204111	0.00027	71432	Benzene	1.82E-08
390	ALL	650843.9	4203958	0.000268	71432	Benzene	1.82E-08
371	ALL	650823.9	4203938	0.000268	71432	Benzene	1.81E-08
350	ALL	650803.9	4203918	0.000267	71432	Benzene	1.81E-08
562	ALL	650643.9	4204138	0.000267	71432	Benzene	1.80E-08
331	ALL	650763.9	4203898	0.000267	71432	Benzene	1.80E-08
314	ALL	650743.9	4203878	0.000266	71432	Benzene	1.80E-08
604	ALL	650123.9	4204178	0.000262	71432	Benzene	1.77E-08
332	ALL	650783.9	4203898	0.00026	71432	Benzene	1.76E-08
372	ALL	650843.9	4203938	0.00026	71432	Benzene	1.76E-08
521	ALL	650743.9	4204098	0.000259	71432	Benzene	1.75E-08
351	ALL	650823.9	4203918	0.000259	71432	Benzene	1.75E-08
501	ALL	650783.9	4204078	0.000259	71432	Benzene	1.75E-08
542	ALL	650703.9	4204118	0.000257	71432	Benzene	1.74E-08
315	ALL	650763.9	4203878	0.000257	71432	Benzene	1.74E-08
484	ALL	650823.9	4204058	0.000255	71432	Benzene	1.73E-08
333	ALL	650803.9	4203898	0.000254	71432	Benzene	1.72E-08
582	ALL	650143.9	4204158	0.000252	71432	Benzene	1.71E-08
563	ALL	650663.9	4204138	0.000252	71432	Benzene	1.71E-08
352	ALL	650843.9	4203918	0.000251	71432	Benzene	1.70E-08
316	ALL	650783.9	4203878	0.00025	71432	Benzene	1.69E-08
334	ALL	650823.9	4203898	0.000249	71432	Benzene	1.69E-08
522	ALL	650763.9	4204098	0.000245	71432	Benzene	1.65E-08
538	ALL	650163.9	4204118	0.000244	71432	Benzene	1.65E-08
502	ALL	650803.9	4204078	0.000244	71432	Benzene	1.65E-08
704	ALL	650129.5	4204276	0.000243	71432	Benzene	1.64E-08
561	ALL	650163.9	4204138	0.000243	71432	Benzene	1.64E-08
543	ALL	650723.9	4204118	0.000243	71432	Benzene	1.64E-08
335	ALL	650843.9	4203898	0.000242	71432	Benzene	1.64E-08
353	ALL	650863.9	4203918	0.000242	71432	Benzene	1.64E-08
317	ALL	650803.9	4203878	0.000242	71432	Benzene	1.64E-08
516	ALL	650163.9	4204098	0.00024	71432	Benzene	1.62E-08
689	ALL	650117.4	4204261	0.00024	71432	Benzene	1.62E-08
564	ALL	650683.9	4204138	0.000239	71432	Benzene	1.62E-08
560	ALL	650143.9	4204138	0.000239	71432	Benzene	1.62E-08
581	ALL	650123.9	4204158	0.000239	71432	Benzene	1.61E-08
336	ALL	650863.9	4203898	0.000235	71432	Benzene	1.59E-08

318	ALL	650823.9	4203878	0.000235	71432	Benzene	1.59E-08
523	ALL	650783.9	4204098	0.000233	71432	Benzene	1.57E-08
503	ALL	650823.9	4204078	0.000232	71432	Benzene	1.57E-08
319	ALL	650843.9	4203878	0.000231	71432	Benzene	1.57E-08
584	ALL	650643.9	4204158	0.00023	71432	Benzene	1.56E-08
544	ALL	650743.9	4204118	0.00023	71432	Benzene	1.55E-08
320	ALL	650863.9	4203878	0.000228	71432	Benzene	1.54E-08
565	ALL	650703.9	4204138	0.000227	71432	Benzene	1.54E-08
669	ALL	650103.9	4204238	0.000225	71432	Benzene	1.53E-08
649	ALL	650103.9	4204218	0.000224	71432	Benzene	1.52E-08
688	ALL	650103.9	4204258	0.000224	71432	Benzene	1.52E-08
537	ALL	650143.9	4204118	0.000223	71432	Benzene	1.51E-08
585	ALL	650663.9	4204158	0.000221	71432	Benzene	1.50E-08
626	ALL	650103.9	4204198	0.000221	71432	Benzene	1.50E-08
524	ALL	650803.9	4204098	0.00022	71432	Benzene	1.49E-08
545	ALL	650763.9	4204118	0.000219	71432	Benzene	1.48E-08
566	ALL	650723.9	4204138	0.000217	71432	Benzene	1.47E-08
401	ALL	650130.1	4203978	0.000217	71432	Benzene	1.47E-08
559	ALL	650123.9	4204138	0.000216	71432	Benzene	1.46E-08
438	ALL	650123.9	4204018	0.000215	71432	Benzene	1.46E-08
703	ALL	650103.9	4204278	0.000215	71432	Benzene	1.45E-08
732	ALL	650128.6	4204307	0.000215	71432	Benzene	1.45E-08
177	ALL	650643.9	4203658	0.000215	71432	Benzene	1.45E-08
515	ALL	650143.9	4204098	0.000213	71432	Benzene	1.44E-08
586	ALL	650683.9	4204158	0.000213	71432	Benzene	1.44E-08
603	ALL	650103.9	4204178	0.000212	71432	Benzene	1.44E-08
178	ALL	650663.9	4203658	0.000212	71432	Benzene	1.43E-08
365	ALL	650143.9	4203938	0.000211	71432	Benzene	1.43E-08
525	ALL	650823.9	4204098	0.000209	71432	Benzene	1.41E-08
457	ALL	650123.9	4204038	0.000209	71432	Benzene	1.41E-08
546	ALL	650783.9	4204118	0.000208	71432	Benzene	1.41E-08
179	ALL	650683.9	4203658	0.000208	71432	Benzene	1.41E-08
567	ALL	650743.9	4204138	0.000208	71432	Benzene	1.41E-08
155	ALL	650643.9	4203638	0.000207	71432	Benzene	1.40E-08
154	ALL	650623.9	4203638	0.000205	71432	Benzene	1.39E-08
587	ALL	650703.9	4204158	0.000205	71432	Benzene	1.39E-08
156	ALL	650663.9	4203638	0.000205	71432	Benzene	1.38E-08
668	ALL	650083.9	4204238	0.000203	71432	Benzene	1.38E-08
606	ALL	650643.9	4204178	0.000203	71432	Benzene	1.37E-08
718	ALL	650103.9	4204298	0.000202	71432	Benzene	1.37E-08
687	ALL	650083.9	4204258	0.000202	71432	Benzene	1.37E-08
157	ALL	650683.9	4203638	0.000201	71432	Benzene	1.36E-08
476	ALL	650123.9	4204058	0.000201	71432	Benzene	1.36E-08
153	ALL	650603.9	4203638	0.0002	71432	Benzene	1.35E-08
547	ALL	650803.9	4204118	0.000199	71432	Benzene	1.35E-08
568	ALL	650763.9	4204138	0.000199	71432	Benzene	1.35E-08
383	ALL	650123.9	4203958	0.000199	71432	Benzene	1.35E-08

580	ALL	650103.9	4204158	0.000198	71432	Benzene	1.34E-08
648	ALL	650083.9	4204218	0.000198	71432	Benzene	1.34E-08
131	ALL	650643.9	4203618	0.000198	71432	Benzene	1.34E-08
536	ALL	650123.9	4204118	0.000198	71432	Benzene	1.34E-08
588	ALL	650723.9	4204158	0.000197	71432	Benzene	1.33E-08
607	ALL	650663.9	4204178	0.000197	71432	Benzene	1.33E-08
495	ALL	650123.9	4204078	0.000196	71432	Benzene	1.33E-08
702	ALL	650083.9	4204278	0.000195	71432	Benzene	1.32E-08
130	ALL	650623.9	4203618	0.000194	71432	Benzene	1.31E-08
364	ALL	650123.9	4203938	0.000194	71432	Benzene	1.31E-08
514	ALL	650123.9	4204098	0.000193	71432	Benzene	1.31E-08
437	ALL	650103.9	4204018	0.000192	71432	Benzene	1.30E-08
456	ALL	650103.9	4204038	0.000191	71432	Benzene	1.30E-08
625	ALL	650083.9	4204198	0.000191	71432	Benzene	1.29E-08
569	ALL	650783.9	4204138	0.000191	71432	Benzene	1.29E-08
548	ALL	650823.9	4204118	0.000191	71432	Benzene	1.29E-08
746	ALL	650123.9	4204338	0.000191	71432	Benzene	1.29E-08
608	ALL	650683.9	4204178	0.000191	71432	Benzene	1.29E-08
419	ALL	650103.9	4203998	0.00019	71432	Benzene	1.29E-08
731	ALL	650103.9	4204318	0.00019	71432	Benzene	1.28E-08
589	ALL	650743.9	4204158	0.00019	71432	Benzene	1.28E-08
152	ALL	650583.9	4203638	0.000189	71432	Benzene	1.28E-08
717	ALL	650083.9	4204298	0.000188	71432	Benzene	1.27E-08
475	ALL	650103.9	4204058	0.000187	71432	Benzene	1.26E-08
400	ALL	650103.9	4203978	0.000187	71432	Benzene	1.26E-08
558	ALL	650103.9	4204138	0.000186	71432	Benzene	1.26E-08
129	ALL	650603.9	4203618	0.000186	71432	Benzene	1.26E-08
458	ALL	650683.9	4204038	0.000883	50000	Formaldehyde	1.25E-08
609	ALL	650703.9	4204178	0.000185	71432	Benzene	1.25E-08
686	ALL	650063.9	4204258	0.000184	71432	Benzene	1.25E-08
570	ALL	650803.9	4204138	0.000184	71432	Benzene	1.24E-08
602	ALL	650083.9	4204178	0.000183	71432	Benzene	1.24E-08
590	ALL	650763.9	4204158	0.000183	71432	Benzene	1.24E-08
762	ALL	650171.3	4204360	0.000182	71432	Benzene	1.23E-08
667	ALL	650063.9	4204238	0.000182	71432	Benzene	1.23E-08
382	ALL	650103.9	4203958	0.000181	71432	Benzene	1.23E-08
494	ALL	650103.9	4204078	0.000181	71432	Benzene	1.23E-08
745	ALL	650103.9	4204338	0.000181	71432	Benzene	1.22E-08
647	ALL	650063.9	4204218	0.00018	71432	Benzene	1.22E-08
610	ALL	650723.9	4204178	0.000179	71432	Benzene	1.21E-08
701	ALL	650063.9	4204278	0.000179	71432	Benzene	1.21E-08
436	ALL	650083.9	4204018	0.000178	71432	Benzene	1.21E-08
763	ALL	650181.5	4204363	0.000178	71432	Benzene	1.21E-08
513	ALL	650103.9	4204098	0.000178	71432	Benzene	1.21E-08
761	ALL	650123.9	4204358	0.000178	71432	Benzene	1.21E-08
629	ALL	650643.9	4204198	0.000178	71432	Benzene	1.21E-08
535	ALL	650103.9	4204118	0.000178	71432	Benzene	1.20E-08

455	ALL	650083.9	4204038	0.000177	71432	Benzene	1.20E-08
418	ALL	650083.9	4203998	0.000177	71432	Benzene	1.19E-08
591	ALL	650783.9	4204158	0.000177	71432	Benzene	1.19E-08
439	ALL	650703.9	4204018	0.00084	50000	Formaldehyde	1.19E-08
730	ALL	650083.9	4204318	0.000176	71432	Benzene	1.19E-08
477	ALL	650683.9	4204058	0.000835	50000	Formaldehyde	1.19E-08
579	ALL	650083.9	4204158	0.000175	71432	Benzene	1.19E-08
128	ALL	650583.9	4203618	0.000175	71432	Benzene	1.18E-08
474	ALL	650083.9	4204058	0.000174	71432	Benzene	1.18E-08
630	ALL	650663.9	4204198	0.000174	71432	Benzene	1.18E-08
151	ALL	650563.9	4203638	0.000174	71432	Benzene	1.18E-08
459	ALL	650703.9	4204038	0.000828	50000	Formaldehyde	1.18E-08
611	ALL	650743.9	4204178	0.000173	71432	Benzene	1.17E-08
624	ALL	650063.9	4204198	0.000173	71432	Benzene	1.17E-08
716	ALL	650063.9	4204298	0.000172	71432	Benzene	1.17E-08
420	ALL	650703.9	4203998	0.000819	50000	Formaldehyde	1.16E-08
399	ALL	650083.9	4203978	0.000172	71432	Benzene	1.16E-08
859	ALL	650190.8	4204367	0.000172	71432	Benzene	1.16E-08
592	ALL	650803.9	4204158	0.00017	71432	Benzene	1.15E-08
631	ALL	650683.9	4204198	0.00017	71432	Benzene	1.15E-08
760	ALL	650103.9	4204358	0.00017	71432	Benzene	1.15E-08
651	ALL	650145.5	4204223	0.000809	50000	Formaldehyde	1.15E-08
493	ALL	650083.9	4204078	0.00017	71432	Benzene	1.15E-08
557	ALL	650083.9	4204138	0.000169	71432	Benzene	1.15E-08
744	ALL	650083.9	4204338	0.000169	71432	Benzene	1.14E-08
48	ALL	650683.9	4203538	0.000168	71432	Benzene	1.14E-08
363	ALL	650103.9	4203938	0.000168	71432	Benzene	1.14E-08
601	ALL	650063.9	4204178	0.000168	71432	Benzene	1.14E-08
685	ALL	650043.9	4204258	0.000168	71432	Benzene	1.14E-08
612	ALL	650763.9	4204178	0.000168	71432	Benzene	1.14E-08
435	ALL	650063.9	4204018	0.000168	71432	Benzene	1.13E-08
666	ALL	650043.9	4204238	0.000167	71432	Benzene	1.13E-08
700	ALL	650043.9	4204278	0.000166	71432	Benzene	1.13E-08
632	ALL	650703.9	4204198	0.000166	71432	Benzene	1.12E-08
440	ALL	650723.9	4204018	0.000791	50000	Formaldehyde	1.12E-08
454	ALL	650063.9	4204038	0.000166	71432	Benzene	1.12E-08
534	ALL	650083.9	4204118	0.000165	71432	Benzene	1.12E-08
512	ALL	650083.9	4204098	0.000165	71432	Benzene	1.12E-08
47	ALL	650663.9	4203538	0.000165	71432	Benzene	1.12E-08
729	ALL	650063.9	4204318	0.000165	71432	Benzene	1.12E-08
417	ALL	650063.9	4203998	0.000165	71432	Benzene	1.11E-08
646	ALL	650043.9	4204218	0.000165	71432	Benzene	1.11E-08
860	ALL	650200.7	4204370	0.000164	71432	Benzene	1.11E-08
421	ALL	650723.9	4203998	0.000779	50000	Formaldehyde	1.11E-08
478	ALL	650703.9	4204058	0.000779	50000	Formaldehyde	1.11E-08
473	ALL	650063.9	4204058	0.000163	71432	Benzene	1.11E-08
402	ALL	650703.9	4203978	0.000777	50000	Formaldehyde	1.10E-08

381	ALL	650083.9	4203958	0.000163	71432	Benzene	1.10E-08
613	ALL	650783.9	4204178	0.000163	71432	Benzene	1.10E-08
460	ALL	650723.9	4204038	0.000773	50000	Formaldehyde	1.10E-08
633	ALL	650723.9	4204198	0.000162	71432	Benzene	1.10E-08
398	ALL	650063.9	4203978	0.000161	71432	Benzene	1.09E-08
759	ALL	650083.9	4204358	0.000161	71432	Benzene	1.09E-08
23	ALL	650683.9	4203518	0.000161	71432	Benzene	1.09E-08
113	ALL	650583.9	4203598	0.000161	71432	Benzene	1.09E-08
776	ALL	650103.9	4204378	0.000161	71432	Benzene	1.09E-08
715	ALL	650043.9	4204298	0.000161	71432	Benzene	1.09E-08
578	ALL	650063.9	4204158	0.00016	71432	Benzene	1.09E-08
286	ALL	650163.9	4203818	0.00016	71432	Benzene	1.08E-08
127	ALL	650563.9	4203618	0.00016	71432	Benzene	1.08E-08
496	ALL	650683.9	4204078	0.000762	50000	Formaldehyde	1.08E-08
492	ALL	650063.9	4204078	0.00016	71432	Benzene	1.08E-08
652	ALL	650623.9	4204218	0.00016	71432	Benzene	1.08E-08
623	ALL	650043.9	4204198	0.000159	71432	Benzene	1.08E-08
743	ALL	650063.9	4204338	0.000158	71432	Benzene	1.07E-08
614	ALL	650803.9	4204178	0.000158	71432	Benzene	1.07E-08
634	ALL	650743.9	4204198	0.000158	71432	Benzene	1.07E-08
441	ALL	650743.9	4204018	0.000749	50000	Formaldehyde	1.06E-08
653	ALL	650643.9	4204218	0.000157	71432	Benzene	1.06E-08
403	ALL	650723.9	4203978	0.000747	50000	Formaldehyde	1.06E-08
556	ALL	650063.9	4204138	0.000157	71432	Benzene	1.06E-08
434	ALL	650043.9	4204018	0.000157	71432	Benzene	1.06E-08
453	ALL	650043.9	4204038	0.000156	71432	Benzene	1.06E-08
416	ALL	650043.9	4203998	0.000156	71432	Benzene	1.06E-08
22	ALL	650663.9	4203518	0.000156	71432	Benzene	1.06E-08
665	ALL	650023.9	4204238	0.000156	71432	Benzene	1.05E-08
362	ALL	650083.9	4203938	0.000156	71432	Benzene	1.05E-08
511	ALL	650063.9	4204098	0.000156	71432	Benzene	1.05E-08
422	ALL	650743.9	4203998	0.00074	50000	Formaldehyde	1.05E-08
684	ALL	650023.9	4204258	0.000155	71432	Benzene	1.05E-08
533	ALL	650063.9	4204118	0.000155	71432	Benzene	1.05E-08
600	ALL	650043.9	4204178	0.000155	71432	Benzene	1.05E-08
380	ALL	650063.9	4203958	0.000154	71432	Benzene	1.05E-08
728	ALL	650043.9	4204318	0.000154	71432	Benzene	1.04E-08
775	ALL	650083.9	4204378	0.000154	71432	Benzene	1.04E-08
472	ALL	650043.9	4204058	0.000154	71432	Benzene	1.04E-08
635	ALL	650763.9	4204198	0.000154	71432	Benzene	1.04E-08
699	ALL	650023.9	4204278	0.000154	71432	Benzene	1.04E-08
479	ALL	650723.9	4204058	0.000732	50000	Formaldehyde	1.04E-08
758	ALL	650063.9	4204358	0.000153	71432	Benzene	1.04E-08
461	ALL	650743.9	4204038	0.000728	50000	Formaldehyde	1.03E-08
645	ALL	650023.9	4204218	0.000152	71432	Benzene	1.03E-08
397	ALL	650043.9	4203978	0.000152	71432	Benzene	1.03E-08
517	ALL	650663.9	4204098	0.000721	50000	Formaldehyde	1.02E-08

714	ALL	650023.9	4204298	0.000151	71432	Benzene	1.02E-08
404	ALL	650743.9	4203978	0.000717	50000	Formaldehyde	1.02E-08
491	ALL	650043.9	4204078	0.00015	71432	Benzene	1.02E-08
577	ALL	650043.9	4204158	0.00015	71432	Benzene	1.02E-08
636	ALL	650783.9	4204198	0.00015	71432	Benzene	1.01E-08
622	ALL	650023.9	4204198	0.00015	71432	Benzene	1.01E-08
497	ALL	650703.9	4204078	0.000713	50000	Formaldehyde	1.01E-08
654	ALL	650703.9	4204218	0.000149	71432	Benzene	1.01E-08
788	ALL	650103.9	4204398	0.000149	71432	Benzene	1.01E-08
93	ALL	650583.9	4203578	0.000149	71432	Benzene	1.01E-08
442	ALL	650763.9	4204018	0.000707	50000	Formaldehyde	1.00E-08
742	ALL	650043.9	4204338	0.000148	71432	Benzene	1.00E-08
423	ALL	650763.9	4203998	0.000706	50000	Formaldehyde	1.00E-08
384	ALL	650723.9	4203958	0.000705	50000	Formaldehyde	1.00E-08
452	ALL	650023.9	4204038	0.000148	71432	Benzene	1.00E-08
415	ALL	650023.9	4203998	0.000148	71432	Benzene	9.99E-09
433	ALL	650023.9	4204018	0.000148	71432	Benzene	9.98E-09
112	ALL	650563.9	4203598	0.000147	71432	Benzene	9.95E-09
379	ALL	650043.9	4203958	0.000147	71432	Benzene	9.95E-09
510	ALL	650043.9	4204098	0.000147	71432	Benzene	9.93E-09
361	ALL	650063.9	4203938	0.000147	71432	Benzene	9.93E-09
787	ALL	650083.9	4204398	0.000147	71432	Benzene	9.93E-09
655	ALL	650723.9	4204218	0.000147	71432	Benzene	9.92E-09
774	ALL	650063.9	4204378	0.000146	71432	Benzene	9.91E-09
555	ALL	650043.9	4204138	0.000146	71432	Benzene	9.91E-09
345	ALL	650083.9	4203918	0.000146	71432	Benzene	9.90E-09
727	ALL	650023.9	4204318	0.000146	71432	Benzene	9.89E-09
532	ALL	650043.9	4204118	0.000146	71432	Benzene	9.88E-09
126	ALL	650543.9	4203618	0.000146	71432	Benzene	9.88E-09
637	ALL	650803.9	4204198	0.000146	71432	Benzene	9.88E-09
683	ALL	650003.9	4204258	0.000146	71432	Benzene	9.86E-09
628	ALL	650143.9	4204198	0.000691	50000	Formaldehyde	9.82E-09
471	ALL	650023.9	4204058	0.000145	71432	Benzene	9.80E-09
462	ALL	650763.9	4204038	0.000689	50000	Formaldehyde	9.80E-09
599	ALL	650023.9	4204178	0.000145	71432	Benzene	9.79E-09
480	ALL	650743.9	4204058	0.000689	50000	Formaldehyde	9.79E-09
757	ALL	650043.9	4204358	0.000144	71432	Benzene	9.78E-09
664	ALL	650003.9	4204238	0.000144	71432	Benzene	9.77E-09
698	ALL	650003.9	4204278	0.000144	71432	Benzene	9.77E-09
396	ALL	650023.9	4203978	0.000144	71432	Benzene	9.74E-09
405	ALL	650763.9	4203978	0.000685	50000	Formaldehyde	9.74E-09
385	ALL	650743.9	4203958	0.000685	50000	Formaldehyde	9.73E-09
656	ALL	650743.9	4204218	0.000144	71432	Benzene	9.71E-09
644	ALL	650003.9	4204218	0.000143	71432	Benzene	9.66E-09
490	ALL	650023.9	4204078	0.000142	71432	Benzene	9.63E-09
424	ALL	650783.9	4203998	0.000675	50000	Formaldehyde	9.60E-09
786	ALL	650063.9	4204398	0.000142	71432	Benzene	9.59E-09

858	ALL	650158	4204184	0.000675	50000	Formaldehyde	9.59E-09
576	ALL	650023.9	4204158	0.000141	71432	Benzene	9.56E-09
671	ALL	650623.9	4204238	0.000141	71432	Benzene	9.55E-09
713	ALL	650003.9	4204298	0.000141	71432	Benzene	9.54E-09
518	ALL	650683.9	4204098	0.000671	50000	Formaldehyde	9.54E-09
443	ALL	650783.9	4204018	0.000671	50000	Formaldehyde	9.53E-09
657	ALL	650763.9	4204218	0.000141	71432	Benzene	9.52E-09
451	ALL	650003.9	4204038	0.00014	71432	Benzene	9.48E-09
432	ALL	650003.9	4204018	0.00014	71432	Benzene	9.48E-09
593	ALL	650923.9	4204158	0.00014	71432	Benzene	9.47E-09
366	ALL	650723.9	4203938	0.000666	50000	Formaldehyde	9.47E-09
378	ALL	650023.9	4203958	0.00014	71432	Benzene	9.46E-09
672	ALL	650643.9	4204238	0.00014	71432	Benzene	9.46E-09
741	ALL	650023.9	4204338	0.00014	71432	Benzene	9.45E-09
414	ALL	650003.9	4203998	0.00014	71432	Benzene	9.45E-09
621	ALL	650003.9	4204198	0.00014	71432	Benzene	9.44E-09
360	ALL	650043.9	4203938	0.00014	71432	Benzene	9.44E-09
773	ALL	650043.9	4204378	0.000139	71432	Benzene	9.43E-09
498	ALL	650723.9	4204078	0.000663	50000	Formaldehyde	9.42E-09
386	ALL	650763.9	4203958	0.000661	50000	Formaldehyde	9.39E-09
509	ALL	650023.9	4204098	0.000139	71432	Benzene	9.39E-09
344	ALL	650063.9	4203918	0.000139	71432	Benzene	9.38E-09
796	ALL	650103.9	4204418	0.000139	71432	Benzene	9.38E-09
726	ALL	650003.9	4204318	0.000138	71432	Benzene	9.37E-09
554	ALL	650023.9	4204138	0.000138	71432	Benzene	9.36E-09
406	ALL	650783.9	4203978	0.000658	50000	Formaldehyde	9.36E-09
531	ALL	650023.9	4204118	0.000138	71432	Benzene	9.32E-09
69	ALL	650583.9	4203558	0.000138	71432	Benzene	9.32E-09
682	ALL	649983.9	4204258	0.000137	71432	Benzene	9.30E-09
463	ALL	650783.9	4204038	0.000654	50000	Formaldehyde	9.29E-09
395	ALL	650003.9	4203978	0.000137	71432	Benzene	9.28E-09
209	ALL	650443.9	4203698	0.000137	71432	Benzene	9.28E-09
470	ALL	650003.9	4204058	0.000137	71432	Benzene	9.28E-09
329	ALL	650083.9	4203898	0.000137	71432	Benzene	9.24E-09
697	ALL	649983.9	4204278	0.000136	71432	Benzene	9.23E-09
650	ALL	650123.9	4204218	0.000649	50000	Formaldehyde	9.22E-09
756	ALL	650023.9	4204358	0.000136	71432	Benzene	9.21E-09
615	ALL	650903.9	4204178	0.000136	71432	Benzene	9.20E-09
663	ALL	649983.9	4204238	0.000136	71432	Benzene	9.19E-09
285	ALL	650143.9	4203818	0.000136	71432	Benzene	9.19E-09
598	ALL	650003.9	4204178	0.000136	71432	Benzene	9.19E-09
481	ALL	650763.9	4204058	0.000646	50000	Formaldehyde	9.19E-09
92	ALL	650563.9	4203578	0.000136	71432	Benzene	9.18E-09
367	ALL	650743.9	4203938	0.000646	50000	Formaldehyde	9.18E-09
643	ALL	649983.9	4204218	0.000135	71432	Benzene	9.16E-09
425	ALL	650803.9	4203998	0.000644	50000	Formaldehyde	9.16E-09
489	ALL	650003.9	4204078	0.000135	71432	Benzene	9.14E-09

251	ALL	650203.9	4203758	0.000135	71432	Benzene	9.12E-09
111	ALL	650543.9	4203598	0.000135	71432	Benzene	9.12E-09
785	ALL	650043.9	4204398	0.000135	71432	Benzene	9.12E-09
673	ALL	650703.9	4204238	0.000135	71432	Benzene	9.11E-09
444	ALL	650803.9	4204018	0.000641	50000	Formaldehyde	9.10E-09
125	ALL	650523.9	4203618	0.000134	71432	Benzene	9.08E-09
740	ALL	650003.9	4204338	0.000134	71432	Benzene	9.04E-09
359	ALL	650023.9	4203938	0.000134	71432	Benzene	9.04E-09
431	ALL	649983.9	4204018	0.000133	71432	Benzene	9.02E-09
575	ALL	650003.9	4204158	0.000133	71432	Benzene	9.02E-09
387	ALL	650783.9	4203958	0.000634	50000	Formaldehyde	9.00E-09
346	ALL	650723.9	4203918	0.000633	50000	Formaldehyde	8.99E-09
407	ALL	650803.9	4203978	0.000633	50000	Formaldehyde	8.99E-09
772	ALL	650023.9	4204378	0.000133	71432	Benzene	8.99E-09
450	ALL	649983.9	4204038	0.000133	71432	Benzene	8.98E-09
674	ALL	650723.9	4204238	0.000133	71432	Benzene	8.97E-09
712	ALL	649983.9	4204298	0.000132	71432	Benzene	8.96E-09
343	ALL	650043.9	4203918	0.000132	71432	Benzene	8.96E-09
377	ALL	650003.9	4203958	0.000132	71432	Benzene	8.96E-09
616	ALL	650923.9	4204178	0.000132	71432	Benzene	8.96E-09
368	ALL	650763.9	4203938	0.000629	50000	Formaldehyde	8.94E-09
413	ALL	649983.9	4203998	0.000132	71432	Benzene	8.94E-09
519	ALL	650703.9	4204098	0.000628	50000	Formaldehyde	8.92E-09
620	ALL	649983.9	4204198	0.000132	71432	Benzene	8.92E-09
508	ALL	650003.9	4204098	0.000132	71432	Benzene	8.92E-09
208	ALL	650423.9	4203698	0.000131	71432	Benzene	8.88E-09
530	ALL	650003.9	4204118	0.000131	71432	Benzene	8.87E-09
553	ALL	650003.9	4204138	0.000131	71432	Benzene	8.85E-09
675	ALL	650743.9	4204238	0.000131	71432	Benzene	8.84E-09
469	ALL	649983.9	4204058	0.000131	71432	Benzene	8.84E-09
394	ALL	649983.9	4203978	0.000131	71432	Benzene	8.83E-09
540	ALL	650663.9	4204118	0.000621	50000	Formaldehyde	8.83E-09
795	ALL	650043.9	4204418	0.00013	71432	Benzene	8.82E-09
499	ALL	650743.9	4204078	0.000621	50000	Formaldehyde	8.82E-09
328	ALL	650063.9	4203898	0.00013	71432	Benzene	8.79E-09
464	ALL	650803.9	4204038	0.000618	50000	Formaldehyde	8.78E-09
662	ALL	649963.9	4204238	0.000129	71432	Benzene	8.76E-09
696	ALL	649963.9	4204278	0.000129	71432	Benzene	8.75E-09
725	ALL	649983.9	4204318	0.000129	71432	Benzene	8.75E-09
347	ALL	650743.9	4203918	0.000615	50000	Formaldehyde	8.75E-09
627	ALL	650123.9	4204198	0.000615	50000	Formaldehyde	8.74E-09
805	ALL	650083.9	4204438	0.000129	71432	Benzene	8.74E-09
426	ALL	650823.9	4203998	0.000614	50000	Formaldehyde	8.73E-09
488	ALL	649983.9	4204078	0.000129	71432	Benzene	8.71E-09
681	ALL	649963.9	4204258	0.000129	71432	Benzene	8.71E-09
597	ALL	649983.9	4204178	0.000129	71432	Benzene	8.70E-09
445	ALL	650823.9	4204018	0.000612	50000	Formaldehyde	8.70E-09

388	ALL	650803.9	4203958	0.000612	50000	Formaldehyde	8.69E-09
638	ALL	650903.9	4204198	0.000128	71432	Benzene	8.69E-09
676	ALL	650763.9	4204238	0.000128	71432	Benzene	8.69E-09
784	ALL	650023.9	4204398	0.000128	71432	Benzene	8.69E-09
313	ALL	650083.9	4203878	0.000128	71432	Benzene	8.68E-09
358	ALL	650003.9	4203938	0.000128	71432	Benzene	8.66E-09
369	ALL	650783.9	4203938	0.00061	50000	Formaldehyde	8.66E-09
408	ALL	650823.9	4203978	0.000609	50000	Formaldehyde	8.65E-09
755	ALL	650003.9	4204358	0.000128	71432	Benzene	8.65E-09
46	ALL	650583.9	4203538	0.000128	71432	Benzene	8.64E-09
482	ALL	650783.9	4204058	0.000608	50000	Formaldehyde	8.64E-09
670	ALL	650123.9	4204238	0.000608	50000	Formaldehyde	8.64E-09
583	ALL	650177.4	4204158	0.000607	50000	Formaldehyde	8.63E-09
642	ALL	649963.9	4204218	0.000127	71432	Benzene	8.61E-09
739	ALL	649983.9	4204338	0.000127	71432	Benzene	8.60E-09
430	ALL	649963.9	4204018	0.000127	71432	Benzene	8.59E-09
711	ALL	649963.9	4204298	0.000127	71432	Benzene	8.59E-09
342	ALL	650023.9	4203918	0.000127	71432	Benzene	8.58E-09
605	ALL	650143.9	4204178	0.000603	50000	Formaldehyde	8.58E-09
376	ALL	649983.9	4203958	0.000127	71432	Benzene	8.57E-09
690	ALL	650623.9	4204258	0.000127	71432	Benzene	8.56E-09
804	ALL	650063.9	4204438	0.000126	71432	Benzene	8.55E-09
68	ALL	650563.9	4203558	0.000126	71432	Benzene	8.55E-09
449	ALL	649963.9	4204038	0.000126	71432	Benzene	8.55E-09
574	ALL	649983.9	4204158	0.000126	71432	Benzene	8.53E-09
91	ALL	650543.9	4203578	0.000126	71432	Benzene	8.53E-09
412	ALL	649963.9	4203998	0.000126	71432	Benzene	8.52E-09
507	ALL	649983.9	4204098	0.000126	71432	Benzene	8.49E-09
691	ALL	650643.9	4204258	0.000125	71432	Benzene	8.49E-09
110	ALL	650523.9	4203598	0.000125	71432	Benzene	8.49E-09
327	ALL	650043.9	4203898	0.000125	71432	Benzene	8.48E-09
639	ALL	650923.9	4204198	0.000125	71432	Benzene	8.47E-09
348	ALL	650763.9	4203918	0.000596	50000	Formaldehyde	8.46E-09
803	ALL	650043.9	4204438	0.000125	71432	Benzene	8.44E-09
794	ALL	650023.9	4204418	0.000125	71432	Benzene	8.44E-09
619	ALL	649963.9	4204198	0.000125	71432	Benzene	8.44E-09
552	ALL	649983.9	4204138	0.000125	71432	Benzene	8.43E-09
771	ALL	650003.9	4204378	0.000125	71432	Benzene	8.43E-09
529	ALL	649983.9	4204118	0.000125	71432	Benzene	8.43E-09
393	ALL	649963.9	4203978	0.000124	71432	Benzene	8.41E-09
468	ALL	649963.9	4204058	0.000124	71432	Benzene	8.41E-09
389	ALL	650823.9	4203958	0.000591	50000	Formaldehyde	8.39E-09
427	ALL	650843.9	4203998	0.00059	50000	Formaldehyde	8.38E-09
806	ALL	650143.9	4204438	0.000124	71432	Benzene	8.38E-09
370	ALL	650803.9	4203938	0.000589	50000	Formaldehyde	8.37E-09
195	ALL	650423.9	4203678	0.000124	71432	Benzene	8.36E-09
661	ALL	649943.9	4204238	0.000123	71432	Benzene	8.35E-09

724	ALL	649963.9	4204318	0.000123	71432	Benzene	8.34E-09
783	ALL	650003.9	4204398	0.000123	71432	Benzene	8.34E-09
330	ALL	650743.9	4203898	0.000586	50000	Formaldehyde	8.33E-09
680	ALL	649943.9	4204258	0.000123	71432	Benzene	8.33E-09
520	ALL	650723.9	4204098	0.000586	50000	Formaldehyde	8.33E-09
409	ALL	650843.9	4203978	0.000585	50000	Formaldehyde	8.32E-09
465	ALL	650823.9	4204038	0.000584	50000	Formaldehyde	8.30E-09
446	ALL	650843.9	4204018	0.000584	50000	Formaldehyde	8.30E-09
500	ALL	650763.9	4204078	0.000583	50000	Formaldehyde	8.29E-09
596	ALL	649963.9	4204178	0.000122	71432	Benzene	8.28E-09
487	ALL	649963.9	4204078	0.000122	71432	Benzene	8.27E-09
349	ALL	650783.9	4203918	0.000582	50000	Formaldehyde	8.27E-09
357	ALL	649983.9	4203938	0.000122	71432	Benzene	8.26E-09
312	ALL	650063.9	4203878	0.000122	71432	Benzene	8.26E-09
341	ALL	650003.9	4203918	0.000122	71432	Benzene	8.25E-09
695	ALL	649943.9	4204278	0.000122	71432	Benzene	8.24E-09
541	ALL	650683.9	4204118	0.00058	50000	Formaldehyde	8.24E-09
754	ALL	649983.9	4204358	0.000122	71432	Benzene	8.23E-09
250	ALL	650183.9	4203758	0.000122	71432	Benzene	8.23E-09
817	ALL	650083.9	4204458	0.000122	71432	Benzene	8.23E-09
429	ALL	649943.9	4204018	0.000121	71432	Benzene	8.20E-09
375	ALL	649963.9	4203958	0.000121	71432	Benzene	8.20E-09
658	ALL	650903.9	4204218	0.000121	71432	Benzene	8.18E-09
710	ALL	649943.9	4204298	0.000121	71432	Benzene	8.17E-09
641	ALL	649943.9	4204218	0.000121	71432	Benzene	8.17E-09
802	ALL	650023.9	4204438	0.000121	71432	Benzene	8.17E-09
304	ALL	650083.9	4203858	0.00012	71432	Benzene	8.15E-09
483	ALL	650803.9	4204058	0.000574	50000	Formaldehyde	8.15E-09
539	ALL	650181.7	4204111	0.000573	50000	Formaldehyde	8.14E-09
411	ALL	649943.9	4203998	0.00012	71432	Benzene	8.14E-09
448	ALL	649943.9	4204038	0.00012	71432	Benzene	8.13E-09
326	ALL	650023.9	4203898	0.00012	71432	Benzene	8.13E-09
816	ALL	650063.9	4204458	0.00012	71432	Benzene	8.13E-09
738	ALL	649963.9	4204338	0.00012	71432	Benzene	8.11E-09
390	ALL	650843.9	4203958	0.00057	50000	Formaldehyde	8.10E-09
371	ALL	650823.9	4203938	0.00057	50000	Formaldehyde	8.10E-09
284	ALL	650123.9	4203818	0.00012	71432	Benzene	8.09E-09
194	ALL	650403.9	4203678	0.00012	71432	Benzene	8.09E-09
236	ALL	650203.9	4203738	0.000119	71432	Benzene	8.08E-09
506	ALL	649963.9	4204098	0.000119	71432	Benzene	8.08E-09
350	ALL	650803.9	4203918	0.000568	50000	Formaldehyde	8.08E-09
793	ALL	650003.9	4204418	0.000119	71432	Benzene	8.07E-09
573	ALL	649963.9	4204158	0.000119	71432	Benzene	8.06E-09
562	ALL	650643.9	4204138	0.000567	50000	Formaldehyde	8.05E-09
331	ALL	650763.9	4203898	0.000566	50000	Formaldehyde	8.05E-09
770	ALL	649983.9	4204378	0.000119	71432	Benzene	8.04E-09
618	ALL	649943.9	4204198	0.000119	71432	Benzene	8.04E-09

528	ALL	649963.9	4204118	0.000119	71432	Benzene	8.04E-09
314	ALL	650743.9	4203878	0.000565	50000	Formaldehyde	8.03E-09
45	ALL	650563.9	4203538	0.000119	71432	Benzene	8.03E-09
467	ALL	649943.9	4204058	0.000119	71432	Benzene	8.03E-09
551	ALL	649963.9	4204138	0.000119	71432	Benzene	8.03E-09
392	ALL	649943.9	4203978	0.000119	71432	Benzene	8.02E-09
659	ALL	650923.9	4204218	0.000118	71432	Benzene	8.00E-09
815	ALL	650043.9	4204458	0.000118	71432	Benzene	7.99E-09
67	ALL	650543.9	4203558	0.000118	71432	Benzene	7.98E-09
311	ALL	650043.9	4203878	0.000118	71432	Benzene	7.98E-09
679	ALL	649923.9	4204258	0.000118	71432	Benzene	7.97E-09
90	ALL	650523.9	4203578	0.000118	71432	Benzene	7.96E-09
340	ALL	649983.9	4203918	0.000117	71432	Benzene	7.94E-09
660	ALL	649923.9	4204238	0.000117	71432	Benzene	7.94E-09
723	ALL	649943.9	4204318	0.000117	71432	Benzene	7.93E-09
753	ALL	649963.9	4204358	0.000117	71432	Benzene	7.93E-09
486	ALL	649943.9	4204078	0.000117	71432	Benzene	7.92E-09
604	ALL	650123.9	4204178	0.000557	50000	Formaldehyde	7.91E-09
356	ALL	649963.9	4203938	0.000117	71432	Benzene	7.91E-09
193	ALL	650383.9	4203678	0.000117	71432	Benzene	7.90E-09
694	ALL	649923.9	4204278	0.000117	71432	Benzene	7.89E-09
595	ALL	649943.9	4204178	0.000117	71432	Benzene	7.89E-09
782	ALL	649983.9	4204398	0.000117	71432	Benzene	7.88E-09
374	ALL	649943.9	4203958	0.000116	71432	Benzene	7.87E-09
332	ALL	650783.9	4203898	0.000553	50000	Formaldehyde	7.85E-09
372	ALL	650843.9	4203938	0.000552	50000	Formaldehyde	7.84E-09
521	ALL	650743.9	4204098	0.000551	50000	Formaldehyde	7.83E-09
351	ALL	650823.9	4203918	0.000551	50000	Formaldehyde	7.83E-09
801	ALL	650003.9	4204438	0.000116	71432	Benzene	7.82E-09
428	ALL	649923.9	4204018	0.000116	71432	Benzene	7.82E-09
325	ALL	650003.9	4203898	0.000115	71432	Benzene	7.82E-09
303	ALL	650063.9	4203858	0.000115	71432	Benzene	7.81E-09
501	ALL	650783.9	4204078	0.000549	50000	Formaldehyde	7.81E-09
410	ALL	649923.9	4203998	0.000115	71432	Benzene	7.79E-09
814	ALL	650023.9	4204458	0.000115	71432	Benzene	7.79E-09
447	ALL	649923.9	4204038	0.000115	71432	Benzene	7.77E-09
192	ALL	650363.9	4203678	0.000115	71432	Benzene	7.76E-09
542	ALL	650703.9	4204118	0.000546	50000	Formaldehyde	7.76E-09
640	ALL	649923.9	4204218	0.000115	71432	Benzene	7.76E-09
249	ALL	650163.9	4203758	0.000115	71432	Benzene	7.75E-09
737	ALL	649943.9	4204338	0.000115	71432	Benzene	7.75E-09
315	ALL	650763.9	4203878	0.000545	50000	Formaldehyde	7.75E-09
235	ALL	650183.9	4203738	0.000114	71432	Benzene	7.74E-09
505	ALL	649943.9	4204098	0.000114	71432	Benzene	7.73E-09
709	ALL	649923.9	4204298	0.000114	71432	Benzene	7.73E-09
828	ALL	650063.9	4204478	0.000114	71432	Benzene	7.72E-09
310	ALL	650023.9	4203878	0.000114	71432	Benzene	7.71E-09

705	ALL	650623.9	4204278	0.000114	71432	Benzene	7.71E-09
484	ALL	650823.9	4204058	0.000542	50000	Formaldehyde	7.70E-09
550	ALL	649943.9	4204138	0.000114	71432	Benzene	7.69E-09
818	ALL	650143.9	4204458	0.000114	71432	Benzene	7.69E-09
677	ALL	650903.9	4204238	0.000113	71432	Benzene	7.68E-09
617	ALL	649923.9	4204198	0.000113	71432	Benzene	7.68E-09
466	ALL	649923.9	4204058	0.000113	71432	Benzene	7.68E-09
295	ALL	650083.9	4203838	0.000113	71432	Benzene	7.67E-09
792	ALL	649983.9	4204418	0.000113	71432	Benzene	7.67E-09
527	ALL	649943.9	4204118	0.000113	71432	Benzene	7.67E-09
572	ALL	649943.9	4204158	0.000113	71432	Benzene	7.67E-09
176	ALL	650403.9	4203658	0.000113	71432	Benzene	7.66E-09
769	ALL	649963.9	4204378	0.000113	71432	Benzene	7.66E-09
333	ALL	650803.9	4203898	0.000539	50000	Formaldehyde	7.66E-09
706	ALL	650643.9	4204278	0.000113	71432	Benzene	7.65E-09
273	ALL	650123.9	4203798	0.000113	71432	Benzene	7.65E-09
283	ALL	650103.9	4203818	0.000113	71432	Benzene	7.64E-09
391	ALL	649923.9	4203978	0.000113	71432	Benzene	7.63E-09
827	ALL	650043.9	4204478	0.000113	71432	Benzene	7.63E-09
582	ALL	650143.9	4204158	0.000536	50000	Formaldehyde	7.62E-09
355	ALL	649943.9	4203938	0.000113	71432	Benzene	7.62E-09
563	ALL	650663.9	4204138	0.000536	50000	Formaldehyde	7.62E-09
339	ALL	649963.9	4203918	0.000113	71432	Benzene	7.61E-09
813	ALL	650003.9	4204458	0.000112	71432	Benzene	7.61E-09
722	ALL	649923.9	4204318	0.000112	71432	Benzene	7.61E-09
352	ALL	650843.9	4203918	0.000534	50000	Formaldehyde	7.58E-09
485	ALL	649923.9	4204078	0.000112	71432	Benzene	7.58E-09
373	ALL	649923.9	4203958	0.000112	71432	Benzene	7.56E-09
316	ALL	650783.9	4203878	0.000532	50000	Formaldehyde	7.56E-09
752	ALL	649943.9	4204358	0.000112	71432	Benzene	7.55E-09
800	ALL	649983.9	4204438	0.000112	71432	Benzene	7.55E-09
324	ALL	649983.9	4203898	0.000112	71432	Benzene	7.55E-09
334	ALL	650823.9	4203898	0.00053	50000	Formaldehyde	7.53E-09
44	ALL	650543.9	4203538	0.000111	71432	Benzene	7.53E-09
781	ALL	649963.9	4204398	0.000111	71432	Benzene	7.53E-09
678	ALL	650923.9	4204238	0.000111	71432	Benzene	7.52E-09
302	ALL	650043.9	4203858	0.000111	71432	Benzene	7.52E-09
175	ALL	650383.9	4203658	0.000111	71432	Benzene	7.50E-09
66	ALL	650523.9	4203558	0.000111	71432	Benzene	7.48E-09
594	ALL	649923.9	4204178	0.000111	71432	Benzene	7.48E-09
826	ALL	650023.9	4204478	0.00011	71432	Benzene	7.47E-09
309	ALL	650003.9	4203878	0.00011	71432	Benzene	7.42E-09
234	ALL	650163.9	4203738	0.00011	71432	Benzene	7.41E-09
736	ALL	649923.9	4204338	0.00011	71432	Benzene	7.41E-09
504	ALL	649923.9	4204098	0.000109	71432	Benzene	7.41E-09
294	ALL	650063.9	4203838	0.000109	71432	Benzene	7.39E-09
522	ALL	650763.9	4204098	0.00052	50000	Formaldehyde	7.39E-09

248	ALL	650143.9	4203758	0.000109	71432	Benzene	7.37E-09
538	ALL	650163.9	4204118	0.000518	50000	Formaldehyde	7.37E-09
812	ALL	649983.9	4204458	0.000109	71432	Benzene	7.37E-09
502	ALL	650803.9	4204078	0.000518	50000	Formaldehyde	7.37E-09
571	ALL	649923.9	4204158	0.000109	71432	Benzene	7.36E-09
174	ALL	650363.9	4203658	0.000109	71432	Benzene	7.36E-09
526	ALL	649923.9	4204118	0.000109	71432	Benzene	7.36E-09
549	ALL	649923.9	4204138	0.000109	71432	Benzene	7.34E-09
704	ALL	650129.5	4204276	0.000516	50000	Formaldehyde	7.33E-09
561	ALL	650163.9	4204138	0.000516	50000	Formaldehyde	7.33E-09
543	ALL	650723.9	4204118	0.000516	50000	Formaldehyde	7.33E-09
807	ALL	650209.7	4204429	0.000108	71432	Benzene	7.32E-09
354	ALL	649923.9	4203938	0.000108	71432	Benzene	7.32E-09
323	ALL	649963.9	4203898	0.000108	71432	Benzene	7.31E-09
335	ALL	650843.9	4203898	0.000515	50000	Formaldehyde	7.31E-09
338	ALL	649943.9	4203918	0.000108	71432	Benzene	7.31E-09
791	ALL	649963.9	4204418	0.000108	71432	Benzene	7.31E-09
353	ALL	650863.9	4203918	0.000514	50000	Formaldehyde	7.30E-09
317	ALL	650803.9	4203878	0.000514	50000	Formaldehyde	7.30E-09
768	ALL	649943.9	4204378	0.000108	71432	Benzene	7.30E-09
262	ALL	650123.9	4203778	0.000108	71432	Benzene	7.27E-09
282	ALL	650083.9	4203818	0.000107	71432	Benzene	7.27E-09
825	ALL	650003.9	4204478	0.000107	71432	Benzene	7.27E-09
301	ALL	650023.9	4203858	0.000107	71432	Benzene	7.26E-09
837	ALL	650063.9	4204498	0.000107	71432	Benzene	7.26E-09
272	ALL	650103.9	4203798	0.000107	71432	Benzene	7.26E-09
516	ALL	650163.9	4204098	0.00051	50000	Formaldehyde	7.24E-09
689	ALL	650117.4	4204261	0.000509	50000	Formaldehyde	7.24E-09
836	ALL	650043.9	4204498	0.000107	71432	Benzene	7.24E-09
564	ALL	650683.9	4204138	0.000508	50000	Formaldehyde	7.22E-09
560	ALL	650143.9	4204138	0.000507	50000	Formaldehyde	7.21E-09
581	ALL	650123.9	4204158	0.000507	50000	Formaldehyde	7.21E-09
780	ALL	649943.9	4204398	0.000106	71432	Benzene	7.19E-09
799	ALL	649963.9	4204438	0.000106	71432	Benzene	7.19E-09
835	ALL	650023.9	4204498	0.000106	71432	Benzene	7.18E-09
692	ALL	650903.9	4204258	0.000106	71432	Benzene	7.18E-09
751	ALL	649923.9	4204358	0.000106	71432	Benzene	7.17E-09
173	ALL	650303.9	4203658	0.000106	71432	Benzene	7.14E-09
308	ALL	649983.9	4203878	0.000106	71432	Benzene	7.14E-09
293	ALL	650043.9	4203838	0.000106	71432	Benzene	7.14E-09
824	ALL	649983.9	4204478	0.000105	71432	Benzene	7.12E-09
233	ALL	650143.9	4203738	0.000105	71432	Benzene	7.10E-09
172	ALL	650283.9	4203658	0.000105	71432	Benzene	7.10E-09
43	ALL	650523.9	4203538	0.000105	71432	Benzene	7.10E-09
336	ALL	650863.9	4203898	0.000499	50000	Formaldehyde	7.10E-09
811	ALL	649963.9	4204458	0.000105	71432	Benzene	7.09E-09
318	ALL	650823.9	4203878	0.000499	50000	Formaldehyde	7.09E-09

790	ALL	649943.9	4204418	0.000105	71432	Benzene	7.08E-09
171	ALL	650263.9	4203658	0.000105	71432	Benzene	7.08E-09
322	ALL	649943.9	4203898	0.000104	71432	Benzene	7.05E-09
693	ALL	650923.9	4204258	0.000104	71432	Benzene	7.05E-09
300	ALL	650003.9	4203858	0.000104	71432	Benzene	7.04E-09
838	ALL	650103.9	4204498	0.000104	71432	Benzene	7.03E-09
337	ALL	649923.9	4203918	0.000104	71432	Benzene	7.03E-09
523	ALL	650783.9	4204098	0.000494	50000	Formaldehyde	7.02E-09
281	ALL	650063.9	4203818	0.000104	71432	Benzene	7.01E-09
170	ALL	650243.9	4203658	0.000104	71432	Benzene	7.01E-09
109	ALL	650443.9	4203598	0.000104	71432	Benzene	7.01E-09
503	ALL	650823.9	4204078	0.000493	50000	Formaldehyde	7.01E-09
150	ALL	650363.9	4203638	0.000103	71432	Benzene	7.00E-09
247	ALL	650123.9	4203758	0.000103	71432	Benzene	7.00E-09
319	ALL	650843.9	4203878	0.000492	50000	Formaldehyde	6.99E-09
767	ALL	649923.9	4204378	0.000103	71432	Benzene	6.98E-09
834	ALL	650003.9	4204498	0.000103	71432	Benzene	6.97E-09
271	ALL	650083.9	4203798	0.000103	71432	Benzene	6.97E-09
584	ALL	650643.9	4204158	0.00049	50000	Formaldehyde	6.96E-09
307	ALL	649963.9	4203878	0.000103	71432	Benzene	6.96E-09
261	ALL	650103.9	4203778	0.000103	71432	Benzene	6.95E-09
544	ALL	650743.9	4204118	0.000488	50000	Formaldehyde	6.94E-09
169	ALL	650223.9	4203658	0.000102	71432	Benzene	6.92E-09
320	ALL	650863.9	4203878	0.000485	50000	Formaldehyde	6.88E-09
823	ALL	649963.9	4204478	0.000102	71432	Benzene	6.88E-09
292	ALL	650023.9	4203838	0.000102	71432	Benzene	6.88E-09
779	ALL	649923.9	4204398	0.000102	71432	Benzene	6.87E-09
850	ALL	650043.9	4204518	0.000101	71432	Benzene	6.86E-09
149	ALL	650323.9	4203638	0.000101	71432	Benzene	6.86E-09
565	ALL	650703.9	4204138	0.000482	50000	Formaldehyde	6.85E-09
221	ALL	650143.9	4203718	0.000101	71432	Benzene	6.85E-09
849	ALL	650023.9	4204518	0.000101	71432	Benzene	6.85E-09
839	ALL	650123.9	4204498	0.000101	71432	Benzene	6.84E-09
798	ALL	649943.9	4204438	0.000101	71432	Benzene	6.83E-09
299	ALL	649983.9	4203858	0.000101	71432	Benzene	6.81E-09
669	ALL	650103.9	4204238	0.000479	50000	Formaldehyde	6.81E-09
108	ALL	650423.9	4203598	0.000101	71432	Benzene	6.81E-09
148	ALL	650303.9	4203638	0.000101	71432	Benzene	6.80E-09
321	ALL	649923.9	4203898	0.000101	71432	Benzene	6.80E-09
833	ALL	649983.9	4204498	0.0001	71432	Benzene	6.79E-09
232	ALL	650123.9	4203738	0.0001	71432	Benzene	6.78E-09
851	ALL	650063.9	4204518	0.0001	71432	Benzene	6.78E-09
649	ALL	650103.9	4204218	0.000477	50000	Formaldehyde	6.78E-09
147	ALL	650283.9	4203638	0.0001	71432	Benzene	6.77E-09
280	ALL	650043.9	4203818	0.0001	71432	Benzene	6.77E-09
688	ALL	650103.9	4204258	0.000476	50000	Formaldehyde	6.77E-09
848	ALL	650003.9	4204518	1.00E-04	71432	Benzene	6.76E-09

789	ALL	649923.9	4204418	9.99E-05	71432	Benzene	6.76E-09
146	ALL	650263.9	4203638	9.97E-05	71432	Benzene	6.74E-09
306	ALL	649943.9	4203878	9.95E-05	71432	Benzene	6.73E-09
537	ALL	650143.9	4204118	0.000473	50000	Formaldehyde	6.72E-09
89	ALL	650443.9	4203578	9.90E-05	71432	Benzene	6.70E-09
145	ALL	650243.9	4203638	9.90E-05	71432	Benzene	6.70E-09
810	ALL	649943.9	4204458	9.90E-05	71432	Benzene	6.70E-09
707	ALL	650903.9	4204278	9.90E-05	71432	Benzene	6.70E-09
585	ALL	650663.9	4204158	0.000471	50000	Formaldehyde	6.69E-09
270	ALL	650063.9	4203798	9.87E-05	71432	Benzene	6.68E-09
246	ALL	650103.9	4203758	9.87E-05	71432	Benzene	6.68E-09
291	ALL	650003.9	4203838	9.87E-05	71432	Benzene	6.68E-09
626	ALL	650103.9	4204198	0.00047	50000	Formaldehyde	6.68E-09
260	ALL	650083.9	4203778	9.85E-05	71432	Benzene	6.66E-09
524	ALL	650803.9	4204098	0.000467	50000	Formaldehyde	6.64E-09
144	ALL	650223.9	4203638	9.81E-05	71432	Benzene	6.64E-09
107	ALL	650403.9	4203598	9.79E-05	71432	Benzene	6.62E-09
832	ALL	649963.9	4204498	9.79E-05	71432	Benzene	6.62E-09
207	ALL	650143.9	4203698	9.79E-05	71432	Benzene	6.62E-09
808	ALL	650229.7	4204429	9.78E-05	71432	Benzene	6.62E-09
545	ALL	650763.9	4204118	0.000466	50000	Formaldehyde	6.62E-09
822	ALL	649943.9	4204478	9.78E-05	71432	Benzene	6.62E-09
852	ALL	650103.9	4204518	9.76E-05	71432	Benzene	6.60E-09
298	ALL	649963.9	4203858	9.75E-05	71432	Benzene	6.60E-09
708	ALL	650923.9	4204278	9.75E-05	71432	Benzene	6.60E-09
797	ALL	649923.9	4204438	9.74E-05	71432	Benzene	6.59E-09
847	ALL	649983.9	4204518	9.71E-05	71432	Benzene	6.57E-09
220	ALL	650123.9	4203718	9.69E-05	71432	Benzene	6.56E-09
566	ALL	650723.9	4204138	0.000461	50000	Formaldehyde	6.55E-09
401	ALL	650130.1	4203978	0.000461	50000	Formaldehyde	6.55E-09
279	ALL	650023.9	4203818	9.68E-05	71432	Benzene	6.55E-09
143	ALL	650203.9	4203638	9.67E-05	71432	Benzene	6.55E-09
124	ALL	650323.9	4203618	9.66E-05	71432	Benzene	6.54E-09
559	ALL	650123.9	4204138	0.00046	50000	Formaldehyde	6.53E-09
305	ALL	649923.9	4203878	9.64E-05	71432	Benzene	6.52E-09
88	ALL	650423.9	4203578	9.62E-05	71432	Benzene	6.51E-09
438	ALL	650123.9	4204018	0.000457	50000	Formaldehyde	6.50E-09
831	ALL	649943.9	4204498	9.60E-05	71432	Benzene	6.49E-09
840	ALL	650143.9	4204498	9.58E-05	71432	Benzene	6.48E-09
123	ALL	650303.9	4203618	9.58E-05	71432	Benzene	6.48E-09
732	ALL	650128.6	4204307	0.000456	50000	Formaldehyde	6.48E-09
703	ALL	650103.9	4204278	0.000456	50000	Formaldehyde	6.48E-09
177	ALL	650643.9	4203658	0.000456	50000	Formaldehyde	6.48E-09
290	ALL	649983.9	4203838	9.57E-05	71432	Benzene	6.48E-09
122	ALL	650283.9	4203618	9.55E-05	71432	Benzene	6.46E-09
269	ALL	650043.9	4203798	9.54E-05	71432	Benzene	6.46E-09
809	ALL	649923.9	4204458	9.54E-05	71432	Benzene	6.46E-09

231	ALL	650103.9	4203738	9.52E-05	71432	Benzene	6.44E-09
121	ALL	650263.9	4203618	9.51E-05	71432	Benzene	6.44E-09
515	ALL	650143.9	4204098	0.000452	50000	Formaldehyde	6.43E-09
586	ALL	650683.9	4204158	0.000452	50000	Formaldehyde	6.42E-09
120	ALL	650243.9	4203618	9.49E-05	71432	Benzene	6.42E-09
65	ALL	650443.9	4203558	9.48E-05	71432	Benzene	6.41E-09
245	ALL	650083.9	4203758	9.48E-05	71432	Benzene	6.41E-09
603	ALL	650103.9	4204178	0.000451	50000	Formaldehyde	6.41E-09
747	ALL	650295.8	4204357	9.47E-05	71432	Benzene	6.40E-09
297	ALL	649943.9	4203858	9.47E-05	71432	Benzene	6.40E-09
178	ALL	650663.9	4203658	0.000451	50000	Formaldehyde	6.40E-09
142	ALL	650183.9	4203638	9.46E-05	71432	Benzene	6.40E-09
191	ALL	650143.9	4203678	9.46E-05	71432	Benzene	6.40E-09
819	ALL	650203.9	4204458	9.45E-05	71432	Benzene	6.39E-09
259	ALL	650063.9	4203778	9.43E-05	71432	Benzene	6.38E-09
846	ALL	649963.9	4204518	9.43E-05	71432	Benzene	6.38E-09
365	ALL	650143.9	4203938	0.000449	50000	Formaldehyde	6.37E-09
119	ALL	650223.9	4203618	9.41E-05	71432	Benzene	6.37E-09
853	ALL	650123.9	4204518	9.39E-05	71432	Benzene	6.35E-09
278	ALL	650003.9	4203818	9.38E-05	71432	Benzene	6.35E-09
206	ALL	650123.9	4203698	9.37E-05	71432	Benzene	6.34E-09
87	ALL	650403.9	4203578	9.35E-05	71432	Benzene	6.33E-09
42	ALL	650463.9	4203538	9.34E-05	71432	Benzene	6.32E-09
821	ALL	649923.9	4204478	9.34E-05	71432	Benzene	6.32E-09
719	ALL	650883.9	4204298	9.33E-05	71432	Benzene	6.31E-09
525	ALL	650823.9	4204098	0.000444	50000	Formaldehyde	6.31E-09
118	ALL	650203.9	4203618	9.32E-05	71432	Benzene	6.30E-09
457	ALL	650123.9	4204038	0.000443	50000	Formaldehyde	6.30E-09
289	ALL	649963.9	4203838	9.30E-05	71432	Benzene	6.29E-09
546	ALL	650783.9	4204118	0.000442	50000	Formaldehyde	6.29E-09
179	ALL	650683.9	4203658	0.000442	50000	Formaldehyde	6.28E-09
567	ALL	650743.9	4204138	0.000441	50000	Formaldehyde	6.27E-09
845	ALL	649943.9	4204518	9.25E-05	71432	Benzene	6.26E-09
155	ALL	650643.9	4203638	0.00044	50000	Formaldehyde	6.26E-09
219	ALL	650103.9	4203718	9.23E-05	71432	Benzene	6.25E-09
830	ALL	649923.9	4204498	9.23E-05	71432	Benzene	6.25E-09
720	ALL	650903.9	4204298	9.23E-05	71432	Benzene	6.24E-09
268	ALL	650023.9	4203798	9.22E-05	71432	Benzene	6.24E-09
64	ALL	650423.9	4203558	9.22E-05	71432	Benzene	6.24E-09
296	ALL	649923.9	4203858	9.21E-05	71432	Benzene	6.23E-09
141	ALL	650163.9	4203638	9.19E-05	71432	Benzene	6.22E-09
106	ALL	650323.9	4203598	9.19E-05	71432	Benzene	6.22E-09
154	ALL	650623.9	4203638	0.000436	50000	Formaldehyde	6.20E-09
86	ALL	650383.9	4203578	9.16E-05	71432	Benzene	6.20E-09
117	ALL	650183.9	4203618	9.15E-05	71432	Benzene	6.19E-09
105	ALL	650303.9	4203598	9.15E-05	71432	Benzene	6.19E-09
587	ALL	650703.9	4204158	0.000435	50000	Formaldehyde	6.19E-09

230	ALL	650083.9	4203738	9.14E-05	71432	Benzene	6.19E-09
104	ALL	650283.9	4203598	9.14E-05	71432	Benzene	6.18E-09
156	ALL	650663.9	4203638	0.000435	50000	Formaldehyde	6.18E-09
103	ALL	650263.9	4203598	9.12E-05	71432	Benzene	6.17E-09
244	ALL	650063.9	4203758	9.11E-05	71432	Benzene	6.17E-09
102	ALL	650243.9	4203598	9.11E-05	71432	Benzene	6.16E-09
277	ALL	649983.9	4203818	9.11E-05	71432	Benzene	6.16E-09
721	ALL	650923.9	4204298	9.11E-05	71432	Benzene	6.16E-09
258	ALL	650043.9	4203778	9.11E-05	71432	Benzene	6.16E-09
190	ALL	650123.9	4203678	9.09E-05	71432	Benzene	6.15E-09
841	ALL	650163.9	4204498	9.08E-05	71432	Benzene	6.14E-09
668	ALL	650083.9	4204238	0.000432	50000	Formaldehyde	6.14E-09
844	ALL	649923.9	4204518	9.07E-05	71432	Benzene	6.14E-09
41	ALL	650443.9	4203538	9.06E-05	71432	Benzene	6.13E-09
606	ALL	650643.9	4204178	0.000431	50000	Formaldehyde	6.13E-09
101	ALL	650223.9	4203598	9.04E-05	71432	Benzene	6.12E-09
718	ALL	650103.9	4204298	0.00043	50000	Formaldehyde	6.11E-09
288	ALL	649943.9	4203838	9.01E-05	71432	Benzene	6.10E-09
687	ALL	650083.9	4204258	0.000429	50000	Formaldehyde	6.09E-09
157	ALL	650683.9	4203638	0.000428	50000	Formaldehyde	6.08E-09
21	ALL	650463.9	4203518	8.97E-05	71432	Benzene	6.07E-09
63	ALL	650403.9	4203558	8.97E-05	71432	Benzene	6.07E-09
100	ALL	650203.9	4203598	8.96E-05	71432	Benzene	6.06E-09
476	ALL	650123.9	4204058	0.000426	50000	Formaldehyde	6.06E-09
205	ALL	650103.9	4203698	8.95E-05	71432	Benzene	6.06E-09
267	ALL	650003.9	4203798	8.93E-05	71432	Benzene	6.04E-09
153	ALL	650603.9	4203638	0.000424	50000	Formaldehyde	6.03E-09
116	ALL	650163.9	4203618	8.90E-05	71432	Benzene	6.02E-09
547	ALL	650803.9	4204118	0.000424	50000	Formaldehyde	6.02E-09
140	ALL	650143.9	4203638	8.89E-05	71432	Benzene	6.01E-09
568	ALL	650763.9	4204138	0.000423	50000	Formaldehyde	6.01E-09
383	ALL	650123.9	4203958	0.000423	50000	Formaldehyde	6.01E-09
40	ALL	650423.9	4203538	8.86E-05	71432	Benzene	5.99E-09
276	ALL	649963.9	4203818	8.85E-05	71432	Benzene	5.99E-09
580	ALL	650103.9	4204158	0.000422	50000	Formaldehyde	5.99E-09
218	ALL	650083.9	4203718	8.85E-05	71432	Benzene	5.99E-09
854	ALL	650143.9	4204518	8.85E-05	71432	Benzene	5.99E-09
648	ALL	650083.9	4204218	0.000421	50000	Formaldehyde	5.98E-09
131	ALL	650643.9	4203618	0.000421	50000	Formaldehyde	5.98E-09
257	ALL	650023.9	4203778	8.84E-05	71432	Benzene	5.98E-09
536	ALL	650123.9	4204118	0.00042	50000	Formaldehyde	5.97E-09
99	ALL	650183.9	4203598	8.82E-05	71432	Benzene	5.97E-09
85	ALL	650323.9	4203578	8.81E-05	71432	Benzene	5.96E-09
168	ALL	650123.9	4203658	8.81E-05	71432	Benzene	5.96E-09
588	ALL	650723.9	4204158	0.000419	50000	Formaldehyde	5.95E-09
62	ALL	650383.9	4203558	8.79E-05	71432	Benzene	5.95E-09
607	ALL	650663.9	4204178	0.000418	50000	Formaldehyde	5.94E-09

229	ALL	650063.9	4203738	8.77E-05	71432	Benzene	5.94E-09
287	ALL	649923.9	4203838	8.76E-05	71432	Benzene	5.93E-09
82	ALL	650263.9	4203578	8.76E-05	71432	Benzene	5.93E-09
84	ALL	650303.9	4203578	8.75E-05	71432	Benzene	5.92E-09
83	ALL	650283.9	4203578	8.75E-05	71432	Benzene	5.92E-09
81	ALL	650243.9	4203578	8.74E-05	71432	Benzene	5.92E-09
243	ALL	650043.9	4203758	8.74E-05	71432	Benzene	5.92E-09
495	ALL	650123.9	4204078	0.000416	50000	Formaldehyde	5.92E-09
80	ALL	650223.9	4203578	8.70E-05	71432	Benzene	5.89E-09
20	ALL	650443.9	4203518	8.69E-05	71432	Benzene	5.88E-09
266	ALL	649983.9	4203798	8.69E-05	71432	Benzene	5.88E-09
702	ALL	650083.9	4204278	0.000414	50000	Formaldehyde	5.88E-09
189	ALL	650103.9	4203678	8.67E-05	71432	Benzene	5.87E-09
130	ALL	650623.9	4203618	0.000413	50000	Formaldehyde	5.86E-09
364	ALL	650123.9	4203938	0.000412	50000	Formaldehyde	5.86E-09
733	ALL	650883.9	4204318	8.65E-05	71432	Benzene	5.85E-09
115	ALL	650143.9	4203618	8.64E-05	71432	Benzene	5.84E-09
79	ALL	650203.9	4203578	8.63E-05	71432	Benzene	5.84E-09
275	ALL	649943.9	4203818	8.63E-05	71432	Benzene	5.84E-09
98	ALL	650163.9	4203598	8.62E-05	71432	Benzene	5.83E-09
39	ALL	650403.9	4203538	8.61E-05	71432	Benzene	5.83E-09
514	ALL	650123.9	4204098	0.00041	50000	Formaldehyde	5.82E-09
139	ALL	650123.9	4203638	8.58E-05	71432	Benzene	5.80E-09
734	ALL	650903.9	4204318	8.57E-05	71432	Benzene	5.80E-09
256	ALL	650003.9	4203778	8.57E-05	71432	Benzene	5.80E-09
820	ALL	650223.9	4204458	8.57E-05	71432	Benzene	5.80E-09
437	ALL	650103.9	4204018	0.000408	50000	Formaldehyde	5.79E-09
204	ALL	650083.9	4203698	8.55E-05	71432	Benzene	5.78E-09
456	ALL	650103.9	4204038	0.000407	50000	Formaldehyde	5.78E-09
78	ALL	650183.9	4203578	8.53E-05	71432	Benzene	5.77E-09
625	ALL	650083.9	4204198	0.000406	50000	Formaldehyde	5.77E-09
842	ALL	650183.9	4204498	8.53E-05	71432	Benzene	5.77E-09
569	ALL	650783.9	4204138	0.000406	50000	Formaldehyde	5.77E-09
548	ALL	650823.9	4204118	0.000406	50000	Formaldehyde	5.77E-09
829	ALL	650203.9	4204478	8.52E-05	71432	Benzene	5.76E-09
746	ALL	650123.9	4204338	0.000406	50000	Formaldehyde	5.76E-09
608	ALL	650683.9	4204178	0.000405	50000	Formaldehyde	5.76E-09
735	ALL	650923.9	4204318	8.49E-05	71432	Benzene	5.74E-09
217	ALL	650063.9	4203718	8.48E-05	71432	Benzene	5.74E-09
419	ALL	650103.9	4203998	0.000404	50000	Formaldehyde	5.74E-09
19	ALL	650423.9	4203518	8.47E-05	71432	Benzene	5.73E-09
167	ALL	650103.9	4203658	8.47E-05	71432	Benzene	5.73E-09
731	ALL	650103.9	4204318	0.000403	50000	Formaldehyde	5.73E-09
589	ALL	650743.9	4204158	0.000403	50000	Formaldehyde	5.73E-09
265	ALL	649963.9	4203798	8.45E-05	71432	Benzene	5.72E-09
242	ALL	650023.9	4203758	8.44E-05	71432	Benzene	5.71E-09
38	ALL	650383.9	4203538	8.44E-05	71432	Benzene	5.71E-09

228	ALL	650043.9	4203738	8.44E-05	71432	Benzene	5.71E-09
152	ALL	650583.9	4203638	0.000401	50000	Formaldehyde	5.70E-09
61	ALL	650323.9	4203558	8.42E-05	71432	Benzene	5.69E-09
57	ALL	650243.9	4203558	8.41E-05	71432	Benzene	5.69E-09
60	ALL	650303.9	4203558	8.40E-05	71432	Benzene	5.69E-09
59	ALL	650283.9	4203558	8.40E-05	71432	Benzene	5.69E-09
58	ALL	650263.9	4203558	8.40E-05	71432	Benzene	5.68E-09
97	ALL	650143.9	4203598	8.39E-05	71432	Benzene	5.68E-09
56	ALL	650223.9	4203558	8.38E-05	71432	Benzene	5.67E-09
855	ALL	650163.9	4204518	8.38E-05	71432	Benzene	5.67E-09
717	ALL	650083.9	4204298	0.000399	50000	Formaldehyde	5.66E-09
274	ALL	649923.9	4203818	8.36E-05	71432	Benzene	5.66E-09
475	ALL	650103.9	4204058	0.000397	50000	Formaldehyde	5.64E-09
77	ALL	650163.9	4203578	8.33E-05	71432	Benzene	5.64E-09
400	ALL	650103.9	4203978	0.000397	50000	Formaldehyde	5.64E-09
114	ALL	650123.9	4203618	8.32E-05	71432	Benzene	5.63E-09
558	ALL	650103.9	4204138	0.000396	50000	Formaldehyde	5.63E-09
55	ALL	650203.9	4203558	8.32E-05	71432	Benzene	5.63E-09
188	ALL	650083.9	4203678	8.31E-05	71432	Benzene	5.62E-09
129	ALL	650603.9	4203618	0.000395	50000	Formaldehyde	5.61E-09
255	ALL	649983.9	4203778	8.29E-05	71432	Benzene	5.61E-09
18	ALL	650403.9	4203518	8.28E-05	71432	Benzene	5.60E-09
609	ALL	650703.9	4204178	0.000392	50000	Formaldehyde	5.58E-09
264	ALL	649943.9	4203798	8.24E-05	71432	Benzene	5.57E-09
54	ALL	650183.9	4203558	8.24E-05	71432	Benzene	5.57E-09
686	ALL	650063.9	4204258	0.000391	50000	Formaldehyde	5.56E-09
203	ALL	650063.9	4203698	8.21E-05	71432	Benzene	5.55E-09
241	ALL	650003.9	4203758	8.20E-05	71432	Benzene	5.55E-09
570	ALL	650803.9	4204138	0.00039	50000	Formaldehyde	5.54E-09
216	ALL	650043.9	4203718	8.18E-05	71432	Benzene	5.53E-09
602	ALL	650083.9	4204178	0.000389	50000	Formaldehyde	5.52E-09
590	ALL	650763.9	4204158	0.000388	50000	Formaldehyde	5.51E-09
76	ALL	650143.9	4203578	8.13E-05	71432	Benzene	5.50E-09
762	ALL	650171.3	4204360	0.000387	50000	Formaldehyde	5.50E-09
17	ALL	650383.9	4203518	8.12E-05	71432	Benzene	5.49E-09
667	ALL	650063.9	4204238	0.000387	50000	Formaldehyde	5.49E-09
227	ALL	650023.9	4203738	8.12E-05	71432	Benzene	5.49E-09
96	ALL	650123.9	4203598	8.11E-05	71432	Benzene	5.49E-09
166	ALL	650083.9	4203658	8.11E-05	71432	Benzene	5.48E-09
53	ALL	650163.9	4203558	8.10E-05	71432	Benzene	5.48E-09
37	ALL	650323.9	4203538	8.09E-05	71432	Benzene	5.48E-09
382	ALL	650103.9	4203958	0.000385	50000	Formaldehyde	5.47E-09
35	ALL	650283.9	4203538	8.08E-05	71432	Benzene	5.47E-09
494	ALL	650103.9	4204078	0.000385	50000	Formaldehyde	5.47E-09
34	ALL	650263.9	4203538	8.08E-05	71432	Benzene	5.47E-09
33	ALL	650243.9	4203538	8.08E-05	71432	Benzene	5.47E-09
36	ALL	650303.9	4203538	8.07E-05	71432	Benzene	5.46E-09

745	ALL	650103.9	4204338	0.000384	50000	Formaldehyde	5.46E-09
32	ALL	650223.9	4203538	8.07E-05	71432	Benzene	5.46E-09
254	ALL	649963.9	4203778	8.05E-05	71432	Benzene	5.45E-09
263	ALL	649923.9	4203798	8.05E-05	71432	Benzene	5.44E-09
31	ALL	650203.9	4203538	8.03E-05	71432	Benzene	5.44E-09
647	ALL	650063.9	4204218	0.000383	50000	Formaldehyde	5.44E-09
748	ALL	650883.9	4204338	8.00E-05	71432	Benzene	5.41E-09
610	ALL	650723.9	4204178	0.00038	50000	Formaldehyde	5.40E-09
701	ALL	650063.9	4204278	0.00038	50000	Formaldehyde	5.40E-09
240	ALL	649983.9	4203758	7.97E-05	71432	Benzene	5.39E-09
187	ALL	650063.9	4203678	7.97E-05	71432	Benzene	5.39E-09
30	ALL	650183.9	4203538	7.97E-05	71432	Benzene	5.39E-09
436	ALL	650083.9	4204018	0.000379	50000	Formaldehyde	5.38E-09
763	ALL	650181.5	4204363	0.000379	50000	Formaldehyde	5.38E-09
513	ALL	650103.9	4204098	0.000379	50000	Formaldehyde	5.38E-09
749	ALL	650903.9	4204338	7.95E-05	71432	Benzene	5.38E-09
761	ALL	650123.9	4204358	0.000379	50000	Formaldehyde	5.38E-09
629	ALL	650643.9	4204198	0.000379	50000	Formaldehyde	5.38E-09
535	ALL	650103.9	4204118	0.000378	50000	Formaldehyde	5.37E-09
52	ALL	650143.9	4203558	7.91E-05	71432	Benzene	5.35E-09
750	ALL	650923.9	4204338	7.90E-05	71432	Benzene	5.35E-09
202	ALL	650043.9	4203698	7.90E-05	71432	Benzene	5.35E-09
138	ALL	650083.9	4203638	7.90E-05	71432	Benzene	5.34E-09
75	ALL	650123.9	4203578	7.89E-05	71432	Benzene	5.34E-09
253	ALL	649943.9	4203778	7.89E-05	71432	Benzene	5.34E-09
226	ALL	650003.9	4203738	7.88E-05	71432	Benzene	5.33E-09
455	ALL	650083.9	4204038	0.000375	50000	Formaldehyde	5.33E-09
418	ALL	650083.9	4203998	0.000375	50000	Formaldehyde	5.33E-09
591	ALL	650783.9	4204158	0.000375	50000	Formaldehyde	5.33E-09
215	ALL	650023.9	4203718	7.87E-05	71432	Benzene	5.32E-09
730	ALL	650083.9	4204318	0.000374	50000	Formaldehyde	5.32E-09
29	ALL	650163.9	4203538	7.84E-05	71432	Benzene	5.30E-09
579	ALL	650083.9	4204158	0.000372	50000	Formaldehyde	5.29E-09
16	ALL	650323.9	4203518	7.80E-05	71432	Benzene	5.28E-09
856	ALL	650183.9	4204518	7.80E-05	71432	Benzene	5.28E-09
128	ALL	650583.9	4203618	0.000371	50000	Formaldehyde	5.27E-09
843	ALL	650203.9	4204498	7.78E-05	71432	Benzene	5.27E-09
12	ALL	650243.9	4203518	7.78E-05	71432	Benzene	5.27E-09
11	ALL	650223.9	4203518	7.78E-05	71432	Benzene	5.26E-09
165	ALL	650063.9	4203658	7.78E-05	71432	Benzene	5.26E-09
474	ALL	650083.9	4204058	0.00037	50000	Formaldehyde	5.26E-09
630	ALL	650663.9	4204198	0.00037	50000	Formaldehyde	5.26E-09
15	ALL	650303.9	4203518	7.77E-05	71432	Benzene	5.26E-09
151	ALL	650563.9	4203638	0.00037	50000	Formaldehyde	5.26E-09
13	ALL	650263.9	4203518	7.77E-05	71432	Benzene	5.26E-09
14	ALL	650283.9	4203518	7.77E-05	71432	Benzene	5.25E-09
10	ALL	650203.9	4203518	7.76E-05	71432	Benzene	5.25E-09

239	ALL	649963.9	4203758	7.74E-05	71432	Benzene	5.24E-09
611	ALL	650743.9	4204178	0.000368	50000	Formaldehyde	5.24E-09
624	ALL	650063.9	4204198	0.000368	50000	Formaldehyde	5.22E-09
9	ALL	650183.9	4203518	7.69E-05	71432	Benzene	5.20E-09
252	ALL	649923.9	4203778	7.69E-05	71432	Benzene	5.20E-09
716	ALL	650063.9	4204298	0.000366	50000	Formaldehyde	5.20E-09
186	ALL	650043.9	4203678	7.68E-05	71432	Benzene	5.20E-09
28	ALL	650143.9	4203538	7.68E-05	71432	Benzene	5.20E-09
399	ALL	650083.9	4203978	0.000365	50000	Formaldehyde	5.19E-09
859	ALL	650190.8	4204367	0.000365	50000	Formaldehyde	5.19E-09
225	ALL	649983.9	4203738	7.66E-05	71432	Benzene	5.18E-09
8	ALL	650163.9	4203518	7.62E-05	71432	Benzene	5.15E-09
214	ALL	650003.9	4203718	7.61E-05	71432	Benzene	5.15E-09
592	ALL	650803.9	4204158	0.000362	50000	Formaldehyde	5.14E-09
201	ALL	650023.9	4203698	7.59E-05	71432	Benzene	5.14E-09
137	ALL	650063.9	4203638	7.59E-05	71432	Benzene	5.13E-09
631	ALL	650683.9	4204198	0.000361	50000	Formaldehyde	5.13E-09
760	ALL	650103.9	4204358	0.000361	50000	Formaldehyde	5.13E-09
493	ALL	650083.9	4204078	0.000361	50000	Formaldehyde	5.12E-09
557	ALL	650083.9	4204138	0.00036	50000	Formaldehyde	5.12E-09
95	ALL	650083.9	4203598	7.55E-05	71432	Benzene	5.11E-09
744	ALL	650083.9	4204338	0.000359	50000	Formaldehyde	5.10E-09
238	ALL	649943.9	4203758	7.52E-05	71432	Benzene	5.09E-09
48	ALL	650683.9	4203538	0.000358	50000	Formaldehyde	5.08E-09
363	ALL	650103.9	4203938	0.000358	50000	Formaldehyde	5.08E-09
601	ALL	650063.9	4204178	0.000357	50000	Formaldehyde	5.08E-09
685	ALL	650043.9	4204258	0.000357	50000	Formaldehyde	5.07E-09
612	ALL	650763.9	4204178	0.000357	50000	Formaldehyde	5.07E-09
435	ALL	650063.9	4204018	0.000356	50000	Formaldehyde	5.06E-09
164	ALL	650043.9	4203658	7.47E-05	71432	Benzene	5.06E-09
666	ALL	650043.9	4204238	0.000356	50000	Formaldehyde	5.06E-09
7	ALL	650143.9	4203518	7.44E-05	71432	Benzene	5.04E-09
51	ALL	650103.9	4203558	7.44E-05	71432	Benzene	5.03E-09
224	ALL	649963.9	4203738	7.44E-05	71432	Benzene	5.03E-09
700	ALL	650043.9	4204278	0.000354	50000	Formaldehyde	5.03E-09
185	ALL	650023.9	4203678	7.42E-05	71432	Benzene	5.02E-09
632	ALL	650703.9	4204198	0.000353	50000	Formaldehyde	5.01E-09
454	ALL	650063.9	4204038	0.000352	50000	Formaldehyde	5.01E-09
213	ALL	649983.9	4203718	7.40E-05	71432	Benzene	5.01E-09
764	ALL	650883.9	4204358	7.39E-05	71432	Benzene	5.00E-09
534	ALL	650083.9	4204118	0.000352	50000	Formaldehyde	5.00E-09
512	ALL	650083.9	4204098	0.000351	50000	Formaldehyde	4.99E-09
47	ALL	650663.9	4203538	0.000351	50000	Formaldehyde	4.98E-09
729	ALL	650063.9	4204318	0.000351	50000	Formaldehyde	4.98E-09
765	ALL	650903.9	4204358	7.36E-05	71432	Benzene	4.98E-09
237	ALL	649923.9	4203758	7.36E-05	71432	Benzene	4.98E-09
74	ALL	650083.9	4203578	7.36E-05	71432	Benzene	4.98E-09

200	ALL	650003.9	4203698	7.35E-05	71432	Benzene	4.98E-09
417	ALL	650063.9	4203998	0.00035	50000	Formaldehyde	4.97E-09
646	ALL	650043.9	4204218	0.00035	50000	Formaldehyde	4.97E-09
766	ALL	650923.9	4204358	7.33E-05	71432	Benzene	4.96E-09
860	ALL	650200.7	4204370	0.000348	50000	Formaldehyde	4.95E-09
136	ALL	650043.9	4203638	7.30E-05	71432	Benzene	4.94E-09
473	ALL	650063.9	4204058	0.000347	50000	Formaldehyde	4.93E-09
381	ALL	650083.9	4203958	0.000346	50000	Formaldehyde	4.92E-09
613	ALL	650783.9	4204178	0.000346	50000	Formaldehyde	4.92E-09
27	ALL	650103.9	4203538	7.25E-05	71432	Benzene	4.91E-09
633	ALL	650723.9	4204198	0.000344	50000	Formaldehyde	4.89E-09
94	ALL	650063.9	4203598	7.23E-05	71432	Benzene	4.89E-09
223	ALL	649943.9	4203738	7.22E-05	71432	Benzene	4.89E-09
398	ALL	650063.9	4203978	0.000343	50000	Formaldehyde	4.88E-09
163	ALL	650023.9	4203658	7.20E-05	71432	Benzene	4.87E-09
759	ALL	650083.9	4204358	0.000343	50000	Formaldehyde	4.87E-09
212	ALL	649963.9	4203718	7.19E-05	71432	Benzene	4.86E-09
50	ALL	650083.9	4203558	7.18E-05	71432	Benzene	4.86E-09
23	ALL	650683.9	4203518	0.000342	50000	Formaldehyde	4.85E-09
113	ALL	650583.9	4203598	0.000341	50000	Formaldehyde	4.85E-09
776	ALL	650103.9	4204378	0.000341	50000	Formaldehyde	4.85E-09
715	ALL	650043.9	4204298	0.000341	50000	Formaldehyde	4.85E-09
578	ALL	650063.9	4204158	0.000341	50000	Formaldehyde	4.84E-09
286	ALL	650163.9	4203818	0.000341	50000	Formaldehyde	4.84E-09
127	ALL	650563.9	4203618	0.00034	50000	Formaldehyde	4.84E-09
199	ALL	649983.9	4203698	7.14E-05	71432	Benzene	4.83E-09
857	ALL	650203.9	4204518	7.13E-05	71432	Benzene	4.83E-09
184	ALL	650003.9	4203678	7.13E-05	71432	Benzene	4.83E-09
492	ALL	650063.9	4204078	0.000339	50000	Formaldehyde	4.82E-09
652	ALL	650623.9	4204218	0.000339	50000	Formaldehyde	4.82E-09
623	ALL	650043.9	4204198	0.000339	50000	Formaldehyde	4.81E-09
6	ALL	650103.9	4203518	7.09E-05	71432	Benzene	4.80E-09
73	ALL	650063.9	4203578	7.07E-05	71432	Benzene	4.79E-09
222	ALL	649923.9	4203738	7.07E-05	71432	Benzene	4.78E-09
743	ALL	650063.9	4204338	0.000336	50000	Formaldehyde	4.77E-09
614	ALL	650803.9	4204178	0.000336	50000	Formaldehyde	4.77E-09
634	ALL	650743.9	4204198	0.000335	50000	Formaldehyde	4.77E-09
135	ALL	650023.9	4203638	7.03E-05	71432	Benzene	4.76E-09
653	ALL	650643.9	4204218	0.000334	50000	Formaldehyde	4.74E-09
556	ALL	650063.9	4204138	0.000333	50000	Formaldehyde	4.74E-09
26	ALL	650083.9	4203538	6.99E-05	71432	Benzene	4.73E-09
434	ALL	650043.9	4204018	0.000333	50000	Formaldehyde	4.73E-09
453	ALL	650043.9	4204038	0.000332	50000	Formaldehyde	4.72E-09
211	ALL	649943.9	4203718	6.97E-05	71432	Benzene	4.72E-09
416	ALL	650043.9	4203998	0.000332	50000	Formaldehyde	4.71E-09
22	ALL	650663.9	4203518	0.000331	50000	Formaldehyde	4.71E-09
665	ALL	650023.9	4204238	0.000331	50000	Formaldehyde	4.71E-09

362	ALL	650083.9	4203938	0.000331	50000	Formaldehyde	4.70E-09
511	ALL	650063.9	4204098	0.00033	50000	Formaldehyde	4.70E-09
198	ALL	649963.9	4203698	6.94E-05	71432	Benzene	4.70E-09
162	ALL	650003.9	4203658	6.93E-05	71432	Benzene	4.69E-09
684	ALL	650023.9	4204258	0.00033	50000	Formaldehyde	4.68E-09
533	ALL	650063.9	4204118	0.000329	50000	Formaldehyde	4.68E-09
49	ALL	650063.9	4203558	6.91E-05	71432	Benzene	4.68E-09
183	ALL	649983.9	4203678	6.91E-05	71432	Benzene	4.68E-09
600	ALL	650043.9	4204178	0.000328	50000	Formaldehyde	4.67E-09
380	ALL	650063.9	4203958	0.000328	50000	Formaldehyde	4.66E-09
728	ALL	650043.9	4204318	0.000328	50000	Formaldehyde	4.66E-09
775	ALL	650083.9	4204378	0.000328	50000	Formaldehyde	4.65E-09
472	ALL	650043.9	4204058	0.000327	50000	Formaldehyde	4.65E-09
635	ALL	650763.9	4204198	0.000327	50000	Formaldehyde	4.65E-09
699	ALL	650023.9	4204278	0.000327	50000	Formaldehyde	4.64E-09
5	ALL	650083.9	4203518	6.86E-05	71432	Benzene	4.64E-09
758	ALL	650063.9	4204358	0.000326	50000	Formaldehyde	4.63E-09
72	ALL	650043.9	4203578	6.81E-05	71432	Benzene	4.61E-09
777	ALL	650903.9	4204378	6.80E-05	71432	Benzene	4.60E-09
645	ALL	650023.9	4204218	0.000323	50000	Formaldehyde	4.60E-09
210	ALL	649923.9	4203718	6.79E-05	71432	Benzene	4.59E-09
397	ALL	650043.9	4203978	0.000323	50000	Formaldehyde	4.59E-09
778	ALL	650923.9	4204378	6.79E-05	71432	Benzene	4.59E-09
25	ALL	650063.9	4203538	6.77E-05	71432	Benzene	4.58E-09
134	ALL	650003.9	4203638	6.77E-05	71432	Benzene	4.58E-09
197	ALL	649943.9	4203698	6.75E-05	71432	Benzene	4.57E-09
714	ALL	650023.9	4204298	0.000321	50000	Formaldehyde	4.56E-09
182	ALL	649963.9	4203678	6.72E-05	71432	Benzene	4.55E-09
161	ALL	649983.9	4203658	6.72E-05	71432	Benzene	4.54E-09
491	ALL	650043.9	4204078	0.000319	50000	Formaldehyde	4.53E-09
577	ALL	650043.9	4204158	0.000319	50000	Formaldehyde	4.53E-09
636	ALL	650783.9	4204198	0.000319	50000	Formaldehyde	4.53E-09
622	ALL	650023.9	4204198	0.000318	50000	Formaldehyde	4.52E-09
654	ALL	650703.9	4204218	0.000317	50000	Formaldehyde	4.51E-09
788	ALL	650103.9	4204398	0.000316	50000	Formaldehyde	4.49E-09
93	ALL	650583.9	4203578	0.000316	50000	Formaldehyde	4.49E-09
4	ALL	650063.9	4203518	6.62E-05	71432	Benzene	4.48E-09
742	ALL	650043.9	4204338	0.000315	50000	Formaldehyde	4.48E-09
452	ALL	650023.9	4204038	0.000314	50000	Formaldehyde	4.47E-09
415	ALL	650023.9	4203998	0.000314	50000	Formaldehyde	4.46E-09
433	ALL	650023.9	4204018	0.000314	50000	Formaldehyde	4.45E-09
112	ALL	650563.9	4203598	0.000312	50000	Formaldehyde	4.44E-09
379	ALL	650043.9	4203958	0.000312	50000	Formaldehyde	4.44E-09
181	ALL	649943.9	4203678	6.55E-05	71432	Benzene	4.43E-09
510	ALL	650043.9	4204098	0.000312	50000	Formaldehyde	4.43E-09
361	ALL	650063.9	4203938	0.000312	50000	Formaldehyde	4.43E-09
787	ALL	650083.9	4204398	0.000312	50000	Formaldehyde	4.43E-09

196	ALL	649923.9	4203698	6.55E-05	71432	Benzene	4.43E-09
71	ALL	650023.9	4203578	6.55E-05	71432	Benzene	4.43E-09
655	ALL	650723.9	4204218	0.000311	50000	Formaldehyde	4.43E-09
774	ALL	650063.9	4204378	0.000311	50000	Formaldehyde	4.42E-09
555	ALL	650043.9	4204138	0.000311	50000	Formaldehyde	4.42E-09
345	ALL	650083.9	4203918	0.000311	50000	Formaldehyde	4.42E-09
133	ALL	649983.9	4203638	6.53E-05	71432	Benzene	4.42E-09
727	ALL	650023.9	4204318	0.000311	50000	Formaldehyde	4.41E-09
532	ALL	650043.9	4204118	0.00031	50000	Formaldehyde	4.41E-09
126	ALL	650543.9	4203618	0.00031	50000	Formaldehyde	4.41E-09
24	ALL	650043.9	4203538	6.51E-05	71432	Benzene	4.41E-09
637	ALL	650803.9	4204198	0.00031	50000	Formaldehyde	4.41E-09
160	ALL	649963.9	4203658	6.51E-05	71432	Benzene	4.40E-09
683	ALL	650003.9	4204258	0.00031	50000	Formaldehyde	4.40E-09
471	ALL	650023.9	4204058	0.000308	50000	Formaldehyde	4.38E-09
599	ALL	650023.9	4204178	0.000307	50000	Formaldehyde	4.37E-09
757	ALL	650043.9	4204358	0.000307	50000	Formaldehyde	4.36E-09
664	ALL	650003.9	4204238	0.000307	50000	Formaldehyde	4.36E-09
698	ALL	650003.9	4204278	0.000307	50000	Formaldehyde	4.36E-09
396	ALL	650023.9	4203978	0.000306	50000	Formaldehyde	4.35E-09
656	ALL	650743.9	4204218	0.000305	50000	Formaldehyde	4.33E-09
3	ALL	650043.9	4203518	6.40E-05	71432	Benzene	4.33E-09
180	ALL	649923.9	4203678	6.38E-05	71432	Benzene	4.31E-09
644	ALL	650003.9	4204218	0.000303	50000	Formaldehyde	4.31E-09
159	ALL	649943.9	4203658	6.36E-05	71432	Benzene	4.30E-09
490	ALL	650023.9	4204078	0.000302	50000	Formaldehyde	4.30E-09
132	ALL	649963.9	4203638	6.33E-05	71432	Benzene	4.28E-09
786	ALL	650063.9	4204398	0.000301	50000	Formaldehyde	4.28E-09
576	ALL	650023.9	4204158	0.0003	50000	Formaldehyde	4.27E-09
70	ALL	650003.9	4203578	6.30E-05	71432	Benzene	4.27E-09
671	ALL	650623.9	4204238	0.0003	50000	Formaldehyde	4.26E-09
713	ALL	650003.9	4204298	0.0003	50000	Formaldehyde	4.26E-09
657	ALL	650763.9	4204218	0.000299	50000	Formaldehyde	4.25E-09
451	ALL	650003.9	4204038	0.000298	50000	Formaldehyde	4.23E-09
432	ALL	650003.9	4204018	0.000298	50000	Formaldehyde	4.23E-09
593	ALL	650923.9	4204158	0.000297	50000	Formaldehyde	4.23E-09
378	ALL	650023.9	4203958	0.000297	50000	Formaldehyde	4.22E-09
672	ALL	650643.9	4204238	0.000297	50000	Formaldehyde	4.22E-09
741	ALL	650023.9	4204338	0.000297	50000	Formaldehyde	4.22E-09
414	ALL	650003.9	4203998	0.000297	50000	Formaldehyde	4.22E-09
621	ALL	650003.9	4204198	0.000297	50000	Formaldehyde	4.21E-09
360	ALL	650043.9	4203938	0.000297	50000	Formaldehyde	4.21E-09
773	ALL	650043.9	4204378	0.000296	50000	Formaldehyde	4.21E-09
509	ALL	650023.9	4204098	0.000295	50000	Formaldehyde	4.19E-09
344	ALL	650063.9	4203918	0.000295	50000	Formaldehyde	4.19E-09
796	ALL	650103.9	4204418	0.000295	50000	Formaldehyde	4.19E-09
158	ALL	649923.9	4203658	6.18E-05	71432	Benzene	4.18E-09

726	ALL	650003.9	4204318	0.000294	50000	Formaldehyde	4.18E-09
554	ALL	650023.9	4204138	0.000294	50000	Formaldehyde	4.18E-09
531	ALL	650023.9	4204118	0.000293	50000	Formaldehyde	4.16E-09
69	ALL	650583.9	4203558	0.000293	50000	Formaldehyde	4.16E-09
682	ALL	649983.9	4204258	0.000292	50000	Formaldehyde	4.15E-09
395	ALL	650003.9	4203978	0.000292	50000	Formaldehyde	4.14E-09
209	ALL	650443.9	4203698	0.000291	50000	Formaldehyde	4.14E-09
470	ALL	650003.9	4204058	0.000291	50000	Formaldehyde	4.14E-09
329	ALL	650083.9	4203898	0.00029	50000	Formaldehyde	4.12E-09
697	ALL	649983.9	4204278	0.00029	50000	Formaldehyde	4.12E-09
756	ALL	650023.9	4204358	0.000289	50000	Formaldehyde	4.11E-09
615	ALL	650903.9	4204178	0.000289	50000	Formaldehyde	4.10E-09
663	ALL	649983.9	4204238	0.000289	50000	Formaldehyde	4.10E-09
285	ALL	650143.9	4203818	0.000289	50000	Formaldehyde	4.10E-09
598	ALL	650003.9	4204178	0.000289	50000	Formaldehyde	4.10E-09
92	ALL	650563.9	4203578	0.000288	50000	Formaldehyde	4.10E-09
643	ALL	649983.9	4204218	0.000288	50000	Formaldehyde	4.09E-09
489	ALL	650003.9	4204078	0.000287	50000	Formaldehyde	4.08E-09
251	ALL	650203.9	4203758	0.000287	50000	Formaldehyde	4.07E-09
111	ALL	650543.9	4203598	0.000286	50000	Formaldehyde	4.07E-09
785	ALL	650043.9	4204398	0.000286	50000	Formaldehyde	4.07E-09
673	ALL	650703.9	4204238	0.000286	50000	Formaldehyde	4.07E-09
125	ALL	650523.9	4203618	0.000285	50000	Formaldehyde	4.05E-09
740	ALL	650003.9	4204338	0.000284	50000	Formaldehyde	4.03E-09
359	ALL	650023.9	4203938	0.000284	50000	Formaldehyde	4.03E-09
431	ALL	649983.9	4204018	0.000283	50000	Formaldehyde	4.03E-09
575	ALL	650003.9	4204158	0.000283	50000	Formaldehyde	4.02E-09
772	ALL	650023.9	4204378	0.000282	50000	Formaldehyde	4.01E-09
450	ALL	649983.9	4204038	0.000282	50000	Formaldehyde	4.01E-09
674	ALL	650723.9	4204238	0.000282	50000	Formaldehyde	4.00E-09
712	ALL	649983.9	4204298	0.000281	50000	Formaldehyde	4.00E-09
343	ALL	650043.9	4203918	0.000281	50000	Formaldehyde	4.00E-09
377	ALL	650003.9	4203958	0.000281	50000	Formaldehyde	4.00E-09
616	ALL	650923.9	4204178	0.000281	50000	Formaldehyde	4.00E-09
413	ALL	649983.9	4203998	0.000281	50000	Formaldehyde	3.99E-09
620	ALL	649983.9	4204198	0.00028	50000	Formaldehyde	3.98E-09
508	ALL	650003.9	4204098	0.00028	50000	Formaldehyde	3.98E-09
208	ALL	650423.9	4203698	0.000279	50000	Formaldehyde	3.96E-09
530	ALL	650003.9	4204118	0.000279	50000	Formaldehyde	3.96E-09
553	ALL	650003.9	4204138	0.000278	50000	Formaldehyde	3.95E-09
675	ALL	650743.9	4204238	0.000278	50000	Formaldehyde	3.94E-09
469	ALL	649983.9	4204058	0.000278	50000	Formaldehyde	3.94E-09
394	ALL	649983.9	4203978	0.000277	50000	Formaldehyde	3.94E-09
795	ALL	650043.9	4204418	0.000277	50000	Formaldehyde	3.94E-09
328	ALL	650063.9	4203898	0.000276	50000	Formaldehyde	3.92E-09
662	ALL	649963.9	4204238	0.000275	50000	Formaldehyde	3.91E-09
696	ALL	649963.9	4204278	0.000275	50000	Formaldehyde	3.90E-09

725	ALL	649983.9	4204318	0.000275	50000	Formaldehyde	3.90E-09
805	ALL	650083.9	4204438	0.000274	50000	Formaldehyde	3.90E-09
488	ALL	649983.9	4204078	0.000274	50000	Formaldehyde	3.89E-09
681	ALL	649963.9	4204258	0.000274	50000	Formaldehyde	3.89E-09
597	ALL	649983.9	4204178	0.000273	50000	Formaldehyde	3.88E-09
638	ALL	650903.9	4204198	0.000273	50000	Formaldehyde	3.88E-09
676	ALL	650763.9	4204238	0.000273	50000	Formaldehyde	3.88E-09
784	ALL	650023.9	4204398	0.000273	50000	Formaldehyde	3.88E-09
313	ALL	650083.9	4203878	0.000273	50000	Formaldehyde	3.87E-09
358	ALL	650003.9	4203938	0.000272	50000	Formaldehyde	3.87E-09
755	ALL	650003.9	4204358	0.000272	50000	Formaldehyde	3.86E-09
46	ALL	650583.9	4203538	0.000271	50000	Formaldehyde	3.86E-09
642	ALL	649963.9	4204218	0.00027	50000	Formaldehyde	3.84E-09
739	ALL	649983.9	4204338	0.00027	50000	Formaldehyde	3.84E-09
430	ALL	649963.9	4204018	0.00027	50000	Formaldehyde	3.83E-09
711	ALL	649963.9	4204298	0.00027	50000	Formaldehyde	3.83E-09
342	ALL	650023.9	4203918	0.000269	50000	Formaldehyde	3.83E-09
376	ALL	649983.9	4203958	0.000269	50000	Formaldehyde	3.83E-09
690	ALL	650623.9	4204258	0.000269	50000	Formaldehyde	3.82E-09
804	ALL	650063.9	4204438	0.000269	50000	Formaldehyde	3.82E-09
68	ALL	650563.9	4203558	0.000269	50000	Formaldehyde	3.82E-09
449	ALL	649963.9	4204038	0.000269	50000	Formaldehyde	3.82E-09
574	ALL	649983.9	4204158	0.000268	50000	Formaldehyde	3.81E-09
91	ALL	650543.9	4203578	0.000268	50000	Formaldehyde	3.80E-09
412	ALL	649963.9	4203998	0.000267	50000	Formaldehyde	3.80E-09
507	ALL	649983.9	4204098	0.000267	50000	Formaldehyde	3.79E-09
691	ALL	650643.9	4204258	0.000267	50000	Formaldehyde	3.79E-09
110	ALL	650523.9	4203598	0.000267	50000	Formaldehyde	3.79E-09
327	ALL	650043.9	4203898	0.000266	50000	Formaldehyde	3.78E-09
639	ALL	650923.9	4204198	0.000266	50000	Formaldehyde	3.78E-09
803	ALL	650043.9	4204438	0.000265	50000	Formaldehyde	3.77E-09
794	ALL	650023.9	4204418	0.000265	50000	Formaldehyde	3.77E-09
619	ALL	649963.9	4204198	0.000265	50000	Formaldehyde	3.76E-09
552	ALL	649983.9	4204138	0.000265	50000	Formaldehyde	3.76E-09
771	ALL	650003.9	4204378	0.000265	50000	Formaldehyde	3.76E-09
529	ALL	649983.9	4204118	0.000265	50000	Formaldehyde	3.76E-09
393	ALL	649963.9	4203978	0.000264	50000	Formaldehyde	3.75E-09
468	ALL	649963.9	4204058	0.000264	50000	Formaldehyde	3.75E-09
806	ALL	650143.9	4204438	0.000263	50000	Formaldehyde	3.74E-09
195	ALL	650423.9	4203678	0.000262	50000	Formaldehyde	3.73E-09
661	ALL	649943.9	4204238	0.000262	50000	Formaldehyde	3.73E-09
724	ALL	649963.9	4204318	0.000262	50000	Formaldehyde	3.72E-09
783	ALL	650003.9	4204398	0.000262	50000	Formaldehyde	3.72E-09
680	ALL	649943.9	4204258	0.000262	50000	Formaldehyde	3.72E-09
596	ALL	649963.9	4204178	0.00026	50000	Formaldehyde	3.69E-09
487	ALL	649963.9	4204078	0.00026	50000	Formaldehyde	3.69E-09
357	ALL	649983.9	4203938	0.000259	50000	Formaldehyde	3.69E-09

312	ALL	650063.9	4203878	0.000259	50000	Formaldehyde	3.68E-09
341	ALL	650003.9	4203918	0.000259	50000	Formaldehyde	3.68E-09
695	ALL	649943.9	4204278	0.000259	50000	Formaldehyde	3.68E-09
754	ALL	649983.9	4204358	0.000258	50000	Formaldehyde	3.67E-09
250	ALL	650183.9	4203758	0.000258	50000	Formaldehyde	3.67E-09
817	ALL	650083.9	4204458	0.000258	50000	Formaldehyde	3.67E-09
429	ALL	649943.9	4204018	0.000258	50000	Formaldehyde	3.66E-09
375	ALL	649963.9	4203958	0.000257	50000	Formaldehyde	3.66E-09
658	ALL	650903.9	4204218	0.000257	50000	Formaldehyde	3.65E-09
710	ALL	649943.9	4204298	0.000257	50000	Formaldehyde	3.65E-09
641	ALL	649943.9	4204218	0.000257	50000	Formaldehyde	3.65E-09
802	ALL	650023.9	4204438	0.000257	50000	Formaldehyde	3.65E-09
304	ALL	650083.9	4203858	0.000256	50000	Formaldehyde	3.64E-09
411	ALL	649943.9	4203998	0.000256	50000	Formaldehyde	3.63E-09
448	ALL	649943.9	4204038	0.000255	50000	Formaldehyde	3.63E-09
326	ALL	650023.9	4203898	0.000255	50000	Formaldehyde	3.63E-09
816	ALL	650063.9	4204458	0.000255	50000	Formaldehyde	3.63E-09
738	ALL	649963.9	4204338	0.000255	50000	Formaldehyde	3.62E-09
284	ALL	650123.9	4203818	0.000254	50000	Formaldehyde	3.61E-09
194	ALL	650403.9	4203678	0.000254	50000	Formaldehyde	3.61E-09
236	ALL	650203.9	4203738	0.000254	50000	Formaldehyde	3.61E-09
506	ALL	649963.9	4204098	0.000254	50000	Formaldehyde	3.61E-09
793	ALL	650003.9	4204418	0.000253	50000	Formaldehyde	3.60E-09
573	ALL	649963.9	4204158	0.000253	50000	Formaldehyde	3.60E-09
770	ALL	649983.9	4204378	0.000253	50000	Formaldehyde	3.59E-09
618	ALL	649943.9	4204198	0.000253	50000	Formaldehyde	3.59E-09
528	ALL	649963.9	4204118	0.000252	50000	Formaldehyde	3.59E-09
45	ALL	650563.9	4203538	0.000252	50000	Formaldehyde	3.58E-09
467	ALL	649943.9	4204058	0.000252	50000	Formaldehyde	3.58E-09
551	ALL	649963.9	4204138	0.000252	50000	Formaldehyde	3.58E-09
392	ALL	649943.9	4203978	0.000252	50000	Formaldehyde	3.58E-09
659	ALL	650923.9	4204218	0.000251	50000	Formaldehyde	3.57E-09
815	ALL	650043.9	4204458	0.000251	50000	Formaldehyde	3.56E-09
67	ALL	650543.9	4203558	0.000251	50000	Formaldehyde	3.56E-09
311	ALL	650043.9	4203878	0.000251	50000	Formaldehyde	3.56E-09
679	ALL	649923.9	4204258	0.00025	50000	Formaldehyde	3.56E-09
90	ALL	650523.9	4203578	0.00025	50000	Formaldehyde	3.55E-09
340	ALL	649983.9	4203918	0.000249	50000	Formaldehyde	3.54E-09
660	ALL	649923.9	4204238	0.000249	50000	Formaldehyde	3.54E-09
723	ALL	649943.9	4204318	0.000249	50000	Formaldehyde	3.54E-09
753	ALL	649963.9	4204358	0.000249	50000	Formaldehyde	3.54E-09
486	ALL	649943.9	4204078	0.000249	50000	Formaldehyde	3.53E-09
356	ALL	649963.9	4203938	0.000249	50000	Formaldehyde	3.53E-09
193	ALL	650383.9	4203678	0.000248	50000	Formaldehyde	3.52E-09
694	ALL	649923.9	4204278	0.000248	50000	Formaldehyde	3.52E-09
2	ALL	649918.4	4203526	5.20E-05	71432	Benzene	3.52E-09
595	ALL	649943.9	4204178	0.000248	50000	Formaldehyde	3.52E-09

782	ALL	649983.9	4204398	0.000248	50000	Formaldehyde	3.52E-09
374	ALL	649943.9	4203958	0.000247	50000	Formaldehyde	3.51E-09
801	ALL	650003.9	4204438	0.000246	50000	Formaldehyde	3.49E-09
428	ALL	649923.9	4204018	0.000245	50000	Formaldehyde	3.49E-09
325	ALL	650003.9	4203898	0.000245	50000	Formaldehyde	3.49E-09
303	ALL	650063.9	4203858	0.000245	50000	Formaldehyde	3.49E-09
410	ALL	649923.9	4203998	0.000245	50000	Formaldehyde	3.48E-09
814	ALL	650023.9	4204458	0.000244	50000	Formaldehyde	3.47E-09
447	ALL	649923.9	4204038	0.000244	50000	Formaldehyde	3.47E-09
192	ALL	650363.9	4203678	0.000244	50000	Formaldehyde	3.46E-09
640	ALL	649923.9	4204218	0.000244	50000	Formaldehyde	3.46E-09
249	ALL	650163.9	4203758	0.000244	50000	Formaldehyde	3.46E-09
737	ALL	649943.9	4204338	0.000243	50000	Formaldehyde	3.46E-09
235	ALL	650183.9	4203738	0.000243	50000	Formaldehyde	3.45E-09
505	ALL	649943.9	4204098	0.000243	50000	Formaldehyde	3.45E-09
709	ALL	649923.9	4204298	0.000243	50000	Formaldehyde	3.45E-09
828	ALL	650063.9	4204478	0.000242	50000	Formaldehyde	3.44E-09
310	ALL	650023.9	4203878	0.000242	50000	Formaldehyde	3.44E-09
705	ALL	650623.9	4204278	0.000242	50000	Formaldehyde	3.44E-09
550	ALL	649943.9	4204138	0.000242	50000	Formaldehyde	3.43E-09
818	ALL	650143.9	4204458	0.000241	50000	Formaldehyde	3.43E-09
677	ALL	650903.9	4204238	0.000241	50000	Formaldehyde	3.43E-09
617	ALL	649923.9	4204198	0.000241	50000	Formaldehyde	3.43E-09
466	ALL	649923.9	4204058	0.000241	50000	Formaldehyde	3.43E-09
295	ALL	650083.9	4203838	0.000241	50000	Formaldehyde	3.42E-09
792	ALL	649983.9	4204418	0.000241	50000	Formaldehyde	3.42E-09
527	ALL	649943.9	4204118	0.000241	50000	Formaldehyde	3.42E-09
572	ALL	649943.9	4204158	0.000241	50000	Formaldehyde	3.42E-09
176	ALL	650403.9	4203658	0.000241	50000	Formaldehyde	3.42E-09
769	ALL	649963.9	4204378	0.000241	50000	Formaldehyde	3.42E-09
706	ALL	650643.9	4204278	0.00024	50000	Formaldehyde	3.41E-09
273	ALL	650123.9	4203798	0.00024	50000	Formaldehyde	3.41E-09
283	ALL	650103.9	4203818	0.00024	50000	Formaldehyde	3.41E-09
391	ALL	649923.9	4203978	0.00024	50000	Formaldehyde	3.40E-09
827	ALL	650043.9	4204478	0.000239	50000	Formaldehyde	3.40E-09
1	ALL	649898.4	4203526	5.03E-05	71432	Benzene	3.40E-09
355	ALL	649943.9	4203938	0.000239	50000	Formaldehyde	3.40E-09
339	ALL	649963.9	4203918	0.000239	50000	Formaldehyde	3.40E-09
813	ALL	650003.9	4204458	0.000239	50000	Formaldehyde	3.40E-09
722	ALL	649923.9	4204318	0.000239	50000	Formaldehyde	3.39E-09
485	ALL	649923.9	4204078	0.000238	50000	Formaldehyde	3.38E-09
373	ALL	649923.9	4203958	0.000237	50000	Formaldehyde	3.37E-09
752	ALL	649943.9	4204358	0.000237	50000	Formaldehyde	3.37E-09
800	ALL	649983.9	4204438	0.000237	50000	Formaldehyde	3.37E-09
324	ALL	649983.9	4203898	0.000237	50000	Formaldehyde	3.37E-09
44	ALL	650543.9	4203538	0.000236	50000	Formaldehyde	3.36E-09
781	ALL	649963.9	4204398	0.000236	50000	Formaldehyde	3.36E-09

678	ALL	650923.9	4204238	0.000236	50000	Formaldehyde	3.36E-09
302	ALL	650043.9	4203858	0.000236	50000	Formaldehyde	3.36E-09
175	ALL	650383.9	4203658	0.000236	50000	Formaldehyde	3.35E-09
66	ALL	650523.9	4203558	0.000235	50000	Formaldehyde	3.34E-09
594	ALL	649923.9	4204178	0.000235	50000	Formaldehyde	3.34E-09
826	ALL	650023.9	4204478	0.000234	50000	Formaldehyde	3.33E-09
309	ALL	650003.9	4203878	0.000233	50000	Formaldehyde	3.31E-09
234	ALL	650163.9	4203738	0.000233	50000	Formaldehyde	3.31E-09
736	ALL	649923.9	4204338	0.000233	50000	Formaldehyde	3.31E-09
504	ALL	649923.9	4204098	0.000233	50000	Formaldehyde	3.30E-09
294	ALL	650063.9	4203838	0.000232	50000	Formaldehyde	3.30E-09
248	ALL	650143.9	4203758	0.000231	50000	Formaldehyde	3.29E-09
812	ALL	649983.9	4204458	0.000231	50000	Formaldehyde	3.29E-09
571	ALL	649923.9	4204158	0.000231	50000	Formaldehyde	3.29E-09
174	ALL	650363.9	4203658	0.000231	50000	Formaldehyde	3.28E-09
526	ALL	649923.9	4204118	0.000231	50000	Formaldehyde	3.28E-09
549	ALL	649923.9	4204138	0.000231	50000	Formaldehyde	3.28E-09
807	ALL	650209.7	4204429	0.00023	50000	Formaldehyde	3.27E-09
354	ALL	649923.9	4203938	0.00023	50000	Formaldehyde	3.27E-09
323	ALL	649963.9	4203898	0.00023	50000	Formaldehyde	3.26E-09
338	ALL	649943.9	4203918	0.00023	50000	Formaldehyde	3.26E-09
791	ALL	649963.9	4204418	0.00023	50000	Formaldehyde	3.26E-09
768	ALL	649943.9	4204378	0.000229	50000	Formaldehyde	3.26E-09
262	ALL	650123.9	4203778	0.000228	50000	Formaldehyde	3.25E-09
282	ALL	650083.9	4203818	0.000228	50000	Formaldehyde	3.24E-09
825	ALL	650003.9	4204478	0.000228	50000	Formaldehyde	3.24E-09
301	ALL	650023.9	4203858	0.000228	50000	Formaldehyde	3.24E-09
837	ALL	650063.9	4204498	0.000228	50000	Formaldehyde	3.24E-09
272	ALL	650103.9	4203798	0.000228	50000	Formaldehyde	3.24E-09
836	ALL	650043.9	4204498	0.000227	50000	Formaldehyde	3.23E-09
780	ALL	649943.9	4204398	0.000226	50000	Formaldehyde	3.21E-09
799	ALL	649963.9	4204438	0.000226	50000	Formaldehyde	3.21E-09
835	ALL	650023.9	4204498	0.000226	50000	Formaldehyde	3.20E-09
692	ALL	650903.9	4204258	0.000226	50000	Formaldehyde	3.20E-09
751	ALL	649923.9	4204358	0.000225	50000	Formaldehyde	3.20E-09
173	ALL	650303.9	4203658	0.000224	50000	Formaldehyde	3.19E-09
308	ALL	649983.9	4203878	0.000224	50000	Formaldehyde	3.19E-09
293	ALL	650043.9	4203838	0.000224	50000	Formaldehyde	3.19E-09
824	ALL	649983.9	4204478	0.000224	50000	Formaldehyde	3.18E-09
233	ALL	650143.9	4203738	0.000223	50000	Formaldehyde	3.17E-09
172	ALL	650283.9	4203658	0.000223	50000	Formaldehyde	3.17E-09
43	ALL	650523.9	4203538	0.000223	50000	Formaldehyde	3.17E-09
811	ALL	649963.9	4204458	0.000223	50000	Formaldehyde	3.16E-09
790	ALL	649943.9	4204418	0.000222	50000	Formaldehyde	3.16E-09
171	ALL	650263.9	4203658	0.000222	50000	Formaldehyde	3.16E-09
322	ALL	649943.9	4203898	0.000222	50000	Formaldehyde	3.15E-09
693	ALL	650923.9	4204258	0.000222	50000	Formaldehyde	3.15E-09

300	ALL	650003.9	4203858	0.000221	50000	Formaldehyde	3.14E-09
838	ALL	650103.9	4204498	0.000221	50000	Formaldehyde	3.14E-09
337	ALL	649923.9	4203918	0.000221	50000	Formaldehyde	3.14E-09
281	ALL	650063.9	4203818	0.00022	50000	Formaldehyde	3.13E-09
170	ALL	650243.9	4203658	0.00022	50000	Formaldehyde	3.13E-09
109	ALL	650443.9	4203598	0.00022	50000	Formaldehyde	3.13E-09
150	ALL	650363.9	4203638	0.00022	50000	Formaldehyde	3.12E-09
247	ALL	650123.9	4203758	0.00022	50000	Formaldehyde	3.12E-09
767	ALL	649923.9	4204378	0.000219	50000	Formaldehyde	3.11E-09
834	ALL	650003.9	4204498	0.000219	50000	Formaldehyde	3.11E-09
271	ALL	650083.9	4203798	0.000219	50000	Formaldehyde	3.11E-09
307	ALL	649963.9	4203878	0.000218	50000	Formaldehyde	3.10E-09
261	ALL	650103.9	4203778	0.000218	50000	Formaldehyde	3.10E-09
169	ALL	650223.9	4203658	0.000217	50000	Formaldehyde	3.09E-09
823	ALL	649963.9	4204478	0.000216	50000	Formaldehyde	3.07E-09
292	ALL	650023.9	4203838	0.000216	50000	Formaldehyde	3.07E-09
779	ALL	649923.9	4204398	0.000216	50000	Formaldehyde	3.07E-09
850	ALL	650043.9	4204518	0.000216	50000	Formaldehyde	3.06E-09
149	ALL	650323.9	4203638	0.000216	50000	Formaldehyde	3.06E-09
221	ALL	650143.9	4203718	0.000215	50000	Formaldehyde	3.06E-09
849	ALL	650023.9	4204518	0.000215	50000	Formaldehyde	3.05E-09
839	ALL	650123.9	4204498	0.000215	50000	Formaldehyde	3.05E-09
798	ALL	649943.9	4204438	0.000215	50000	Formaldehyde	3.05E-09
299	ALL	649983.9	4203858	0.000214	50000	Formaldehyde	3.04E-09
108	ALL	650423.9	4203598	0.000214	50000	Formaldehyde	3.04E-09
148	ALL	650303.9	4203638	0.000214	50000	Formaldehyde	3.04E-09
321	ALL	649923.9	4203898	0.000214	50000	Formaldehyde	3.03E-09
833	ALL	649983.9	4204498	0.000213	50000	Formaldehyde	3.03E-09
232	ALL	650123.9	4203738	0.000213	50000	Formaldehyde	3.03E-09
851	ALL	650063.9	4204518	0.000213	50000	Formaldehyde	3.03E-09
147	ALL	650283.9	4203638	0.000213	50000	Formaldehyde	3.02E-09
280	ALL	650043.9	4203818	0.000213	50000	Formaldehyde	3.02E-09
848	ALL	650003.9	4204518	0.000212	50000	Formaldehyde	3.02E-09
789	ALL	649923.9	4204418	0.000212	50000	Formaldehyde	3.02E-09
146	ALL	650263.9	4203638	0.000212	50000	Formaldehyde	3.01E-09
306	ALL	649943.9	4203878	0.000211	50000	Formaldehyde	3.00E-09
89	ALL	650443.9	4203578	0.00021	50000	Formaldehyde	2.99E-09
145	ALL	650243.9	4203638	0.00021	50000	Formaldehyde	2.99E-09
810	ALL	649943.9	4204458	0.00021	50000	Formaldehyde	2.99E-09
707	ALL	650903.9	4204278	0.00021	50000	Formaldehyde	2.99E-09
270	ALL	650063.9	4203798	0.00021	50000	Formaldehyde	2.98E-09
246	ALL	650103.9	4203758	0.00021	50000	Formaldehyde	2.98E-09
291	ALL	650003.9	4203838	0.00021	50000	Formaldehyde	2.98E-09
260	ALL	650083.9	4203778	0.000209	50000	Formaldehyde	2.97E-09
144	ALL	650223.9	4203638	0.000208	50000	Formaldehyde	2.96E-09
107	ALL	650403.9	4203598	0.000208	50000	Formaldehyde	2.96E-09
832	ALL	649963.9	4204498	0.000208	50000	Formaldehyde	2.96E-09

207	ALL	650143.9	4203698	0.000208	50000	Formaldehyde	2.96E-09
808	ALL	650229.7	4204429	0.000208	50000	Formaldehyde	2.95E-09
822	ALL	649943.9	4204478	0.000208	50000	Formaldehyde	2.95E-09
852	ALL	650103.9	4204518	0.000207	50000	Formaldehyde	2.95E-09
298	ALL	649963.9	4203858	0.000207	50000	Formaldehyde	2.94E-09
708	ALL	650923.9	4204278	0.000207	50000	Formaldehyde	2.94E-09
797	ALL	649923.9	4204438	0.000207	50000	Formaldehyde	2.94E-09
847	ALL	649983.9	4204518	0.000206	50000	Formaldehyde	2.93E-09
220	ALL	650123.9	4203718	0.000206	50000	Formaldehyde	2.93E-09
279	ALL	650023.9	4203818	0.000206	50000	Formaldehyde	2.92E-09
143	ALL	650203.9	4203638	0.000206	50000	Formaldehyde	2.92E-09
124	ALL	650323.9	4203618	0.000205	50000	Formaldehyde	2.92E-09
305	ALL	649923.9	4203878	0.000205	50000	Formaldehyde	2.91E-09
88	ALL	650423.9	4203578	0.000204	50000	Formaldehyde	2.91E-09
831	ALL	649943.9	4204498	0.000204	50000	Formaldehyde	2.90E-09
840	ALL	650143.9	4204498	0.000204	50000	Formaldehyde	2.89E-09
123	ALL	650303.9	4203618	0.000204	50000	Formaldehyde	2.89E-09
290	ALL	649983.9	4203838	0.000203	50000	Formaldehyde	2.89E-09
122	ALL	650283.9	4203618	0.000203	50000	Formaldehyde	2.88E-09
269	ALL	650043.9	4203798	0.000203	50000	Formaldehyde	2.88E-09
809	ALL	649923.9	4204458	0.000203	50000	Formaldehyde	2.88E-09
231	ALL	650103.9	4203738	0.000202	50000	Formaldehyde	2.88E-09
121	ALL	650263.9	4203618	0.000202	50000	Formaldehyde	2.87E-09
120	ALL	650243.9	4203618	0.000202	50000	Formaldehyde	2.87E-09
65	ALL	650443.9	4203558	0.000201	50000	Formaldehyde	2.86E-09
245	ALL	650083.9	4203758	0.000201	50000	Formaldehyde	2.86E-09
747	ALL	650295.8	4204357	0.000201	50000	Formaldehyde	2.86E-09
297	ALL	649943.9	4203858	0.000201	50000	Formaldehyde	2.86E-09
142	ALL	650183.9	4203638	0.000201	50000	Formaldehyde	2.86E-09
191	ALL	650143.9	4203678	0.000201	50000	Formaldehyde	2.86E-09
819	ALL	650203.9	4204458	0.000201	50000	Formaldehyde	2.85E-09
259	ALL	650063.9	4203778	0.0002	50000	Formaldehyde	2.85E-09
846	ALL	649963.9	4204518	0.0002	50000	Formaldehyde	2.85E-09
119	ALL	650223.9	4203618	0.0002	50000	Formaldehyde	2.84E-09
853	ALL	650123.9	4204518	0.000199	50000	Formaldehyde	2.83E-09
278	ALL	650003.9	4203818	0.000199	50000	Formaldehyde	2.83E-09
206	ALL	650123.9	4203698	0.000199	50000	Formaldehyde	2.83E-09
87	ALL	650403.9	4203578	0.000199	50000	Formaldehyde	2.82E-09
42	ALL	650463.9	4203538	0.000199	50000	Formaldehyde	2.82E-09
821	ALL	649923.9	4204478	0.000198	50000	Formaldehyde	2.82E-09
719	ALL	650883.9	4204298	0.000198	50000	Formaldehyde	2.82E-09
118	ALL	650203.9	4203618	0.000198	50000	Formaldehyde	2.81E-09
289	ALL	649963.9	4203838	0.000198	50000	Formaldehyde	2.81E-09
845	ALL	649943.9	4204518	0.000197	50000	Formaldehyde	2.79E-09
219	ALL	650103.9	4203718	0.000196	50000	Formaldehyde	2.79E-09
830	ALL	649923.9	4204498	0.000196	50000	Formaldehyde	2.79E-09
720	ALL	650903.9	4204298	0.000196	50000	Formaldehyde	2.79E-09

268	ALL	650023.9	4203798	0.000196	50000	Formaldehyde	2.79E-09
64	ALL	650423.9	4203558	0.000196	50000	Formaldehyde	2.78E-09
296	ALL	649923.9	4203858	0.000196	50000	Formaldehyde	2.78E-09
141	ALL	650163.9	4203638	0.000195	50000	Formaldehyde	2.78E-09
106	ALL	650323.9	4203598	0.000195	50000	Formaldehyde	2.78E-09
86	ALL	650383.9	4203578	0.000195	50000	Formaldehyde	2.77E-09
117	ALL	650183.9	4203618	0.000194	50000	Formaldehyde	2.76E-09
105	ALL	650303.9	4203598	0.000194	50000	Formaldehyde	2.76E-09
230	ALL	650083.9	4203738	0.000194	50000	Formaldehyde	2.76E-09
104	ALL	650283.9	4203598	0.000194	50000	Formaldehyde	2.76E-09
103	ALL	650263.9	4203598	0.000194	50000	Formaldehyde	2.75E-09
244	ALL	650063.9	4203758	0.000194	50000	Formaldehyde	2.75E-09
102	ALL	650243.9	4203598	0.000194	50000	Formaldehyde	2.75E-09
277	ALL	649983.9	4203818	0.000194	50000	Formaldehyde	2.75E-09
721	ALL	650923.9	4204298	0.000194	50000	Formaldehyde	2.75E-09
258	ALL	650043.9	4203778	0.000194	50000	Formaldehyde	2.75E-09
190	ALL	650123.9	4203678	0.000193	50000	Formaldehyde	2.75E-09
841	ALL	650163.9	4204498	0.000193	50000	Formaldehyde	2.74E-09
844	ALL	649923.9	4204518	0.000193	50000	Formaldehyde	2.74E-09
41	ALL	650443.9	4203538	0.000193	50000	Formaldehyde	2.74E-09
101	ALL	650223.9	4203598	0.000192	50000	Formaldehyde	2.73E-09
288	ALL	649943.9	4203838	0.000191	50000	Formaldehyde	2.72E-09
21	ALL	650463.9	4203518	0.000191	50000	Formaldehyde	2.71E-09
63	ALL	650403.9	4203558	0.000191	50000	Formaldehyde	2.71E-09
100	ALL	650203.9	4203598	0.00019	50000	Formaldehyde	2.70E-09
205	ALL	650103.9	4203698	0.00019	50000	Formaldehyde	2.70E-09
267	ALL	650003.9	4203798	0.00019	50000	Formaldehyde	2.70E-09
116	ALL	650163.9	4203618	0.000189	50000	Formaldehyde	2.69E-09
140	ALL	650143.9	4203638	0.000189	50000	Formaldehyde	2.68E-09
40	ALL	650423.9	4203538	0.000188	50000	Formaldehyde	2.67E-09
276	ALL	649963.9	4203818	0.000188	50000	Formaldehyde	2.67E-09
218	ALL	650083.9	4203718	0.000188	50000	Formaldehyde	2.67E-09
854	ALL	650143.9	4204518	0.000188	50000	Formaldehyde	2.67E-09
257	ALL	650023.9	4203778	0.000188	50000	Formaldehyde	2.67E-09
99	ALL	650183.9	4203598	0.000188	50000	Formaldehyde	2.66E-09
85	ALL	650323.9	4203578	0.000187	50000	Formaldehyde	2.66E-09
168	ALL	650123.9	4203658	0.000187	50000	Formaldehyde	2.66E-09
62	ALL	650383.9	4203558	0.000187	50000	Formaldehyde	2.65E-09
229	ALL	650063.9	4203738	0.000186	50000	Formaldehyde	2.65E-09
287	ALL	649923.9	4203838	0.000186	50000	Formaldehyde	2.65E-09
82	ALL	650263.9	4203578	0.000186	50000	Formaldehyde	2.64E-09
84	ALL	650303.9	4203578	0.000186	50000	Formaldehyde	2.64E-09
83	ALL	650283.9	4203578	0.000186	50000	Formaldehyde	2.64E-09
81	ALL	650243.9	4203578	0.000186	50000	Formaldehyde	2.64E-09
243	ALL	650043.9	4203758	0.000186	50000	Formaldehyde	2.64E-09
80	ALL	650223.9	4203578	0.000185	50000	Formaldehyde	2.63E-09
20	ALL	650443.9	4203518	0.000185	50000	Formaldehyde	2.62E-09

266	ALL	649983.9	4203798	0.000185	50000	Formaldehyde	2.62E-09
189	ALL	650103.9	4203678	0.000184	50000	Formaldehyde	2.62E-09
733	ALL	650883.9	4204318	0.000184	50000	Formaldehyde	2.61E-09
115	ALL	650143.9	4203618	0.000184	50000	Formaldehyde	2.61E-09
79	ALL	650203.9	4203578	0.000183	50000	Formaldehyde	2.61E-09
275	ALL	649943.9	4203818	0.000183	50000	Formaldehyde	2.61E-09
98	ALL	650163.9	4203598	0.000183	50000	Formaldehyde	2.60E-09
39	ALL	650403.9	4203538	0.000183	50000	Formaldehyde	2.60E-09
139	ALL	650123.9	4203638	0.000182	50000	Formaldehyde	2.59E-09
734	ALL	650903.9	4204318	0.000182	50000	Formaldehyde	2.59E-09
256	ALL	650003.9	4203778	0.000182	50000	Formaldehyde	2.59E-09
820	ALL	650223.9	4204458	0.000182	50000	Formaldehyde	2.59E-09
204	ALL	650083.9	4203698	0.000182	50000	Formaldehyde	2.58E-09
78	ALL	650183.9	4203578	0.000181	50000	Formaldehyde	2.58E-09
842	ALL	650183.9	4204498	0.000181	50000	Formaldehyde	2.57E-09
829	ALL	650203.9	4204478	0.000181	50000	Formaldehyde	2.57E-09
735	ALL	650923.9	4204318	0.00018	50000	Formaldehyde	2.56E-09
217	ALL	650063.9	4203718	0.00018	50000	Formaldehyde	2.56E-09
19	ALL	650423.9	4203518	0.00018	50000	Formaldehyde	2.56E-09
167	ALL	650103.9	4203658	0.00018	50000	Formaldehyde	2.56E-09
265	ALL	649963.9	4203798	0.00018	50000	Formaldehyde	2.55E-09
242	ALL	650023.9	4203758	0.000179	50000	Formaldehyde	2.55E-09
38	ALL	650383.9	4203538	0.000179	50000	Formaldehyde	2.55E-09
228	ALL	650043.9	4203738	0.000179	50000	Formaldehyde	2.55E-09
61	ALL	650323.9	4203558	0.000179	50000	Formaldehyde	2.54E-09
57	ALL	650243.9	4203558	0.000179	50000	Formaldehyde	2.54E-09
60	ALL	650303.9	4203558	0.000179	50000	Formaldehyde	2.54E-09
59	ALL	650283.9	4203558	0.000179	50000	Formaldehyde	2.54E-09
58	ALL	650263.9	4203558	0.000178	50000	Formaldehyde	2.53E-09
97	ALL	650143.9	4203598	0.000178	50000	Formaldehyde	2.53E-09
56	ALL	650223.9	4203558	0.000178	50000	Formaldehyde	2.53E-09
855	ALL	650163.9	4204518	0.000178	50000	Formaldehyde	2.53E-09
274	ALL	649923.9	4203818	0.000178	50000	Formaldehyde	2.52E-09
77	ALL	650163.9	4203578	0.000177	50000	Formaldehyde	2.52E-09
114	ALL	650123.9	4203618	0.000177	50000	Formaldehyde	2.51E-09
55	ALL	650203.9	4203558	0.000177	50000	Formaldehyde	2.51E-09
188	ALL	650083.9	4203678	0.000177	50000	Formaldehyde	2.51E-09
255	ALL	649983.9	4203778	0.000176	50000	Formaldehyde	2.50E-09
18	ALL	650403.9	4203518	0.000176	50000	Formaldehyde	2.50E-09
264	ALL	649943.9	4203798	0.000175	50000	Formaldehyde	2.49E-09
54	ALL	650183.9	4203558	0.000175	50000	Formaldehyde	2.49E-09
203	ALL	650063.9	4203698	0.000174	50000	Formaldehyde	2.48E-09
241	ALL	650003.9	4203758	0.000174	50000	Formaldehyde	2.48E-09
216	ALL	650043.9	4203718	0.000174	50000	Formaldehyde	2.47E-09
76	ALL	650143.9	4203578	0.000173	50000	Formaldehyde	2.46E-09
17	ALL	650383.9	4203518	0.000173	50000	Formaldehyde	2.45E-09
227	ALL	650023.9	4203738	0.000173	50000	Formaldehyde	2.45E-09

96	ALL	650123.9	4203598	0.000172	50000	Formaldehyde	2.45E-09
166	ALL	650083.9	4203658	0.000172	50000	Formaldehyde	2.45E-09
53	ALL	650163.9	4203558	0.000172	50000	Formaldehyde	2.45E-09
37	ALL	650323.9	4203538	0.000172	50000	Formaldehyde	2.44E-09
35	ALL	650283.9	4203538	0.000172	50000	Formaldehyde	2.44E-09
34	ALL	650263.9	4203538	0.000172	50000	Formaldehyde	2.44E-09
33	ALL	650243.9	4203538	0.000172	50000	Formaldehyde	2.44E-09
36	ALL	650303.9	4203538	0.000172	50000	Formaldehyde	2.44E-09
32	ALL	650223.9	4203538	0.000171	50000	Formaldehyde	2.44E-09
254	ALL	649963.9	4203778	0.000171	50000	Formaldehyde	2.43E-09
263	ALL	649923.9	4203798	0.000171	50000	Formaldehyde	2.43E-09
31	ALL	650203.9	4203538	0.000171	50000	Formaldehyde	2.43E-09
748	ALL	650883.9	4204338	0.00017	50000	Formaldehyde	2.42E-09
240	ALL	649983.9	4203758	0.000169	50000	Formaldehyde	2.41E-09
187	ALL	650063.9	4203678	0.000169	50000	Formaldehyde	2.41E-09
30	ALL	650183.9	4203538	0.000169	50000	Formaldehyde	2.41E-09
749	ALL	650903.9	4204338	0.000169	50000	Formaldehyde	2.40E-09
52	ALL	650143.9	4203558	0.000168	50000	Formaldehyde	2.39E-09
750	ALL	650923.9	4204338	0.000168	50000	Formaldehyde	2.39E-09
202	ALL	650043.9	4203698	0.000168	50000	Formaldehyde	2.39E-09
138	ALL	650083.9	4203638	0.000168	50000	Formaldehyde	2.39E-09
75	ALL	650123.9	4203578	0.000168	50000	Formaldehyde	2.38E-09
253	ALL	649943.9	4203778	0.000168	50000	Formaldehyde	2.38E-09
226	ALL	650003.9	4203738	0.000167	50000	Formaldehyde	2.38E-09
215	ALL	650023.9	4203718	0.000167	50000	Formaldehyde	2.38E-09
29	ALL	650163.9	4203538	0.000167	50000	Formaldehyde	2.37E-09
16	ALL	650323.9	4203518	0.000166	50000	Formaldehyde	2.36E-09
856	ALL	650183.9	4204518	0.000166	50000	Formaldehyde	2.35E-09
12	ALL	650243.9	4203518	0.000165	50000	Formaldehyde	2.35E-09
843	ALL	650203.9	4204498	0.000165	50000	Formaldehyde	2.35E-09
11	ALL	650223.9	4203518	0.000165	50000	Formaldehyde	2.35E-09
165	ALL	650063.9	4203658	0.000165	50000	Formaldehyde	2.35E-09
15	ALL	650303.9	4203518	0.000165	50000	Formaldehyde	2.35E-09
13	ALL	650263.9	4203518	0.000165	50000	Formaldehyde	2.35E-09
14	ALL	650283.9	4203518	0.000165	50000	Formaldehyde	2.34E-09
10	ALL	650203.9	4203518	0.000165	50000	Formaldehyde	2.34E-09
239	ALL	649963.9	4203758	0.000165	50000	Formaldehyde	2.34E-09
9	ALL	650183.9	4203518	0.000163	50000	Formaldehyde	2.32E-09
252	ALL	649923.9	4203778	0.000163	50000	Formaldehyde	2.32E-09
186	ALL	650043.9	4203678	0.000163	50000	Formaldehyde	2.32E-09
28	ALL	650143.9	4203538	0.000163	50000	Formaldehyde	2.32E-09
225	ALL	649983.9	4203738	0.000163	50000	Formaldehyde	2.31E-09
8	ALL	650163.9	4203518	0.000162	50000	Formaldehyde	2.30E-09
214	ALL	650003.9	4203718	0.000162	50000	Formaldehyde	2.30E-09
201	ALL	650023.9	4203698	0.000161	50000	Formaldehyde	2.29E-09
137	ALL	650063.9	4203638	0.000161	50000	Formaldehyde	2.29E-09
95	ALL	650083.9	4203598	0.00016	50000	Formaldehyde	2.28E-09

238	ALL	649943.9	4203758	0.00016	50000	Formaldehyde	2.27E-09
164	ALL	650043.9	4203658	0.000159	50000	Formaldehyde	2.26E-09
7	ALL	650143.9	4203518	0.000158	50000	Formaldehyde	2.25E-09
51	ALL	650103.9	4203558	0.000158	50000	Formaldehyde	2.25E-09
224	ALL	649963.9	4203738	0.000158	50000	Formaldehyde	2.25E-09
185	ALL	650023.9	4203678	0.000158	50000	Formaldehyde	2.24E-09
213	ALL	649983.9	4203718	0.000157	50000	Formaldehyde	2.23E-09
764	ALL	650883.9	4204358	0.000157	50000	Formaldehyde	2.23E-09
765	ALL	650903.9	4204358	0.000156	50000	Formaldehyde	2.22E-09
237	ALL	649923.9	4203758	0.000156	50000	Formaldehyde	2.22E-09
74	ALL	650083.9	4203578	0.000156	50000	Formaldehyde	2.22E-09
200	ALL	650003.9	4203698	0.000156	50000	Formaldehyde	2.22E-09
766	ALL	650923.9	4204358	0.000156	50000	Formaldehyde	2.21E-09
136	ALL	650043.9	4203638	0.000155	50000	Formaldehyde	2.20E-09
27	ALL	650103.9	4203538	0.000154	50000	Formaldehyde	2.19E-09
94	ALL	650063.9	4203598	0.000154	50000	Formaldehyde	2.18E-09
223	ALL	649943.9	4203738	0.000154	50000	Formaldehyde	2.18E-09
163	ALL	650023.9	4203658	0.000153	50000	Formaldehyde	2.18E-09
212	ALL	649963.9	4203718	0.000153	50000	Formaldehyde	2.17E-09
50	ALL	650083.9	4203558	0.000153	50000	Formaldehyde	2.17E-09
199	ALL	649983.9	4203698	0.000152	50000	Formaldehyde	2.16E-09
857	ALL	650203.9	4204518	0.000152	50000	Formaldehyde	2.15E-09
184	ALL	650003.9	4203678	0.000152	50000	Formaldehyde	2.15E-09
6	ALL	650103.9	4203518	0.000151	50000	Formaldehyde	2.14E-09
73	ALL	650063.9	4203578	0.00015	50000	Formaldehyde	2.14E-09
222	ALL	649923.9	4203738	0.00015	50000	Formaldehyde	2.13E-09
135	ALL	650023.9	4203638	0.000149	50000	Formaldehyde	2.12E-09
26	ALL	650083.9	4203538	0.000149	50000	Formaldehyde	2.11E-09
211	ALL	649943.9	4203718	0.000148	50000	Formaldehyde	2.11E-09
198	ALL	649963.9	4203698	0.000147	50000	Formaldehyde	2.10E-09
162	ALL	650003.9	4203658	0.000147	50000	Formaldehyde	2.09E-09
49	ALL	650063.9	4203558	0.000147	50000	Formaldehyde	2.09E-09
183	ALL	649983.9	4203678	0.000147	50000	Formaldehyde	2.09E-09
5	ALL	650083.9	4203518	0.000146	50000	Formaldehyde	2.07E-09
72	ALL	650043.9	4203578	0.000145	50000	Formaldehyde	2.06E-09
777	ALL	650903.9	4204378	0.000145	50000	Formaldehyde	2.05E-09
210	ALL	649923.9	4203718	0.000144	50000	Formaldehyde	2.05E-09
778	ALL	650923.9	4204378	0.000144	50000	Formaldehyde	2.05E-09
25	ALL	650063.9	4203538	0.000144	50000	Formaldehyde	2.05E-09
134	ALL	650003.9	4203638	0.000144	50000	Formaldehyde	2.04E-09
197	ALL	649943.9	4203698	0.000143	50000	Formaldehyde	2.04E-09
182	ALL	649963.9	4203678	0.000143	50000	Formaldehyde	2.03E-09
161	ALL	649983.9	4203658	0.000143	50000	Formaldehyde	2.03E-09
4	ALL	650063.9	4203518	0.000141	50000	Formaldehyde	2.00E-09
181	ALL	649943.9	4203678	0.000139	50000	Formaldehyde	1.98E-09
196	ALL	649923.9	4203698	0.000139	50000	Formaldehyde	1.98E-09
71	ALL	650023.9	4203578	0.000139	50000	Formaldehyde	1.98E-09

133	ALL	649983.9	4203638	0.000139	50000	Formaldehyde	1.97E-09
24	ALL	650043.9	4203538	0.000138	50000	Formaldehyde	1.97E-09
160	ALL	649963.9	4203658	0.000138	50000	Formaldehyde	1.96E-09
3	ALL	650043.9	4203518	0.000136	50000	Formaldehyde	1.93E-09
180	ALL	649923.9	4203678	0.000136	50000	Formaldehyde	1.93E-09
159	ALL	649943.9	4203658	0.000135	50000	Formaldehyde	1.92E-09
132	ALL	649963.9	4203638	0.000134	50000	Formaldehyde	1.91E-09
70	ALL	650003.9	4203578	0.000134	50000	Formaldehyde	1.90E-09
158	ALL	649923.9	4203658	0.000131	50000	Formaldehyde	1.87E-09
2	ALL	649918.4	4203526	0.000111	50000	Formaldehyde	1.57E-09
1	ALL	649898.4	4203526	0.000107	50000	Formaldehyde	1.52E-09
1	ALL	649898.4	4203526	0.020114	7664417	NH3	0.00E+00
2	ALL	649918.4	4203526	0.020811	7664417	NH3	0.00E+00
3	ALL	650043.9	4203518	0.025619	7664417	NH3	0.00E+00
4	ALL	650063.9	4203518	0.026489	7664417	NH3	0.00E+00
5	ALL	650083.9	4203518	0.027443	7664417	NH3	0.00E+00
6	ALL	650103.9	4203518	0.02835	7664417	NH3	0.00E+00
7	ALL	650143.9	4203518	0.029776	7664417	NH3	0.00E+00
8	ALL	650163.9	4203518	0.030462	7664417	NH3	0.00E+00
9	ALL	650183.9	4203518	0.03076	7664417	NH3	0.00E+00
10	ALL	650203.9	4203518	0.031039	7664417	NH3	0.00E+00
11	ALL	650223.9	4203518	0.031122	7664417	NH3	0.00E+00
12	ALL	650243.9	4203518	0.031132	7664417	NH3	0.00E+00
13	ALL	650263.9	4203518	0.031069	7664417	NH3	0.00E+00
14	ALL	650283.9	4203518	0.031063	7664417	NH3	0.00E+00
15	ALL	650303.9	4203518	0.031095	7664417	NH3	0.00E+00
16	ALL	650323.9	4203518	0.031204	7664417	NH3	0.00E+00
17	ALL	650383.9	4203518	0.032484	7664417	NH3	0.00E+00
18	ALL	650403.9	4203518	0.033133	7664417	NH3	0.00E+00
19	ALL	650423.9	4203518	0.033892	7664417	NH3	0.00E+00
20	ALL	650443.9	4203518	0.034766	7664417	NH3	0.00E+00
21	ALL	650463.9	4203518	0.035874	7664417	NH3	0.00E+00
22	ALL	650663.9	4203518	0.062371	7664417	NH3	0.00E+00
23	ALL	650683.9	4203518	0.064313	7664417	NH3	0.00E+00
24	ALL	650043.9	4203538	0.026056	7664417	NH3	0.00E+00
25	ALL	650063.9	4203538	0.027099	7664417	NH3	0.00E+00
26	ALL	650083.9	4203538	0.02798	7664417	NH3	0.00E+00
27	ALL	650103.9	4203538	0.029012	7664417	NH3	0.00E+00
28	ALL	650143.9	4203538	0.030715	7664417	NH3	0.00E+00
29	ALL	650163.9	4203538	0.031347	7664417	NH3	0.00E+00
30	ALL	650183.9	4203538	0.031869	7664417	NH3	0.00E+00
31	ALL	650203.9	4203538	0.032134	7664417	NH3	0.00E+00
32	ALL	650223.9	4203538	0.032264	7664417	NH3	0.00E+00
33	ALL	650243.9	4203538	0.032309	7664417	NH3	0.00E+00
34	ALL	650263.9	4203538	0.032311	7664417	NH3	0.00E+00
35	ALL	650283.9	4203538	0.032338	7664417	NH3	0.00E+00
36	ALL	650303.9	4203538	0.032286	7664417	NH3	0.00E+00

37	ALL	650323.9	4203538	0.032376	7664417	NH3	0.00E+00
38	ALL	650383.9	4203538	0.033758	7664417	NH3	0.00E+00
39	ALL	650403.9	4203538	0.034438	7664417	NH3	0.00E+00
40	ALL	650423.9	4203538	0.035424	7664417	NH3	0.00E+00
41	ALL	650443.9	4203538	0.036252	7664417	NH3	0.00E+00
42	ALL	650463.9	4203538	0.037369	7664417	NH3	0.00E+00
43	ALL	650523.9	4203538	0.041956	7664417	NH3	0.00E+00
44	ALL	650543.9	4203538	0.044503	7664417	NH3	0.00E+00
45	ALL	650563.9	4203538	0.047465	7664417	NH3	0.00E+00
46	ALL	650583.9	4203538	0.051099	7664417	NH3	0.00E+00
47	ALL	650663.9	4203538	0.066017	7664417	NH3	0.00E+00
48	ALL	650683.9	4203538	0.067359	7664417	NH3	0.00E+00
49	ALL	650063.9	4203558	0.027648	7664417	NH3	0.00E+00
50	ALL	650083.9	4203558	0.028717	7664417	NH3	0.00E+00
51	ALL	650103.9	4203558	0.029756	7664417	NH3	0.00E+00
52	ALL	650143.9	4203558	0.031629	7664417	NH3	0.00E+00
53	ALL	650163.9	4203558	0.032404	7664417	NH3	0.00E+00
54	ALL	650183.9	4203558	0.032946	7664417	NH3	0.00E+00
55	ALL	650203.9	4203558	0.033281	7664417	NH3	0.00E+00
56	ALL	650223.9	4203558	0.033522	7664417	NH3	0.00E+00
57	ALL	650243.9	4203558	0.033621	7664417	NH3	0.00E+00
58	ALL	650263.9	4203558	0.033581	7664417	NH3	0.00E+00
59	ALL	650283.9	4203558	0.033615	7664417	NH3	0.00E+00
60	ALL	650303.9	4203558	0.033616	7664417	NH3	0.00E+00
61	ALL	650323.9	4203558	0.033664	7664417	NH3	0.00E+00
62	ALL	650383.9	4203558	0.03515	7664417	NH3	0.00E+00
63	ALL	650403.9	4203558	0.035867	7664417	NH3	0.00E+00
64	ALL	650423.9	4203558	0.036868	7664417	NH3	0.00E+00
65	ALL	650443.9	4203558	0.037917	7664417	NH3	0.00E+00
66	ALL	650523.9	4203558	0.044241	7664417	NH3	0.00E+00
67	ALL	650543.9	4203558	0.047199	7664417	NH3	0.00E+00
68	ALL	650563.9	4203558	0.050573	7664417	NH3	0.00E+00
69	ALL	650583.9	4203558	0.055091	7664417	NH3	0.00E+00
70	ALL	650003.9	4203578	0.025217	7664417	NH3	0.00E+00
71	ALL	650023.9	4203578	0.026182	7664417	NH3	0.00E+00
72	ALL	650043.9	4203578	0.027247	7664417	NH3	0.00E+00
73	ALL	650063.9	4203578	0.028288	7664417	NH3	0.00E+00
74	ALL	650083.9	4203578	0.02943	7664417	NH3	0.00E+00
75	ALL	650123.9	4203578	0.031567	7664417	NH3	0.00E+00
76	ALL	650143.9	4203578	0.032537	7664417	NH3	0.00E+00
77	ALL	650163.9	4203578	0.033337	7664417	NH3	0.00E+00
78	ALL	650183.9	4203578	0.034119	7664417	NH3	0.00E+00
79	ALL	650203.9	4203578	0.03453	7664417	NH3	0.00E+00
80	ALL	650223.9	4203578	0.034797	7664417	NH3	0.00E+00
81	ALL	650243.9	4203578	0.034975	7664417	NH3	0.00E+00
82	ALL	650263.9	4203578	0.035027	7664417	NH3	0.00E+00
83	ALL	650283.9	4203578	0.034986	7664417	NH3	0.00E+00

84	ALL	650303.9	4203578	0.034994	7664417	NH3	0.00E+00
85	ALL	650323.9	4203578	0.03523	7664417	NH3	0.00E+00
86	ALL	650383.9	4203578	0.036634	7664417	NH3	0.00E+00
87	ALL	650403.9	4203578	0.037402	7664417	NH3	0.00E+00
88	ALL	650423.9	4203578	0.038485	7664417	NH3	0.00E+00
89	ALL	650443.9	4203578	0.039612	7664417	NH3	0.00E+00
90	ALL	650523.9	4203578	0.047079	7664417	NH3	0.00E+00
91	ALL	650543.9	4203578	0.050404	7664417	NH3	0.00E+00
92	ALL	650563.9	4203578	0.054252	7664417	NH3	0.00E+00
93	ALL	650583.9	4203578	0.059446	7664417	NH3	0.00E+00
94	ALL	650063.9	4203598	0.028918	7664417	NH3	0.00E+00
95	ALL	650083.9	4203598	0.030192	7664417	NH3	0.00E+00
96	ALL	650123.9	4203598	0.032449	7664417	NH3	0.00E+00
97	ALL	650143.9	4203598	0.033564	7664417	NH3	0.00E+00
98	ALL	650163.9	4203598	0.034468	7664417	NH3	0.00E+00
99	ALL	650183.9	4203598	0.035299	7664417	NH3	0.00E+00
100	ALL	650203.9	4203598	0.035827	7664417	NH3	0.00E+00
101	ALL	650223.9	4203598	0.03615	7664417	NH3	0.00E+00
102	ALL	650243.9	4203598	0.03644	7664417	NH3	0.00E+00
103	ALL	650263.9	4203598	0.036484	7664417	NH3	0.00E+00
104	ALL	650283.9	4203598	0.03656	7664417	NH3	0.00E+00
105	ALL	650303.9	4203598	0.03659	7664417	NH3	0.00E+00
106	ALL	650323.9	4203598	0.036769	7664417	NH3	0.00E+00
107	ALL	650403.9	4203598	0.039152	7664417	NH3	0.00E+00
108	ALL	650423.9	4203598	0.040238	7664417	NH3	0.00E+00
109	ALL	650443.9	4203598	0.041452	7664417	NH3	0.00E+00
110	ALL	650523.9	4203598	0.05017	7664417	NH3	0.00E+00
111	ALL	650543.9	4203598	0.053924	7664417	NH3	0.00E+00
112	ALL	650563.9	4203598	0.058821	7664417	NH3	0.00E+00
113	ALL	650583.9	4203598	0.064261	7664417	NH3	0.00E+00
114	ALL	650123.9	4203618	0.033296	7664417	NH3	0.00E+00
115	ALL	650143.9	4203618	0.034546	7664417	NH3	0.00E+00
116	ALL	650163.9	4203618	0.035595	7664417	NH3	0.00E+00
117	ALL	650183.9	4203618	0.036598	7664417	NH3	0.00E+00
118	ALL	650203.9	4203618	0.037264	7664417	NH3	0.00E+00
119	ALL	650223.9	4203618	0.037641	7664417	NH3	0.00E+00
120	ALL	650243.9	4203618	0.037962	7664417	NH3	0.00E+00
121	ALL	650263.9	4203618	0.038051	7664417	NH3	0.00E+00
122	ALL	650283.9	4203618	0.038215	7664417	NH3	0.00E+00
123	ALL	650303.9	4203618	0.038326	7664417	NH3	0.00E+00
124	ALL	650323.9	4203618	0.038649	7664417	NH3	0.00E+00
125	ALL	650523.9	4203618	0.053701	7664417	NH3	0.00E+00
126	ALL	650543.9	4203618	0.05843	7664417	NH3	0.00E+00
127	ALL	650563.9	4203618	0.064079	7664417	NH3	0.00E+00
128	ALL	650583.9	4203618	0.069853	7664417	NH3	0.00E+00
129	ALL	650603.9	4203618	0.074326	7664417	NH3	0.00E+00
130	ALL	650623.9	4203618	0.077661	7664417	NH3	0.00E+00

131	ALL	650643.9	4203618	0.07924	7664417	NH3	0.00E+00
132	ALL	649963.9	4203638	0.025303	7664417	NH3	0.00E+00
133	ALL	649983.9	4203638	0.026102	7664417	NH3	0.00E+00
134	ALL	650003.9	4203638	0.02706	7664417	NH3	0.00E+00
135	ALL	650023.9	4203638	0.028123	7664417	NH3	0.00E+00
136	ALL	650043.9	4203638	0.029186	7664417	NH3	0.00E+00
137	ALL	650063.9	4203638	0.030352	7664417	NH3	0.00E+00
138	ALL	650083.9	4203638	0.031597	7664417	NH3	0.00E+00
139	ALL	650123.9	4203638	0.03431	7664417	NH3	0.00E+00
140	ALL	650143.9	4203638	0.035554	7664417	NH3	0.00E+00
141	ALL	650163.9	4203638	0.036779	7664417	NH3	0.00E+00
142	ALL	650183.9	4203638	0.037834	7664417	NH3	0.00E+00
143	ALL	650203.9	4203638	0.038699	7664417	NH3	0.00E+00
144	ALL	650223.9	4203638	0.039237	7664417	NH3	0.00E+00
145	ALL	650243.9	4203638	0.039598	7664417	NH3	0.00E+00
146	ALL	650263.9	4203638	0.039874	7664417	NH3	0.00E+00
147	ALL	650283.9	4203638	0.040009	7664417	NH3	0.00E+00
148	ALL	650303.9	4203638	0.040225	7664417	NH3	0.00E+00
149	ALL	650323.9	4203638	0.040567	7664417	NH3	0.00E+00
150	ALL	650363.9	4203638	0.041397	7664417	NH3	0.00E+00
151	ALL	650563.9	4203638	0.069655	7664417	NH3	0.00E+00
152	ALL	650583.9	4203638	0.075493	7664417	NH3	0.00E+00
153	ALL	650603.9	4203638	0.07983	7664417	NH3	0.00E+00
154	ALL	650623.9	4203638	0.082162	7664417	NH3	0.00E+00
155	ALL	650643.9	4203638	0.082894	7664417	NH3	0.00E+00
156	ALL	650663.9	4203638	0.08183	7664417	NH3	0.00E+00
157	ALL	650683.9	4203638	0.080575	7664417	NH3	0.00E+00
158	ALL	649923.9	4203658	0.024739	7664417	NH3	0.00E+00
159	ALL	649943.9	4203658	0.025421	7664417	NH3	0.00E+00
160	ALL	649963.9	4203658	0.026026	7664417	NH3	0.00E+00
161	ALL	649983.9	4203658	0.026865	7664417	NH3	0.00E+00
162	ALL	650003.9	4203658	0.027715	7664417	NH3	0.00E+00
163	ALL	650023.9	4203658	0.028816	7664417	NH3	0.00E+00
164	ALL	650043.9	4203658	0.029893	7664417	NH3	0.00E+00
165	ALL	650063.9	4203658	0.031107	7664417	NH3	0.00E+00
166	ALL	650083.9	4203658	0.03242	7664417	NH3	0.00E+00
167	ALL	650103.9	4203658	0.03388	7664417	NH3	0.00E+00
168	ALL	650123.9	4203658	0.035223	7664417	NH3	0.00E+00
169	ALL	650223.9	4203658	0.040929	7664417	NH3	0.00E+00
170	ALL	650243.9	4203658	0.041454	7664417	NH3	0.00E+00
171	ALL	650263.9	4203658	0.041828	7664417	NH3	0.00E+00
172	ALL	650283.9	4203658	0.041975	7664417	NH3	0.00E+00
173	ALL	650303.9	4203658	0.042232	7664417	NH3	0.00E+00
174	ALL	650363.9	4203658	0.043516	7664417	NH3	0.00E+00
175	ALL	650383.9	4203658	0.044347	7664417	NH3	0.00E+00
176	ALL	650403.9	4203658	0.0453	7664417	NH3	0.00E+00
177	ALL	650643.9	4203658	0.085837	7664417	NH3	0.00E+00

178	ALL	650663.9	4203658	0.084825	7664417	NH3	0.00E+00
179	ALL	650683.9	4203658	0.08318	7664417	NH3	0.00E+00
180	ALL	649923.9	4203678	0.025506	7664417	NH3	0.00E+00
181	ALL	649943.9	4203678	0.026213	7664417	NH3	0.00E+00
182	ALL	649963.9	4203678	0.026879	7664417	NH3	0.00E+00
183	ALL	649983.9	4203678	0.027642	7664417	NH3	0.00E+00
184	ALL	650003.9	4203678	0.028526	7664417	NH3	0.00E+00
185	ALL	650023.9	4203678	0.029683	7664417	NH3	0.00E+00
186	ALL	650043.9	4203678	0.030731	7664417	NH3	0.00E+00
187	ALL	650063.9	4203678	0.031876	7664417	NH3	0.00E+00
188	ALL	650083.9	4203678	0.033234	7664417	NH3	0.00E+00
189	ALL	650103.9	4203678	0.034699	7664417	NH3	0.00E+00
190	ALL	650123.9	4203678	0.036374	7664417	NH3	0.00E+00
191	ALL	650143.9	4203678	0.037829	7664417	NH3	0.00E+00
192	ALL	650363.9	4203678	0.045889	7664417	NH3	0.00E+00
193	ALL	650383.9	4203678	0.046683	7664417	NH3	0.00E+00
194	ALL	650403.9	4203678	0.047824	7664417	NH3	0.00E+00
195	ALL	650423.9	4203678	0.049406	7664417	NH3	0.00E+00
196	ALL	649923.9	4203698	0.026184	7664417	NH3	0.00E+00
197	ALL	649943.9	4203698	0.026996	7664417	NH3	0.00E+00
198	ALL	649963.9	4203698	0.027756	7664417	NH3	0.00E+00
199	ALL	649983.9	4203698	0.028578	7664417	NH3	0.00E+00
200	ALL	650003.9	4203698	0.029417	7664417	NH3	0.00E+00
201	ALL	650023.9	4203698	0.030376	7664417	NH3	0.00E+00
202	ALL	650043.9	4203698	0.03161	7664417	NH3	0.00E+00
203	ALL	650063.9	4203698	0.032822	7664417	NH3	0.00E+00
204	ALL	650083.9	4203698	0.034182	7664417	NH3	0.00E+00
205	ALL	650103.9	4203698	0.035801	7664417	NH3	0.00E+00
206	ALL	650123.9	4203698	0.03749	7664417	NH3	0.00E+00
207	ALL	650143.9	4203698	0.039147	7664417	NH3	0.00E+00
208	ALL	650423.9	4203698	0.052471	7664417	NH3	0.00E+00
209	ALL	650443.9	4203698	0.054833	7664417	NH3	0.00E+00
210	ALL	649923.9	4203718	0.02716	7664417	NH3	0.00E+00
211	ALL	649943.9	4203718	0.027898	7664417	NH3	0.00E+00
212	ALL	649963.9	4203718	0.028754	7664417	NH3	0.00E+00
213	ALL	649983.9	4203718	0.029591	7664417	NH3	0.00E+00
214	ALL	650003.9	4203718	0.030456	7664417	NH3	0.00E+00
215	ALL	650023.9	4203718	0.031464	7664417	NH3	0.00E+00
216	ALL	650043.9	4203718	0.032706	7664417	NH3	0.00E+00
217	ALL	650063.9	4203718	0.03393	7664417	NH3	0.00E+00
218	ALL	650083.9	4203718	0.035398	7664417	NH3	0.00E+00
219	ALL	650103.9	4203718	0.036928	7664417	NH3	0.00E+00
220	ALL	650123.9	4203718	0.038751	7664417	NH3	0.00E+00
221	ALL	650143.9	4203718	0.040489	7664417	NH3	0.00E+00
222	ALL	649923.9	4203738	0.02828	7664417	NH3	0.00E+00
223	ALL	649943.9	4203738	0.028899	7664417	NH3	0.00E+00
224	ALL	649963.9	4203738	0.029753	7664417	NH3	0.00E+00

225	ALL	649983.9	4203738	0.030626	7664417	NH3	0.00E+00
226	ALL	650003.9	4203738	0.031526	7664417	NH3	0.00E+00
227	ALL	650023.9	4203738	0.032479	7664417	NH3	0.00E+00
228	ALL	650043.9	4203738	0.03375	7664417	NH3	0.00E+00
229	ALL	650063.9	4203738	0.035093	7664417	NH3	0.00E+00
230	ALL	650083.9	4203738	0.036565	7664417	NH3	0.00E+00
231	ALL	650103.9	4203738	0.038098	7664417	NH3	0.00E+00
232	ALL	650123.9	4203738	0.040101	7664417	NH3	0.00E+00
233	ALL	650143.9	4203738	0.041979	7664417	NH3	0.00E+00
234	ALL	650163.9	4203738	0.043834	7664417	NH3	0.00E+00
235	ALL	650183.9	4203738	0.04576	7664417	NH3	0.00E+00
236	ALL	650203.9	4203738	0.047794	7664417	NH3	0.00E+00
237	ALL	649923.9	4203758	0.029445	7664417	NH3	0.00E+00
238	ALL	649943.9	4203758	0.030085	7664417	NH3	0.00E+00
239	ALL	649963.9	4203758	0.030974	7664417	NH3	0.00E+00
240	ALL	649983.9	4203758	0.031877	7664417	NH3	0.00E+00
241	ALL	650003.9	4203758	0.032799	7664417	NH3	0.00E+00
242	ALL	650023.9	4203758	0.033778	7664417	NH3	0.00E+00
243	ALL	650043.9	4203758	0.034971	7664417	NH3	0.00E+00
244	ALL	650063.9	4203758	0.036453	7664417	NH3	0.00E+00
245	ALL	650083.9	4203758	0.037912	7664417	NH3	0.00E+00
246	ALL	650103.9	4203758	0.039486	7664417	NH3	0.00E+00
247	ALL	650123.9	4203758	0.041394	7664417	NH3	0.00E+00
248	ALL	650143.9	4203758	0.04355	7664417	NH3	0.00E+00
249	ALL	650163.9	4203758	0.045844	7664417	NH3	0.00E+00
250	ALL	650183.9	4203758	0.048646	7664417	NH3	0.00E+00
251	ALL	650203.9	4203758	0.053937	7664417	NH3	0.00E+00
252	ALL	649923.9	4203778	0.030752	7664417	NH3	0.00E+00
253	ALL	649943.9	4203778	0.031554	7664417	NH3	0.00E+00
254	ALL	649963.9	4203778	0.0322	7664417	NH3	0.00E+00
255	ALL	649983.9	4203778	0.033144	7664417	NH3	0.00E+00
256	ALL	650003.9	4203778	0.03429	7664417	NH3	0.00E+00
257	ALL	650023.9	4203778	0.035349	7664417	NH3	0.00E+00
258	ALL	650043.9	4203778	0.036431	7664417	NH3	0.00E+00
259	ALL	650063.9	4203778	0.037724	7664417	NH3	0.00E+00
260	ALL	650083.9	4203778	0.03938	7664417	NH3	0.00E+00
261	ALL	650103.9	4203778	0.041066	7664417	NH3	0.00E+00
262	ALL	650123.9	4203778	0.043007	7664417	NH3	0.00E+00
263	ALL	649923.9	4203798	0.032188	7664417	NH3	0.00E+00
264	ALL	649943.9	4203798	0.032954	7664417	NH3	0.00E+00
265	ALL	649963.9	4203798	0.033797	7664417	NH3	0.00E+00
266	ALL	649983.9	4203798	0.034749	7664417	NH3	0.00E+00
267	ALL	650003.9	4203798	0.035712	7664417	NH3	0.00E+00
268	ALL	650023.9	4203798	0.036899	7664417	NH3	0.00E+00
269	ALL	650043.9	4203798	0.038179	7664417	NH3	0.00E+00
270	ALL	650063.9	4203798	0.039496	7664417	NH3	0.00E+00
271	ALL	650083.9	4203798	0.041189	7664417	NH3	0.00E+00

272	ALL	650103.9	4203798	0.042911	7664417	NH3	0.00E+00
273	ALL	650123.9	4203798	0.045207	7664417	NH3	0.00E+00
274	ALL	649923.9	4203818	0.033431	7664417	NH3	0.00E+00
275	ALL	649943.9	4203818	0.034512	7664417	NH3	0.00E+00
276	ALL	649963.9	4203818	0.035411	7664417	NH3	0.00E+00
277	ALL	649983.9	4203818	0.036439	7664417	NH3	0.00E+00
278	ALL	650003.9	4203818	0.037513	7664417	NH3	0.00E+00
279	ALL	650023.9	4203818	0.038702	7664417	NH3	0.00E+00
280	ALL	650043.9	4203818	0.040004	7664417	NH3	0.00E+00
281	ALL	650063.9	4203818	0.041468	7664417	NH3	0.00E+00
282	ALL	650083.9	4203818	0.042954	7664417	NH3	0.00E+00
283	ALL	650103.9	4203818	0.045183	7664417	NH3	0.00E+00
284	ALL	650123.9	4203818	0.047836	7664417	NH3	0.00E+00
285	ALL	650143.9	4203818	0.054325	7664417	NH3	0.00E+00
286	ALL	650163.9	4203818	0.064098	7664417	NH3	0.00E+00
287	ALL	649923.9	4203838	0.035057	7664417	NH3	0.00E+00
288	ALL	649943.9	4203838	0.036032	7664417	NH3	0.00E+00
289	ALL	649963.9	4203838	0.037206	7664417	NH3	0.00E+00
290	ALL	649983.9	4203838	0.038296	7664417	NH3	0.00E+00
291	ALL	650003.9	4203838	0.039476	7664417	NH3	0.00E+00
292	ALL	650023.9	4203838	0.040643	7664417	NH3	0.00E+00
293	ALL	650043.9	4203838	0.042204	7664417	NH3	0.00E+00
294	ALL	650063.9	4203838	0.043663	7664417	NH3	0.00E+00
295	ALL	650083.9	4203838	0.045365	7664417	NH3	0.00E+00
296	ALL	649923.9	4203858	0.036858	7664417	NH3	0.00E+00
297	ALL	649943.9	4203858	0.037861	7664417	NH3	0.00E+00
298	ALL	649963.9	4203858	0.038996	7664417	NH3	0.00E+00
299	ALL	649983.9	4203858	0.04027	7664417	NH3	0.00E+00
300	ALL	650003.9	4203858	0.041625	7664417	NH3	0.00E+00
301	ALL	650023.9	4203858	0.042944	7664417	NH3	0.00E+00
302	ALL	650043.9	4203858	0.044469	7664417	NH3	0.00E+00
303	ALL	650063.9	4203858	0.046199	7664417	NH3	0.00E+00
304	ALL	650083.9	4203858	0.048194	7664417	NH3	0.00E+00
305	ALL	649923.9	4203878	0.03857	7664417	NH3	0.00E+00
306	ALL	649943.9	4203878	0.03979	7664417	NH3	0.00E+00
307	ALL	649963.9	4203878	0.041117	7664417	NH3	0.00E+00
308	ALL	649983.9	4203878	0.042213	7664417	NH3	0.00E+00
309	ALL	650003.9	4203878	0.043875	7664417	NH3	0.00E+00
310	ALL	650023.9	4203878	0.045594	7664417	NH3	0.00E+00
311	ALL	650043.9	4203878	0.04716	7664417	NH3	0.00E+00
312	ALL	650063.9	4203878	0.048807	7664417	NH3	0.00E+00
313	ALL	650083.9	4203878	0.051299	7664417	NH3	0.00E+00
314	ALL	650743.9	4203878	0.106407	7664417	NH3	0.00E+00
315	ALL	650763.9	4203878	0.102646	7664417	NH3	0.00E+00
316	ALL	650783.9	4203878	0.100107	7664417	NH3	0.00E+00
317	ALL	650803.9	4203878	0.096716	7664417	NH3	0.00E+00
318	ALL	650823.9	4203878	0.093858	7664417	NH3	0.00E+00

319	ALL	650843.9	4203878	0.092551	7664417	NH3	0.00E+00
320	ALL	650863.9	4203878	0.091207	7664417	NH3	0.00E+00
321	ALL	649923.9	4203898	0.040201	7664417	NH3	0.00E+00
322	ALL	649943.9	4203898	0.041702	7664417	NH3	0.00E+00
323	ALL	649963.9	4203898	0.043227	7664417	NH3	0.00E+00
324	ALL	649983.9	4203898	0.044611	7664417	NH3	0.00E+00
325	ALL	650003.9	4203898	0.0462	7664417	NH3	0.00E+00
326	ALL	650023.9	4203898	0.048048	7664417	NH3	0.00E+00
327	ALL	650043.9	4203898	0.050136	7664417	NH3	0.00E+00
328	ALL	650063.9	4203898	0.051966	7664417	NH3	0.00E+00
329	ALL	650083.9	4203898	0.054624	7664417	NH3	0.00E+00
330	ALL	650743.9	4203898	0.110378	7664417	NH3	0.00E+00
331	ALL	650763.9	4203898	0.106623	7664417	NH3	0.00E+00
332	ALL	650783.9	4203898	0.104016	7664417	NH3	0.00E+00
333	ALL	650803.9	4203898	0.101484	7664417	NH3	0.00E+00
334	ALL	650823.9	4203898	0.099797	7664417	NH3	0.00E+00
335	ALL	650843.9	4203898	0.096865	7664417	NH3	0.00E+00
336	ALL	650863.9	4203898	0.094003	7664417	NH3	0.00E+00
337	ALL	649923.9	4203918	0.041559	7664417	NH3	0.00E+00
338	ALL	649943.9	4203918	0.043218	7664417	NH3	0.00E+00
339	ALL	649963.9	4203918	0.045014	7664417	NH3	0.00E+00
340	ALL	649983.9	4203918	0.046942	7664417	NH3	0.00E+00
341	ALL	650003.9	4203918	0.048789	7664417	NH3	0.00E+00
342	ALL	650023.9	4203918	0.050728	7664417	NH3	0.00E+00
343	ALL	650043.9	4203918	0.05298	7664417	NH3	0.00E+00
344	ALL	650063.9	4203918	0.055466	7664417	NH3	0.00E+00
345	ALL	650083.9	4203918	0.058513	7664417	NH3	0.00E+00
346	ALL	650723.9	4203918	0.119134	7664417	NH3	0.00E+00
347	ALL	650743.9	4203918	0.115858	7664417	NH3	0.00E+00
348	ALL	650763.9	4203918	0.112101	7664417	NH3	0.00E+00
349	ALL	650783.9	4203918	0.109563	7664417	NH3	0.00E+00
350	ALL	650803.9	4203918	0.10698	7664417	NH3	0.00E+00
351	ALL	650823.9	4203918	0.103671	7664417	NH3	0.00E+00
352	ALL	650843.9	4203918	0.100476	7664417	NH3	0.00E+00
353	ALL	650863.9	4203918	0.096755	7664417	NH3	0.00E+00
354	ALL	649923.9	4203938	0.043261	7664417	NH3	0.00E+00
355	ALL	649943.9	4203938	0.045029	7664417	NH3	0.00E+00
356	ALL	649963.9	4203938	0.046778	7664417	NH3	0.00E+00
357	ALL	649983.9	4203938	0.048831	7664417	NH3	0.00E+00
358	ALL	650003.9	4203938	0.051222	7664417	NH3	0.00E+00
359	ALL	650023.9	4203938	0.053431	7664417	NH3	0.00E+00
360	ALL	650043.9	4203938	0.055814	7664417	NH3	0.00E+00
361	ALL	650063.9	4203938	0.058698	7664417	NH3	0.00E+00
362	ALL	650083.9	4203938	0.062215	7664417	NH3	0.00E+00
363	ALL	650103.9	4203938	0.067305	7664417	NH3	0.00E+00
364	ALL	650123.9	4203938	0.077573	7664417	NH3	0.00E+00
365	ALL	650143.9	4203938	0.08444	7664417	NH3	0.00E+00

366	ALL	650723.9	4203938	0.125418	7664417	NH3	0.00E+00
367	ALL	650743.9	4203938	0.121545	7664417	NH3	0.00E+00
368	ALL	650763.9	4203938	0.118442	7664417	NH3	0.00E+00
369	ALL	650783.9	4203938	0.114752	7664417	NH3	0.00E+00
370	ALL	650803.9	4203938	0.110835	7664417	NH3	0.00E+00
371	ALL	650823.9	4203938	0.107248	7664417	NH3	0.00E+00
372	ALL	650843.9	4203938	0.103873	7664417	NH3	0.00E+00
373	ALL	649923.9	4203958	0.0447	7664417	NH3	0.00E+00
374	ALL	649943.9	4203958	0.046525	7664417	NH3	0.00E+00
375	ALL	649963.9	4203958	0.048455	7664417	NH3	0.00E+00
376	ALL	649983.9	4203958	0.050682	7664417	NH3	0.00E+00
377	ALL	650003.9	4203958	0.052974	7664417	NH3	0.00E+00
378	ALL	650023.9	4203958	0.055913	7664417	NH3	0.00E+00
379	ALL	650043.9	4203958	0.058818	7664417	NH3	0.00E+00
380	ALL	650063.9	4203958	0.061776	7664417	NH3	0.00E+00
381	ALL	650083.9	4203958	0.065221	7664417	NH3	0.00E+00
382	ALL	650103.9	4203958	0.072512	7664417	NH3	0.00E+00
383	ALL	650123.9	4203958	0.079616	7664417	NH3	0.00E+00
384	ALL	650723.9	4203958	0.132745	7664417	NH3	0.00E+00
385	ALL	650743.9	4203958	0.128946	7664417	NH3	0.00E+00
386	ALL	650763.9	4203958	0.124405	7664417	NH3	0.00E+00
387	ALL	650783.9	4203958	0.119273	7664417	NH3	0.00E+00
388	ALL	650803.9	4203958	0.115182	7664417	NH3	0.00E+00
389	ALL	650823.9	4203958	0.111153	7664417	NH3	0.00E+00
390	ALL	650843.9	4203958	0.10731	7664417	NH3	0.00E+00
391	ALL	649923.9	4203978	0.045105	7664417	NH3	0.00E+00
392	ALL	649943.9	4203978	0.047429	7664417	NH3	0.00E+00
393	ALL	649963.9	4203978	0.049727	7664417	NH3	0.00E+00
394	ALL	649983.9	4203978	0.052217	7664417	NH3	0.00E+00
395	ALL	650003.9	4203978	0.054888	7664417	NH3	0.00E+00
396	ALL	650023.9	4203978	0.057569	7664417	NH3	0.00E+00
397	ALL	650043.9	4203978	0.060839	7664417	NH3	0.00E+00
398	ALL	650063.9	4203978	0.064591	7664417	NH3	0.00E+00
399	ALL	650083.9	4203978	0.068781	7664417	NH3	0.00E+00
400	ALL	650103.9	4203978	0.07469	7664417	NH3	0.00E+00
401	ALL	650130.1	4203978	0.086768	7664417	NH3	0.00E+00
402	ALL	650703.9	4203978	0.146204	7664417	NH3	0.00E+00
403	ALL	650723.9	4203978	0.140663	7664417	NH3	0.00E+00
404	ALL	650743.9	4203978	0.134972	7664417	NH3	0.00E+00
405	ALL	650763.9	4203978	0.128987	7664417	NH3	0.00E+00
406	ALL	650783.9	4203978	0.123937	7664417	NH3	0.00E+00
407	ALL	650803.9	4203978	0.119116	7664417	NH3	0.00E+00
408	ALL	650823.9	4203978	0.114582	7664417	NH3	0.00E+00
409	ALL	650843.9	4203978	0.110169	7664417	NH3	0.00E+00
410	ALL	649923.9	4203998	0.046058	7664417	NH3	0.00E+00
411	ALL	649943.9	4203998	0.048099	7664417	NH3	0.00E+00
412	ALL	649963.9	4203998	0.050348	7664417	NH3	0.00E+00

413	ALL	649983.9	4203998	0.052831	7664417	NH3	0.00E+00
414	ALL	650003.9	4203998	0.055871	7664417	NH3	0.00E+00
415	ALL	650023.9	4203998	0.059051	7664417	NH3	0.00E+00
416	ALL	650043.9	4203998	0.062409	7664417	NH3	0.00E+00
417	ALL	650063.9	4203998	0.065835	7664417	NH3	0.00E+00
418	ALL	650083.9	4203998	0.070625	7664417	NH3	0.00E+00
419	ALL	650103.9	4203998	0.076003	7664417	NH3	0.00E+00
420	ALL	650703.9	4203998	0.154186	7664417	NH3	0.00E+00
421	ALL	650723.9	4203998	0.146616	7664417	NH3	0.00E+00
422	ALL	650743.9	4203998	0.139241	7664417	NH3	0.00E+00
423	ALL	650763.9	4203998	0.132974	7664417	NH3	0.00E+00
424	ALL	650783.9	4203998	0.127111	7664417	NH3	0.00E+00
425	ALL	650803.9	4203998	0.121298	7664417	NH3	0.00E+00
426	ALL	650823.9	4203998	0.115595	7664417	NH3	0.00E+00
427	ALL	650843.9	4203998	0.111074	7664417	NH3	0.00E+00
428	ALL	649923.9	4204018	0.046208	7664417	NH3	0.00E+00
429	ALL	649943.9	4204018	0.048473	7664417	NH3	0.00E+00
430	ALL	649963.9	4204018	0.050776	7664417	NH3	0.00E+00
431	ALL	649983.9	4204018	0.053328	7664417	NH3	0.00E+00
432	ALL	650003.9	4204018	0.056043	7664417	NH3	0.00E+00
433	ALL	650023.9	4204018	0.059013	7664417	NH3	0.00E+00
434	ALL	650043.9	4204018	0.062663	7664417	NH3	0.00E+00
435	ALL	650063.9	4204018	0.067053	7664417	NH3	0.00E+00
436	ALL	650083.9	4204018	0.071323	7664417	NH3	0.00E+00
437	ALL	650103.9	4204018	0.076722	7664417	NH3	0.00E+00
438	ALL	650123.9	4204018	0.086108	7664417	NH3	0.00E+00
439	ALL	650703.9	4204018	0.158092	7664417	NH3	0.00E+00
440	ALL	650723.9	4204018	0.148823	7664417	NH3	0.00E+00
441	ALL	650743.9	4204018	0.141069	7664417	NH3	0.00E+00
442	ALL	650763.9	4204018	0.133006	7664417	NH3	0.00E+00
443	ALL	650783.9	4204018	0.126213	7664417	NH3	0.00E+00
444	ALL	650803.9	4204018	0.120578	7664417	NH3	0.00E+00
445	ALL	650823.9	4204018	0.115221	7664417	NH3	0.00E+00
446	ALL	650843.9	4204018	0.109904	7664417	NH3	0.00E+00
447	ALL	649923.9	4204038	0.045942	7664417	NH3	0.00E+00
448	ALL	649943.9	4204038	0.048075	7664417	NH3	0.00E+00
449	ALL	649963.9	4204038	0.050554	7664417	NH3	0.00E+00
450	ALL	649983.9	4204038	0.053102	7664417	NH3	0.00E+00
451	ALL	650003.9	4204038	0.056048	7664417	NH3	0.00E+00
452	ALL	650023.9	4204038	0.059194	7664417	NH3	0.00E+00
453	ALL	650043.9	4204038	0.062528	7664417	NH3	0.00E+00
454	ALL	650063.9	4204038	0.066317	7664417	NH3	0.00E+00
455	ALL	650083.9	4204038	0.070642	7664417	NH3	0.00E+00
456	ALL	650103.9	4204038	0.076557	7664417	NH3	0.00E+00
457	ALL	650123.9	4204038	0.083468	7664417	NH3	0.00E+00
458	ALL	650683.9	4204038	0.166133	7664417	NH3	0.00E+00
459	ALL	650703.9	4204038	0.15581	7664417	NH3	0.00E+00

460	ALL	650723.9	4204038	0.145566	7664417	NH3	0.00E+00
461	ALL	650743.9	4204038	0.136952	7664417	NH3	0.00E+00
462	ALL	650763.9	4204038	0.12976	7664417	NH3	0.00E+00
463	ALL	650783.9	4204038	0.123063	7664417	NH3	0.00E+00
464	ALL	650803.9	4204038	0.116257	7664417	NH3	0.00E+00
465	ALL	650823.9	4204038	0.109917	7664417	NH3	0.00E+00
466	ALL	649923.9	4204058	0.045374	7664417	NH3	0.00E+00
467	ALL	649943.9	4204058	0.047461	7664417	NH3	0.00E+00
468	ALL	649963.9	4204058	0.049722	7664417	NH3	0.00E+00
469	ALL	649983.9	4204058	0.052237	7664417	NH3	0.00E+00
470	ALL	650003.9	4204058	0.054833	7664417	NH3	0.00E+00
471	ALL	650023.9	4204058	0.057962	7664417	NH3	0.00E+00
472	ALL	650043.9	4204058	0.061599	7664417	NH3	0.00E+00
473	ALL	650063.9	4204058	0.065363	7664417	NH3	0.00E+00
474	ALL	650083.9	4204058	0.069702	7664417	NH3	0.00E+00
475	ALL	650103.9	4204058	0.074716	7664417	NH3	0.00E+00
476	ALL	650123.9	4204058	0.080252	7664417	NH3	0.00E+00
477	ALL	650683.9	4204058	0.157244	7664417	NH3	0.00E+00
478	ALL	650703.9	4204058	0.146576	7664417	NH3	0.00E+00
479	ALL	650723.9	4204058	0.137703	7664417	NH3	0.00E+00
480	ALL	650743.9	4204058	0.129635	7664417	NH3	0.00E+00
481	ALL	650763.9	4204058	0.121688	7664417	NH3	0.00E+00
482	ALL	650783.9	4204058	0.11447	7664417	NH3	0.00E+00
483	ALL	650803.9	4204058	0.107978	7664417	NH3	0.00E+00
484	ALL	650823.9	4204058	0.102026	7664417	NH3	0.00E+00
485	ALL	649923.9	4204078	0.044806	7664417	NH3	0.00E+00
486	ALL	649943.9	4204078	0.046794	7664417	NH3	0.00E+00
487	ALL	649963.9	4204078	0.048909	7664417	NH3	0.00E+00
488	ALL	649983.9	4204078	0.051491	7664417	NH3	0.00E+00
489	ALL	650003.9	4204078	0.054015	7664417	NH3	0.00E+00
490	ALL	650023.9	4204078	0.056928	7664417	NH3	0.00E+00
491	ALL	650043.9	4204078	0.060072	7664417	NH3	0.00E+00
492	ALL	650063.9	4204078	0.063828	7664417	NH3	0.00E+00
493	ALL	650083.9	4204078	0.067868	7664417	NH3	0.00E+00
494	ALL	650103.9	4204078	0.072463	7664417	NH3	0.00E+00
495	ALL	650123.9	4204078	0.078364	7664417	NH3	0.00E+00
496	ALL	650683.9	4204078	0.143386	7664417	NH3	0.00E+00
497	ALL	650703.9	4204078	0.134159	7664417	NH3	0.00E+00
498	ALL	650723.9	4204078	0.124743	7664417	NH3	0.00E+00
499	ALL	650743.9	4204078	0.116831	7664417	NH3	0.00E+00
500	ALL	650763.9	4204078	0.109811	7664417	NH3	0.00E+00
501	ALL	650783.9	4204078	0.103411	7664417	NH3	0.00E+00
502	ALL	650803.9	4204078	0.097578	7664417	NH3	0.00E+00
503	ALL	650823.9	4204078	0.092851	7664417	NH3	0.00E+00
504	ALL	649923.9	4204098	0.043778	7664417	NH3	0.00E+00
505	ALL	649943.9	4204098	0.045706	7664417	NH3	0.00E+00
506	ALL	649963.9	4204098	0.047788	7664417	NH3	0.00E+00

507	ALL	649983.9	4204098	0.050206	7664417	NH3	0.00E+00
508	ALL	650003.9	4204098	0.052707	7664417	NH3	0.00E+00
509	ALL	650023.9	4204098	0.055495	7664417	NH3	0.00E+00
510	ALL	650043.9	4204098	0.058729	7664417	NH3	0.00E+00
511	ALL	650063.9	4204098	0.062209	7664417	NH3	0.00E+00
512	ALL	650083.9	4204098	0.066107	7664417	NH3	0.00E+00
513	ALL	650103.9	4204098	0.071298	7664417	NH3	0.00E+00
514	ALL	650123.9	4204098	0.077156	7664417	NH3	0.00E+00
515	ALL	650143.9	4204098	0.085163	7664417	NH3	0.00E+00
516	ALL	650163.9	4204098	0.095967	7664417	NH3	0.00E+00
517	ALL	650663.9	4204098	0.135667	7664417	NH3	0.00E+00
518	ALL	650683.9	4204098	0.126349	7664417	NH3	0.00E+00
519	ALL	650703.9	4204098	0.118194	7664417	NH3	0.00E+00
520	ALL	650723.9	4204098	0.11029	7664417	NH3	0.00E+00
521	ALL	650743.9	4204098	0.103711	7664417	NH3	0.00E+00
522	ALL	650763.9	4204098	0.097834	7664417	NH3	0.00E+00
523	ALL	650783.9	4204098	0.093052	7664417	NH3	0.00E+00
524	ALL	650803.9	4204098	0.087986	7664417	NH3	0.00E+00
525	ALL	650823.9	4204098	0.083581	7664417	NH3	0.00E+00
526	ALL	649923.9	4204118	0.043514	7664417	NH3	0.00E+00
527	ALL	649943.9	4204118	0.045355	7664417	NH3	0.00E+00
528	ALL	649963.9	4204118	0.047518	7664417	NH3	0.00E+00
529	ALL	649983.9	4204118	0.049811	7664417	NH3	0.00E+00
530	ALL	650003.9	4204118	0.052437	7664417	NH3	0.00E+00
531	ALL	650023.9	4204118	0.055093	7664417	NH3	0.00E+00
532	ALL	650043.9	4204118	0.058432	7664417	NH3	0.00E+00
533	ALL	650063.9	4204118	0.062006	7664417	NH3	0.00E+00
534	ALL	650083.9	4204118	0.066193	7664417	NH3	0.00E+00
535	ALL	650103.9	4204118	0.071094	7664417	NH3	0.00E+00
536	ALL	650123.9	4204118	0.079144	7664417	NH3	0.00E+00
537	ALL	650143.9	4204118	0.08905	7664417	NH3	0.00E+00
538	ALL	650163.9	4204118	0.097583	7664417	NH3	0.00E+00
539	ALL	650181.7	4204111	0.107884	7664417	NH3	0.00E+00
540	ALL	650663.9	4204118	0.116937	7664417	NH3	0.00E+00
541	ALL	650683.9	4204118	0.109153	7664417	NH3	0.00E+00
542	ALL	650703.9	4204118	0.102785	7664417	NH3	0.00E+00
543	ALL	650723.9	4204118	0.097063	7664417	NH3	0.00E+00
544	ALL	650743.9	4204118	0.09189	7664417	NH3	0.00E+00
545	ALL	650763.9	4204118	0.087638	7664417	NH3	0.00E+00
546	ALL	650783.9	4204118	0.083261	7664417	NH3	0.00E+00
547	ALL	650803.9	4204118	0.079722	7664417	NH3	0.00E+00
548	ALL	650823.9	4204118	0.076414	7664417	NH3	0.00E+00
549	ALL	649923.9	4204138	0.043409	7664417	NH3	0.00E+00
550	ALL	649943.9	4204138	0.045464	7664417	NH3	0.00E+00
551	ALL	649963.9	4204138	0.04745	7664417	NH3	0.00E+00
552	ALL	649983.9	4204138	0.049847	7664417	NH3	0.00E+00
553	ALL	650003.9	4204138	0.052289	7664417	NH3	0.00E+00

554	ALL	650023.9	4204138	0.05536	7664417	NH3	0.00E+00
555	ALL	650043.9	4204138	0.058572	7664417	NH3	0.00E+00
556	ALL	650063.9	4204138	0.062754	7664417	NH3	0.00E+00
557	ALL	650083.9	4204138	0.067768	7664417	NH3	0.00E+00
558	ALL	650103.9	4204138	0.074589	7664417	NH3	0.00E+00
559	ALL	650123.9	4204138	0.086529	7664417	NH3	0.00E+00
560	ALL	650143.9	4204138	0.0955	7664417	NH3	0.00E+00
561	ALL	650163.9	4204138	0.097074	7664417	NH3	0.00E+00
562	ALL	650643.9	4204138	0.106657	7664417	NH3	0.00E+00
563	ALL	650663.9	4204138	0.100894	7664417	NH3	0.00E+00
564	ALL	650683.9	4204138	0.095669	7664417	NH3	0.00E+00
565	ALL	650703.9	4204138	0.090791	7664417	NH3	0.00E+00
566	ALL	650723.9	4204138	0.086785	7664417	NH3	0.00E+00
567	ALL	650743.9	4204138	0.083069	7664417	NH3	0.00E+00
568	ALL	650763.9	4204138	0.079627	7664417	NH3	0.00E+00
569	ALL	650783.9	4204138	0.076431	7664417	NH3	0.00E+00
570	ALL	650803.9	4204138	0.07345	7664417	NH3	0.00E+00
571	ALL	649923.9	4204158	0.043528	7664417	NH3	0.00E+00
572	ALL	649943.9	4204158	0.045329	7664417	NH3	0.00E+00
573	ALL	649963.9	4204158	0.047664	7664417	NH3	0.00E+00
574	ALL	649983.9	4204158	0.05045	7664417	NH3	0.00E+00
575	ALL	650003.9	4204158	0.053294	7664417	NH3	0.00E+00
576	ALL	650023.9	4204158	0.056523	7664417	NH3	0.00E+00
577	ALL	650043.9	4204158	0.060036	7664417	NH3	0.00E+00
578	ALL	650063.9	4204158	0.064139	7664417	NH3	0.00E+00
579	ALL	650083.9	4204158	0.070096	7664417	NH3	0.00E+00
580	ALL	650103.9	4204158	0.079344	7664417	NH3	0.00E+00
581	ALL	650123.9	4204158	0.095469	7664417	NH3	0.00E+00
582	ALL	650143.9	4204158	0.100975	7664417	NH3	0.00E+00
583	ALL	650177.4	4204158	0.114295	7664417	NH3	0.00E+00
584	ALL	650643.9	4204158	0.092195	7664417	NH3	0.00E+00
585	ALL	650663.9	4204158	0.088567	7664417	NH3	0.00E+00
586	ALL	650683.9	4204158	0.085071	7664417	NH3	0.00E+00
587	ALL	650703.9	4204158	0.081949	7664417	NH3	0.00E+00
588	ALL	650723.9	4204158	0.078831	7664417	NH3	0.00E+00
589	ALL	650743.9	4204158	0.075854	7664417	NH3	0.00E+00
590	ALL	650763.9	4204158	0.073058	7664417	NH3	0.00E+00
591	ALL	650783.9	4204158	0.07061	7664417	NH3	0.00E+00
592	ALL	650803.9	4204158	0.068106	7664417	NH3	0.00E+00
593	ALL	650923.9	4204158	0.055992	7664417	NH3	0.00E+00
594	ALL	649923.9	4204178	0.044225	7664417	NH3	0.00E+00
595	ALL	649943.9	4204178	0.046616	7664417	NH3	0.00E+00
596	ALL	649963.9	4204178	0.048943	7664417	NH3	0.00E+00
597	ALL	649983.9	4204178	0.05146	7664417	NH3	0.00E+00
598	ALL	650003.9	4204178	0.054313	7664417	NH3	0.00E+00
599	ALL	650023.9	4204178	0.05787	7664417	NH3	0.00E+00
600	ALL	650043.9	4204178	0.061802	7664417	NH3	0.00E+00

601	ALL	650063.9	4204178	0.067282	7664417	NH3	0.00E+00
602	ALL	650083.9	4204178	0.073187	7664417	NH3	0.00E+00
603	ALL	650103.9	4204178	0.084938	7664417	NH3	0.00E+00
604	ALL	650123.9	4204178	0.10485	7664417	NH3	0.00E+00
605	ALL	650143.9	4204178	0.113599	7664417	NH3	0.00E+00
606	ALL	650643.9	4204178	0.081211	7664417	NH3	0.00E+00
607	ALL	650663.9	4204178	0.078664	7664417	NH3	0.00E+00
608	ALL	650683.9	4204178	0.076295	7664417	NH3	0.00E+00
609	ALL	650703.9	4204178	0.07388	7664417	NH3	0.00E+00
610	ALL	650723.9	4204178	0.071556	7664417	NH3	0.00E+00
611	ALL	650743.9	4204178	0.069354	7664417	NH3	0.00E+00
612	ALL	650763.9	4204178	0.067142	7664417	NH3	0.00E+00
613	ALL	650783.9	4204178	0.065115	7664417	NH3	0.00E+00
614	ALL	650803.9	4204178	0.063158	7664417	NH3	0.00E+00
615	ALL	650903.9	4204178	0.054363	7664417	NH3	0.00E+00
616	ALL	650923.9	4204178	0.052952	7664417	NH3	0.00E+00
617	ALL	649923.9	4204198	0.045378	7664417	NH3	0.00E+00
618	ALL	649943.9	4204198	0.04754	7664417	NH3	0.00E+00
619	ALL	649963.9	4204198	0.049871	7664417	NH3	0.00E+00
620	ALL	649983.9	4204198	0.052733	7664417	NH3	0.00E+00
621	ALL	650003.9	4204198	0.055817	7664417	NH3	0.00E+00
622	ALL	650023.9	4204198	0.059871	7664417	NH3	0.00E+00
623	ALL	650043.9	4204198	0.063772	7664417	NH3	0.00E+00
624	ALL	650063.9	4204198	0.06918	7664417	NH3	0.00E+00
625	ALL	650083.9	4204198	0.076455	7664417	NH3	0.00E+00
626	ALL	650103.9	4204198	0.088455	7664417	NH3	0.00E+00
627	ALL	650123.9	4204198	0.115736	7664417	NH3	0.00E+00
628	ALL	650143.9	4204198	0.130059	7664417	NH3	0.00E+00
629	ALL	650643.9	4204198	0.071252	7664417	NH3	0.00E+00
630	ALL	650663.9	4204198	0.069694	7664417	NH3	0.00E+00
631	ALL	650683.9	4204198	0.067988	7664417	NH3	0.00E+00
632	ALL	650703.9	4204198	0.066416	7664417	NH3	0.00E+00
633	ALL	650723.9	4204198	0.064823	7664417	NH3	0.00E+00
634	ALL	650743.9	4204198	0.063143	7664417	NH3	0.00E+00
635	ALL	650763.9	4204198	0.061546	7664417	NH3	0.00E+00
636	ALL	650783.9	4204198	0.059963	7664417	NH3	0.00E+00
637	ALL	650803.9	4204198	0.058384	7664417	NH3	0.00E+00
638	ALL	650903.9	4204198	0.051396	7664417	NH3	0.00E+00
639	ALL	650923.9	4204198	0.05009	7664417	NH3	0.00E+00
640	ALL	649923.9	4204218	0.045865	7664417	NH3	0.00E+00
641	ALL	649943.9	4204218	0.048288	7664417	NH3	0.00E+00
642	ALL	649963.9	4204218	0.050884	7664417	NH3	0.00E+00
643	ALL	649983.9	4204218	0.054174	7664417	NH3	0.00E+00
644	ALL	650003.9	4204218	0.057107	7664417	NH3	0.00E+00
645	ALL	650023.9	4204218	0.060886	7664417	NH3	0.00E+00
646	ALL	650043.9	4204218	0.06582	7664417	NH3	0.00E+00
647	ALL	650063.9	4204218	0.072002	7664417	NH3	0.00E+00

648	ALL	650083.9	4204218	0.079266	7664417	NH3	0.00E+00
649	ALL	650103.9	4204218	0.089782	7664417	NH3	0.00E+00
650	ALL	650123.9	4204218	0.122192	7664417	NH3	0.00E+00
651	ALL	650145.5	4204223	0.152266	7664417	NH3	0.00E+00
652	ALL	650623.9	4204218	0.063824	7664417	NH3	0.00E+00
653	ALL	650643.9	4204218	0.062848	7664417	NH3	0.00E+00
654	ALL	650703.9	4204218	0.059708	7664417	NH3	0.00E+00
655	ALL	650723.9	4204218	0.058623	7664417	NH3	0.00E+00
656	ALL	650743.9	4204218	0.057412	7664417	NH3	0.00E+00
657	ALL	650763.9	4204218	0.056292	7664417	NH3	0.00E+00
658	ALL	650903.9	4204218	0.048377	7664417	NH3	0.00E+00
659	ALL	650923.9	4204218	0.047276	7664417	NH3	0.00E+00
660	ALL	649923.9	4204238	0.046909	7664417	NH3	0.00E+00
661	ALL	649943.9	4204238	0.049377	7664417	NH3	0.00E+00
662	ALL	649963.9	4204238	0.05176	7664417	NH3	0.00E+00
663	ALL	649983.9	4204238	0.054347	7664417	NH3	0.00E+00
664	ALL	650003.9	4204238	0.057751	7664417	NH3	0.00E+00
665	ALL	650023.9	4204238	0.062336	7664417	NH3	0.00E+00
666	ALL	650043.9	4204238	0.066985	7664417	NH3	0.00E+00
667	ALL	650063.9	4204238	0.072782	7664417	NH3	0.00E+00
668	ALL	650083.9	4204238	0.081352	7664417	NH3	0.00E+00
669	ALL	650103.9	4204238	0.090194	7664417	NH3	0.00E+00
670	ALL	650123.9	4204238	0.114433	7664417	NH3	0.00E+00
671	ALL	650623.9	4204238	0.056471	7664417	NH3	0.00E+00
672	ALL	650643.9	4204238	0.055909	7664417	NH3	0.00E+00
673	ALL	650703.9	4204238	0.053862	7664417	NH3	0.00E+00
674	ALL	650723.9	4204238	0.053036	7664417	NH3	0.00E+00
675	ALL	650743.9	4204238	0.052256	7664417	NH3	0.00E+00
676	ALL	650763.9	4204238	0.051375	7664417	NH3	0.00E+00
677	ALL	650903.9	4204238	0.045391	7664417	NH3	0.00E+00
678	ALL	650923.9	4204238	0.044475	7664417	NH3	0.00E+00
679	ALL	649923.9	4204258	0.047145	7664417	NH3	0.00E+00
680	ALL	649943.9	4204258	0.049247	7664417	NH3	0.00E+00
681	ALL	649963.9	4204258	0.05149	7664417	NH3	0.00E+00
682	ALL	649983.9	4204258	0.054969	7664417	NH3	0.00E+00
683	ALL	650003.9	4204258	0.058315	7664417	NH3	0.00E+00
684	ALL	650023.9	4204258	0.06205	7664417	NH3	0.00E+00
685	ALL	650043.9	4204258	0.067211	7664417	NH3	0.00E+00
686	ALL	650063.9	4204258	0.073675	7664417	NH3	0.00E+00
687	ALL	650083.9	4204258	0.080724	7664417	NH3	0.00E+00
688	ALL	650103.9	4204258	0.089619	7664417	NH3	0.00E+00
689	ALL	650117.4	4204261	0.095877	7664417	NH3	0.00E+00
690	ALL	650623.9	4204258	0.050632	7664417	NH3	0.00E+00
691	ALL	650643.9	4204258	0.050177	7664417	NH3	0.00E+00
692	ALL	650903.9	4204258	0.042448	7664417	NH3	0.00E+00
693	ALL	650923.9	4204258	0.041702	7664417	NH3	0.00E+00
694	ALL	649923.9	4204278	0.046665	7664417	NH3	0.00E+00

695	ALL	649943.9	4204278	0.04874	7664417	NH3	0.00E+00
696	ALL	649963.9	4204278	0.051719	7664417	NH3	0.00E+00
697	ALL	649983.9	4204278	0.054566	7664417	NH3	0.00E+00
698	ALL	650003.9	4204278	0.05774	7664417	NH3	0.00E+00
699	ALL	650023.9	4204278	0.061501	7664417	NH3	0.00E+00
700	ALL	650043.9	4204278	0.066574	7664417	NH3	0.00E+00
701	ALL	650063.9	4204278	0.071488	7664417	NH3	0.00E+00
702	ALL	650083.9	4204278	0.077843	7664417	NH3	0.00E+00
703	ALL	650103.9	4204278	0.085876	7664417	NH3	0.00E+00
704	ALL	650129.5	4204276	0.097135	7664417	NH3	0.00E+00
705	ALL	650623.9	4204278	0.045581	7664417	NH3	0.00E+00
706	ALL	650643.9	4204278	0.045223	7664417	NH3	0.00E+00
707	ALL	650903.9	4204278	0.039591	7664417	NH3	0.00E+00
708	ALL	650923.9	4204278	0.038989	7664417	NH3	0.00E+00
709	ALL	649923.9	4204298	0.045668	7664417	NH3	0.00E+00
710	ALL	649943.9	4204298	0.048308	7664417	NH3	0.00E+00
711	ALL	649963.9	4204298	0.050754	7664417	NH3	0.00E+00
712	ALL	649983.9	4204298	0.052983	7664417	NH3	0.00E+00
713	ALL	650003.9	4204298	0.056394	7664417	NH3	0.00E+00
714	ALL	650023.9	4204298	0.060407	7664417	NH3	0.00E+00
715	ALL	650043.9	4204298	0.064214	7664417	NH3	0.00E+00
716	ALL	650063.9	4204298	0.068875	7664417	NH3	0.00E+00
717	ALL	650083.9	4204298	0.075032	7664417	NH3	0.00E+00
718	ALL	650103.9	4204298	0.080991	7664417	NH3	0.00E+00
719	ALL	650883.9	4204298	0.037305	7664417	NH3	0.00E+00
720	ALL	650903.9	4204298	0.036907	7664417	NH3	0.00E+00
721	ALL	650923.9	4204298	0.036438	7664417	NH3	0.00E+00
722	ALL	649923.9	4204318	0.044971	7664417	NH3	0.00E+00
723	ALL	649943.9	4204318	0.046894	7664417	NH3	0.00E+00
724	ALL	649963.9	4204318	0.049303	7664417	NH3	0.00E+00
725	ALL	649983.9	4204318	0.051709	7664417	NH3	0.00E+00
726	ALL	650003.9	4204318	0.055384	7664417	NH3	0.00E+00
727	ALL	650023.9	4204318	0.058485	7664417	NH3	0.00E+00
728	ALL	650043.9	4204318	0.061679	7664417	NH3	0.00E+00
729	ALL	650063.9	4204318	0.066004	7664417	NH3	0.00E+00
730	ALL	650083.9	4204318	0.070472	7664417	NH3	0.00E+00
731	ALL	650103.9	4204318	0.075882	7664417	NH3	0.00E+00
732	ALL	650128.6	4204307	0.085877	7664417	NH3	0.00E+00
733	ALL	650883.9	4204318	0.034585	7664417	NH3	0.00E+00
734	ALL	650903.9	4204318	0.034292	7664417	NH3	0.00E+00
735	ALL	650923.9	4204318	0.033945	7664417	NH3	0.00E+00
736	ALL	649923.9	4204338	0.043826	7664417	NH3	0.00E+00
737	ALL	649943.9	4204338	0.045828	7664417	NH3	0.00E+00
738	ALL	649963.9	4204338	0.047959	7664417	NH3	0.00E+00
739	ALL	649983.9	4204338	0.050848	7664417	NH3	0.00E+00
740	ALL	650003.9	4204338	0.053451	7664417	NH3	0.00E+00
741	ALL	650023.9	4204338	0.055873	7664417	NH3	0.00E+00

742	ALL	650043.9	4204338	0.05934	7664417	NH3	0.00E+00
743	ALL	650063.9	4204338	0.063207	7664417	NH3	0.00E+00
744	ALL	650083.9	4204338	0.067579	7664417	NH3	0.00E+00
745	ALL	650103.9	4204338	0.0723	7664417	NH3	0.00E+00
746	ALL	650123.9	4204338	0.076333	7664417	NH3	0.00E+00
747	ALL	650295.8	4204357	0.037863	7664417	NH3	0.00E+00
748	ALL	650883.9	4204338	0.032009	7664417	NH3	0.00E+00
749	ALL	650903.9	4204338	0.031814	7664417	NH3	0.00E+00
750	ALL	650923.9	4204338	0.031615	7664417	NH3	0.00E+00
751	ALL	649923.9	4204358	0.042363	7664417	NH3	0.00E+00
752	ALL	649943.9	4204358	0.044634	7664417	NH3	0.00E+00
753	ALL	649963.9	4204358	0.04688	7664417	NH3	0.00E+00
754	ALL	649983.9	4204358	0.048649	7664417	NH3	0.00E+00
755	ALL	650003.9	4204358	0.051124	7664417	NH3	0.00E+00
756	ALL	650023.9	4204358	0.054473	7664417	NH3	0.00E+00
757	ALL	650043.9	4204358	0.057799	7664417	NH3	0.00E+00
758	ALL	650063.9	4204358	0.061369	7664417	NH3	0.00E+00
759	ALL	650083.9	4204358	0.06457	7664417	NH3	0.00E+00
760	ALL	650103.9	4204358	0.067983	7664417	NH3	0.00E+00
761	ALL	650123.9	4204358	0.071264	7664417	NH3	0.00E+00
762	ALL	650171.3	4204360	0.072867	7664417	NH3	0.00E+00
763	ALL	650181.5	4204363	0.071318	7664417	NH3	0.00E+00
764	ALL	650883.9	4204358	0.029573	7664417	NH3	0.00E+00
765	ALL	650903.9	4204358	0.02945	7664417	NH3	0.00E+00
766	ALL	650923.9	4204358	0.029332	7664417	NH3	0.00E+00
767	ALL	649923.9	4204378	0.041255	7664417	NH3	0.00E+00
768	ALL	649943.9	4204378	0.04314	7664417	NH3	0.00E+00
769	ALL	649963.9	4204378	0.045288	7664417	NH3	0.00E+00
770	ALL	649983.9	4204378	0.047543	7664417	NH3	0.00E+00
771	ALL	650003.9	4204378	0.049835	7664417	NH3	0.00E+00
772	ALL	650023.9	4204378	0.053148	7664417	NH3	0.00E+00
773	ALL	650043.9	4204378	0.05577	7664417	NH3	0.00E+00
774	ALL	650063.9	4204378	0.058582	7664417	NH3	0.00E+00
775	ALL	650083.9	4204378	0.061665	7664417	NH3	0.00E+00
776	ALL	650103.9	4204378	0.064262	7664417	NH3	0.00E+00
777	ALL	650903.9	4204378	0.027213	7664417	NH3	0.00E+00
778	ALL	650923.9	4204378	0.027145	7664417	NH3	0.00E+00
779	ALL	649923.9	4204398	0.040629	7664417	NH3	0.00E+00
780	ALL	649943.9	4204398	0.04251	7664417	NH3	0.00E+00
781	ALL	649963.9	4204398	0.044493	7664417	NH3	0.00E+00
782	ALL	649983.9	4204398	0.046606	7664417	NH3	0.00E+00
783	ALL	650003.9	4204398	0.049291	7664417	NH3	0.00E+00
784	ALL	650023.9	4204398	0.051368	7664417	NH3	0.00E+00
785	ALL	650043.9	4204398	0.053922	7664417	NH3	0.00E+00
786	ALL	650063.9	4204398	0.056684	7664417	NH3	0.00E+00
787	ALL	650083.9	4204398	0.058691	7664417	NH3	0.00E+00
788	ALL	650103.9	4204398	0.05949	7664417	NH3	0.00E+00

789	ALL	649923.9	4204418	0.039953	7664417	NH3	0.00E+00
790	ALL	649943.9	4204418	0.041831	7664417	NH3	0.00E+00
791	ALL	649963.9	4204418	0.043208	7664417	NH3	0.00E+00
792	ALL	649983.9	4204418	0.045361	7664417	NH3	0.00E+00
793	ALL	650003.9	4204418	0.047717	7664417	NH3	0.00E+00
794	ALL	650023.9	4204418	0.049904	7664417	NH3	0.00E+00
795	ALL	650043.9	4204418	0.052146	7664417	NH3	0.00E+00
796	ALL	650103.9	4204418	0.055458	7664417	NH3	0.00E+00
797	ALL	649923.9	4204438	0.038946	7664417	NH3	0.00E+00
798	ALL	649943.9	4204438	0.04038	7664417	NH3	0.00E+00
799	ALL	649963.9	4204438	0.042492	7664417	NH3	0.00E+00
800	ALL	649983.9	4204438	0.044626	7664417	NH3	0.00E+00
801	ALL	650003.9	4204438	0.04623	7664417	NH3	0.00E+00
802	ALL	650023.9	4204438	0.048287	7664417	NH3	0.00E+00
803	ALL	650043.9	4204438	0.049919	7664417	NH3	0.00E+00
804	ALL	650063.9	4204438	0.050573	7664417	NH3	0.00E+00
805	ALL	650083.9	4204438	0.051647	7664417	NH3	0.00E+00
806	ALL	650143.9	4204438	0.049534	7664417	NH3	0.00E+00
807	ALL	650209.7	4204429	0.043265	7664417	NH3	0.00E+00
808	ALL	650229.7	4204429	0.03912	7664417	NH3	0.00E+00
809	ALL	649923.9	4204458	0.038171	7664417	NH3	0.00E+00
810	ALL	649943.9	4204458	0.039592	7664417	NH3	0.00E+00
811	ALL	649963.9	4204458	0.041901	7664417	NH3	0.00E+00
812	ALL	649983.9	4204458	0.043545	7664417	NH3	0.00E+00
813	ALL	650003.9	4204458	0.044993	7664417	NH3	0.00E+00
814	ALL	650023.9	4204458	0.046023	7664417	NH3	0.00E+00
815	ALL	650043.9	4204458	0.047225	7664417	NH3	0.00E+00
816	ALL	650063.9	4204458	0.048037	7664417	NH3	0.00E+00
817	ALL	650083.9	4204458	0.048633	7664417	NH3	0.00E+00
818	ALL	650143.9	4204458	0.045456	7664417	NH3	0.00E+00
819	ALL	650203.9	4204458	0.037784	7664417	NH3	0.00E+00
820	ALL	650223.9	4204458	0.034263	7664417	NH3	0.00E+00
821	ALL	649923.9	4204478	0.037353	7664417	NH3	0.00E+00
822	ALL	649943.9	4204478	0.039106	7664417	NH3	0.00E+00
823	ALL	649963.9	4204478	0.040688	7664417	NH3	0.00E+00
824	ALL	649983.9	4204478	0.0421	7664417	NH3	0.00E+00
825	ALL	650003.9	4204478	0.042953	7664417	NH3	0.00E+00
826	ALL	650023.9	4204478	0.044135	7664417	NH3	0.00E+00
827	ALL	650043.9	4204478	0.045076	7664417	NH3	0.00E+00
828	ALL	650063.9	4204478	0.045625	7664417	NH3	0.00E+00
829	ALL	650203.9	4204478	0.034069	7664417	NH3	0.00E+00
830	ALL	649923.9	4204498	0.036928	7664417	NH3	0.00E+00
831	ALL	649943.9	4204498	0.038383	7664417	NH3	0.00E+00
832	ALL	649963.9	4204498	0.039149	7664417	NH3	0.00E+00
833	ALL	649983.9	4204498	0.040133	7664417	NH3	0.00E+00
834	ALL	650003.9	4204498	0.041217	7664417	NH3	0.00E+00
835	ALL	650023.9	4204498	0.042457	7664417	NH3	0.00E+00

836	ALL	650043.9	4204498	0.042775	7664417	NH3	0.00E+00
837	ALL	650063.9	4204498	0.042918	7664417	NH3	0.00E+00
838	ALL	650103.9	4204498	0.041569	7664417	NH3	0.00E+00
839	ALL	650123.9	4204498	0.040454	7664417	NH3	0.00E+00
840	ALL	650143.9	4204498	0.03833	7664417	NH3	0.00E+00
841	ALL	650163.9	4204498	0.036313	7664417	NH3	0.00E+00
842	ALL	650183.9	4204498	0.034111	7664417	NH3	0.00E+00
843	ALL	650203.9	4204498	0.031132	7664417	NH3	0.00E+00
844	ALL	649923.9	4204518	0.036296	7664417	NH3	0.00E+00
845	ALL	649943.9	4204518	0.037007	7664417	NH3	0.00E+00
846	ALL	649963.9	4204518	0.037713	7664417	NH3	0.00E+00
847	ALL	649983.9	4204518	0.038833	7664417	NH3	0.00E+00
848	ALL	650003.9	4204518	0.03999	7664417	NH3	0.00E+00
849	ALL	650023.9	4204518	0.040466	7664417	NH3	0.00E+00
850	ALL	650043.9	4204518	0.040571	7664417	NH3	0.00E+00
851	ALL	650063.9	4204518	0.0401	7664417	NH3	0.00E+00
852	ALL	650103.9	4204518	0.039024	7664417	NH3	0.00E+00
853	ALL	650123.9	4204518	0.037541	7664417	NH3	0.00E+00
854	ALL	650143.9	4204518	0.035388	7664417	NH3	0.00E+00
855	ALL	650163.9	4204518	0.033515	7664417	NH3	0.00E+00
856	ALL	650183.9	4204518	0.031185	7664417	NH3	0.00E+00
857	ALL	650203.9	4204518	0.028538	7664417	NH3	0.00E+00
858	ALL	650158	4204184	0.126996	7664417	NH3	0.00E+00
859	ALL	650190.8	4204367	0.068692	7664417	NH3	0.00E+00
860	ALL	650200.7	4204370	0.065563	7664417	NH3	0.00E+00

JMC_OP_HRA_\hra\SJMC_Op_Unmit_HRAInput.hra

SCENARIO	DETAILS
30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

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30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

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30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

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30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

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30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

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30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

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30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

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30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

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30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

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30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

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30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

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30YrCancerRMP_InhSoilDermMMilk_FAH16to70 *

30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

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30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

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30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*
30YrCancerRMP_InhSoilDermMMilk_FAH16to70	*

*HARP - HRACalc v22118 3/29/2023 10:40:15 AM - Chronic Risk - Input File: C:\Users\imcintire\Desktop\HARP2

REC	GRP	NETID	X	Y	SCENARIO
458	ALL		650683.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
439	ALL		650703.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
477	ALL		650683.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
459	ALL		650703.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
420	ALL		650703.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
651	ALL		650145.5	4204223	NonCancerChronicDerived_InhSoilDermMMilk
440	ALL		650723.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
421	ALL		650723.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
478	ALL		650703.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
402	ALL		650703.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
460	ALL		650723.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
496	ALL		650683.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
441	ALL		650743.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
403	ALL		650723.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
422	ALL		650743.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
479	ALL		650723.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
461	ALL		650743.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
517	ALL		650663.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
404	ALL		650743.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
497	ALL		650703.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
442	ALL		650763.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
423	ALL		650763.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
384	ALL		650723.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
628	ALL		650143.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
462	ALL		650763.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
480	ALL		650743.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
405	ALL		650763.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
385	ALL		650743.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
424	ALL		650783.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
858	ALL		650158	4204184	NonCancerChronicDerived_InhSoilDermMMilk
518	ALL		650683.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
443	ALL		650783.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
366	ALL		650723.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
498	ALL		650723.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
386	ALL		650763.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
406	ALL		650783.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
463	ALL		650783.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
650	ALL		650123.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
481	ALL		650763.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
367	ALL		650743.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
425	ALL		650803.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
444	ALL		650803.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
387	ALL		650783.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
346	ALL		650723.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
407	ALL		650803.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk

368	ALL	650763.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
519	ALL	650703.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
540	ALL	650663.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
499	ALL	650743.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
464	ALL	650803.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
347	ALL	650743.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
627	ALL	650123.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
426	ALL	650823.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
445	ALL	650823.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
388	ALL	650803.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
369	ALL	650783.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
408	ALL	650823.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
482	ALL	650783.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
670	ALL	650123.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
583	ALL	650177.4	4204158	NonCancerChronicDerived_InhSoilDermMMilk
605	ALL	650143.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
348	ALL	650763.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
389	ALL	650823.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
427	ALL	650843.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
370	ALL	650803.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
330	ALL	650743.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
520	ALL	650723.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
409	ALL	650843.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
465	ALL	650823.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
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349	ALL	650783.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
541	ALL	650683.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
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371	ALL	650823.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
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562	ALL	650643.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
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351	ALL	650823.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
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542	ALL	650703.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
315	ALL	650763.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
484	ALL	650823.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
333	ALL	650803.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
582	ALL	650143.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk

563	ALL	650663.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
352	ALL	650843.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
316	ALL	650783.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
334	ALL	650823.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
522	ALL	650763.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
538	ALL	650163.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
502	ALL	650803.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
704	ALL	650129.5	4204276	NonCancerChronicDerived_InhSoilDermMMilk
561	ALL	650163.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
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335	ALL	650843.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
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317	ALL	650803.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
516	ALL	650163.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
689	ALL	650117.4	4204261	NonCancerChronicDerived_InhSoilDermMMilk
564	ALL	650683.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
560	ALL	650143.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
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585	ALL	650663.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
626	ALL	650103.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
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703	ALL	650103.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
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177	ALL	650643.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
515	ALL	650143.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
586	ALL	650683.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
603	ALL	650103.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
178	ALL	650663.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
365	ALL	650143.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk

525	ALL	650823.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
457	ALL	650123.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
546	ALL	650783.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
179	ALL	650683.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
567	ALL	650743.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
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156	ALL	650663.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
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718	ALL	650103.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
687	ALL	650083.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
157	ALL	650683.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
476	ALL	650123.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
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547	ALL	650803.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
568	ALL	650763.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
383	ALL	650123.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
580	ALL	650103.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
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536	ALL	650123.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
588	ALL	650723.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
607	ALL	650663.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
495	ALL	650123.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
702	ALL	650083.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
130	ALL	650623.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
364	ALL	650123.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
514	ALL	650123.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
437	ALL	650103.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
456	ALL	650103.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
625	ALL	650083.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
569	ALL	650783.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
548	ALL	650823.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
746	ALL	650123.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
608	ALL	650683.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
419	ALL	650103.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
731	ALL	650103.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
589	ALL	650743.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
152	ALL	650583.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
717	ALL	650083.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
475	ALL	650103.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
400	ALL	650103.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
558	ALL	650103.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
129	ALL	650603.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
609	ALL	650703.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk

686	ALL	650063.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
570	ALL	650803.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
602	ALL	650083.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
590	ALL	650763.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
762	ALL	650171.3	4204360	NonCancerChronicDerived_InhSoilDermMMilk
667	ALL	650063.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
382	ALL	650103.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
494	ALL	650103.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
745	ALL	650103.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
647	ALL	650063.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
610	ALL	650723.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
701	ALL	650063.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
436	ALL	650083.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
763	ALL	650181.5	4204363	NonCancerChronicDerived_InhSoilDermMMilk
513	ALL	650103.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
761	ALL	650123.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
629	ALL	650643.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
535	ALL	650103.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
455	ALL	650083.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
418	ALL	650083.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
591	ALL	650783.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
730	ALL	650083.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
579	ALL	650083.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
128	ALL	650583.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
474	ALL	650083.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
630	ALL	650663.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
151	ALL	650563.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
611	ALL	650743.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
624	ALL	650063.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
716	ALL	650063.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
399	ALL	650083.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
859	ALL	650190.8	4204367	NonCancerChronicDerived_InhSoilDermMMilk
592	ALL	650803.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
631	ALL	650683.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
760	ALL	650103.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
493	ALL	650083.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
557	ALL	650083.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
744	ALL	650083.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
48	ALL	650683.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
363	ALL	650103.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
601	ALL	650063.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
685	ALL	650043.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
612	ALL	650763.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
435	ALL	650063.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
666	ALL	650043.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
700	ALL	650043.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
632	ALL	650703.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk

454	ALL	650063.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
534	ALL	650083.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
512	ALL	650083.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
47	ALL	650663.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
729	ALL	650063.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
417	ALL	650063.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
646	ALL	650043.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
860	ALL	650200.7	4204370	NonCancerChronicDerived_InhSoilDermMMilk
473	ALL	650063.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
381	ALL	650083.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
613	ALL	650783.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
633	ALL	650723.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
398	ALL	650063.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
759	ALL	650083.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
23	ALL	650683.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
776	ALL	650103.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
113	ALL	650583.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
715	ALL	650043.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
578	ALL	650063.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
286	ALL	650163.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
127	ALL	650563.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
492	ALL	650063.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
652	ALL	650623.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
623	ALL	650043.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
743	ALL	650063.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
614	ALL	650803.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
634	ALL	650743.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
653	ALL	650643.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
556	ALL	650063.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
434	ALL	650043.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
453	ALL	650043.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
416	ALL	650043.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
22	ALL	650663.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
665	ALL	650023.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
362	ALL	650083.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
511	ALL	650063.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
684	ALL	650023.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
533	ALL	650063.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
600	ALL	650043.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
380	ALL	650063.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
728	ALL	650043.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
775	ALL	650083.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
472	ALL	650043.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
635	ALL	650763.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
699	ALL	650023.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
758	ALL	650063.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
645	ALL	650023.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk

397	ALL	650043.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
714	ALL	650023.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
491	ALL	650043.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
577	ALL	650043.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
636	ALL	650783.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
622	ALL	650023.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
654	ALL	650703.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
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742	ALL	650043.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
452	ALL	650023.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
415	ALL	650023.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
433	ALL	650023.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
112	ALL	650563.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
379	ALL	650043.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
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787	ALL	650083.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
655	ALL	650723.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
774	ALL	650063.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
555	ALL	650043.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
345	ALL	650083.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
727	ALL	650023.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
532	ALL	650043.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
126	ALL	650543.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
637	ALL	650803.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
683	ALL	650003.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
471	ALL	650023.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
599	ALL	650023.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
757	ALL	650043.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
664	ALL	650003.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
698	ALL	650003.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
396	ALL	650023.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
656	ALL	650743.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
644	ALL	650003.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
490	ALL	650023.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
786	ALL	650063.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
576	ALL	650023.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
671	ALL	650623.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
713	ALL	650003.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
657	ALL	650763.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
451	ALL	650003.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
432	ALL	650003.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
593	ALL	650923.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
378	ALL	650023.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
672	ALL	650643.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
741	ALL	650023.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk

414	ALL	650003.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
621	ALL	650003.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
360	ALL	650043.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
773	ALL	650043.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
509	ALL	650023.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
344	ALL	650063.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
796	ALL	650103.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk
726	ALL	650003.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
554	ALL	650023.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
531	ALL	650023.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
69	ALL	650583.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
682	ALL	649983.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
395	ALL	650003.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
209	ALL	650443.9	4203698	NonCancerChronicDerived_InhSoilDermMMilk
470	ALL	650003.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
329	ALL	650083.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
697	ALL	649983.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
756	ALL	650023.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
615	ALL	650903.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
663	ALL	649983.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
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92	ALL	650563.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
643	ALL	649983.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
489	ALL	650003.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
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111	ALL	650543.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
785	ALL	650043.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
673	ALL	650703.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
125	ALL	650523.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
740	ALL	650003.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
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431	ALL	649983.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
575	ALL	650003.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
772	ALL	650023.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
450	ALL	649983.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
674	ALL	650723.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
712	ALL	649983.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
343	ALL	650043.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
377	ALL	650003.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
616	ALL	650923.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
413	ALL	649983.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
620	ALL	649983.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
508	ALL	650003.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
208	ALL	650423.9	4203698	NonCancerChronicDerived_InhSoilDermMMilk
530	ALL	650003.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
553	ALL	650003.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk

675	ALL	650743.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
469	ALL	649983.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
394	ALL	649983.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
795	ALL	650043.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk
328	ALL	650063.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
662	ALL	649963.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
696	ALL	649963.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
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681	ALL	649963.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
597	ALL	649983.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
638	ALL	650903.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
676	ALL	650763.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
784	ALL	650023.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
313	ALL	650083.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
358	ALL	650003.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
755	ALL	650003.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
46	ALL	650583.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
642	ALL	649963.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
739	ALL	649983.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
430	ALL	649963.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
711	ALL	649963.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
342	ALL	650023.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
376	ALL	649983.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
690	ALL	650623.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
804	ALL	650063.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
68	ALL	650563.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
449	ALL	649963.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
574	ALL	649983.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
91	ALL	650543.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
412	ALL	649963.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
507	ALL	649983.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
691	ALL	650643.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
110	ALL	650523.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
327	ALL	650043.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
639	ALL	650923.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
803	ALL	650043.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
794	ALL	650023.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk
619	ALL	649963.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
552	ALL	649983.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
771	ALL	650003.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
529	ALL	649983.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
393	ALL	649963.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
468	ALL	649963.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
806	ALL	650143.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
195	ALL	650423.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk

661	ALL	649943.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
724	ALL	649963.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
783	ALL	650003.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
680	ALL	649943.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
596	ALL	649963.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
487	ALL	649963.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
357	ALL	649983.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
312	ALL	650063.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
341	ALL	650003.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
695	ALL	649943.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
754	ALL	649983.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
250	ALL	650183.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
817	ALL	650083.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
429	ALL	649943.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
375	ALL	649963.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
658	ALL	650903.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
710	ALL	649943.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
641	ALL	649943.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
802	ALL	650023.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
304	ALL	650083.9	4203858	NonCancerChronicDerived_InhSoilDermMMilk
411	ALL	649943.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
448	ALL	649943.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
326	ALL	650023.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
816	ALL	650063.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
738	ALL	649963.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
284	ALL	650123.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
194	ALL	650403.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
236	ALL	650203.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
506	ALL	649963.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
793	ALL	650003.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk
573	ALL	649963.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
770	ALL	649983.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
618	ALL	649943.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
528	ALL	649963.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
45	ALL	650563.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
467	ALL	649943.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
551	ALL	649963.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
392	ALL	649943.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
659	ALL	650923.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
815	ALL	650043.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
67	ALL	650543.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
311	ALL	650043.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
679	ALL	649923.9	4204258	NonCancerChronicDerived_InhSoilDermMMilk
90	ALL	650523.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
340	ALL	649983.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
660	ALL	649923.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
723	ALL	649943.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk

753	ALL	649963.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
486	ALL	649943.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
356	ALL	649963.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
193	ALL	650383.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
694	ALL	649923.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
595	ALL	649943.9	4204178	NonCancerChronicDerived_InhSoilDermMMilk
782	ALL	649983.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
374	ALL	649943.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk
801	ALL	650003.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
428	ALL	649923.9	4204018	NonCancerChronicDerived_InhSoilDermMMilk
325	ALL	650003.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
303	ALL	650063.9	4203858	NonCancerChronicDerived_InhSoilDermMMilk
410	ALL	649923.9	4203998	NonCancerChronicDerived_InhSoilDermMMilk
814	ALL	650023.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
447	ALL	649923.9	4204038	NonCancerChronicDerived_InhSoilDermMMilk
192	ALL	650363.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
640	ALL	649923.9	4204218	NonCancerChronicDerived_InhSoilDermMMilk
249	ALL	650163.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
737	ALL	649943.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
235	ALL	650183.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
505	ALL	649943.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
709	ALL	649923.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
828	ALL	650063.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
310	ALL	650023.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
705	ALL	650623.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
550	ALL	649943.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
818	ALL	650143.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
677	ALL	650903.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
617	ALL	649923.9	4204198	NonCancerChronicDerived_InhSoilDermMMilk
466	ALL	649923.9	4204058	NonCancerChronicDerived_InhSoilDermMMilk
295	ALL	650083.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
792	ALL	649983.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk
527	ALL	649943.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
572	ALL	649943.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
176	ALL	650403.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
769	ALL	649963.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
706	ALL	650643.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
273	ALL	650123.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
283	ALL	650103.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
391	ALL	649923.9	4203978	NonCancerChronicDerived_InhSoilDermMMilk
827	ALL	650043.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
355	ALL	649943.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
339	ALL	649963.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
813	ALL	650003.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
722	ALL	649923.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
485	ALL	649923.9	4204078	NonCancerChronicDerived_InhSoilDermMMilk
373	ALL	649923.9	4203958	NonCancerChronicDerived_InhSoilDermMMilk

752	ALL	649943.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
800	ALL	649983.9	4204438	NonCancerChronicDerived_InhSoilDermMMilk
324	ALL	649983.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
44	ALL	650543.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
781	ALL	649963.9	4204398	NonCancerChronicDerived_InhSoilDermMMilk
678	ALL	650923.9	4204238	NonCancerChronicDerived_InhSoilDermMMilk
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826	ALL	650023.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
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504	ALL	649923.9	4204098	NonCancerChronicDerived_InhSoilDermMMilk
294	ALL	650063.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
248	ALL	650143.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
812	ALL	649983.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
571	ALL	649923.9	4204158	NonCancerChronicDerived_InhSoilDermMMilk
174	ALL	650363.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
526	ALL	649923.9	4204118	NonCancerChronicDerived_InhSoilDermMMilk
549	ALL	649923.9	4204138	NonCancerChronicDerived_InhSoilDermMMilk
807	ALL	650209.7	4204429	NonCancerChronicDerived_InhSoilDermMMilk
354	ALL	649923.9	4203938	NonCancerChronicDerived_InhSoilDermMMilk
323	ALL	649963.9	4203898	NonCancerChronicDerived_InhSoilDermMMilk
338	ALL	649943.9	4203918	NonCancerChronicDerived_InhSoilDermMMilk
791	ALL	649963.9	4204418	NonCancerChronicDerived_InhSoilDermMMilk
768	ALL	649943.9	4204378	NonCancerChronicDerived_InhSoilDermMMilk
262	ALL	650123.9	4203778	NonCancerChronicDerived_InhSoilDermMMilk
282	ALL	650083.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
825	ALL	650003.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
301	ALL	650023.9	4203858	NonCancerChronicDerived_InhSoilDermMMilk
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751	ALL	649923.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
173	ALL	650303.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
308	ALL	649983.9	4203878	NonCancerChronicDerived_InhSoilDermMMilk
293	ALL	650043.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
824	ALL	649983.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
233	ALL	650143.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
172	ALL	650283.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
43	ALL	650523.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk

811	ALL	649963.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
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171	ALL	650263.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
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170	ALL	650243.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
109	ALL	650443.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
150	ALL	650363.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
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169	ALL	650223.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
823	ALL	649963.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
292	ALL	650023.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
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850	ALL	650043.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
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833	ALL	649983.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
232	ALL	650123.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
851	ALL	650063.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
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89	ALL	650443.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
145	ALL	650243.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
810	ALL	649943.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
707	ALL	650903.9	4204278	NonCancerChronicDerived_InhSoilDermMMilk
270	ALL	650063.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
246	ALL	650103.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk

291	ALL	650003.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
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107	ALL	650403.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
832	ALL	649963.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
207	ALL	650143.9	4203698	NonCancerChronicDerived_InhSoilDermMMilk
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143	ALL	650203.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
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123	ALL	650303.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
290	ALL	649983.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
122	ALL	650283.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
269	ALL	650043.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
809	ALL	649923.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
231	ALL	650103.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
121	ALL	650263.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
120	ALL	650243.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
65	ALL	650443.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
245	ALL	650083.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
747	ALL	650295.8	4204357	NonCancerChronicDerived_InhSoilDermMMilk
297	ALL	649943.9	4203858	NonCancerChronicDerived_InhSoilDermMMilk
142	ALL	650183.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
191	ALL	650143.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
819	ALL	650203.9	4204458	NonCancerChronicDerived_InhSoilDermMMilk
259	ALL	650063.9	4203778	NonCancerChronicDerived_InhSoilDermMMilk
846	ALL	649963.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
119	ALL	650223.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
853	ALL	650123.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
278	ALL	650003.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
206	ALL	650123.9	4203698	NonCancerChronicDerived_InhSoilDermMMilk
87	ALL	650403.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
42	ALL	650463.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
821	ALL	649923.9	4204478	NonCancerChronicDerived_InhSoilDermMMilk
719	ALL	650883.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
118	ALL	650203.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk

289	ALL	649963.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
845	ALL	649943.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
219	ALL	650103.9	4203718	NonCancerChronicDerived_InhSoilDermMMilk
830	ALL	649923.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
720	ALL	650903.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
268	ALL	650023.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
64	ALL	650423.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
296	ALL	649923.9	4203858	NonCancerChronicDerived_InhSoilDermMMilk
141	ALL	650163.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
106	ALL	650323.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
86	ALL	650383.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
117	ALL	650183.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
105	ALL	650303.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
230	ALL	650083.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
104	ALL	650283.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
103	ALL	650263.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
244	ALL	650063.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
102	ALL	650243.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
277	ALL	649983.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
721	ALL	650923.9	4204298	NonCancerChronicDerived_InhSoilDermMMilk
258	ALL	650043.9	4203778	NonCancerChronicDerived_InhSoilDermMMilk
190	ALL	650123.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
841	ALL	650163.9	4204498	NonCancerChronicDerived_InhSoilDermMMilk
844	ALL	649923.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
41	ALL	650443.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
101	ALL	650223.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
288	ALL	649943.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
21	ALL	650463.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
63	ALL	650403.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
100	ALL	650203.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
205	ALL	650103.9	4203698	NonCancerChronicDerived_InhSoilDermMMilk
267	ALL	650003.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
116	ALL	650163.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
140	ALL	650143.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
40	ALL	650423.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
276	ALL	649963.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
218	ALL	650083.9	4203718	NonCancerChronicDerived_InhSoilDermMMilk
854	ALL	650143.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
257	ALL	650023.9	4203778	NonCancerChronicDerived_InhSoilDermMMilk
99	ALL	650183.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
85	ALL	650323.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
168	ALL	650123.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
62	ALL	650383.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
229	ALL	650063.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
287	ALL	649923.9	4203838	NonCancerChronicDerived_InhSoilDermMMilk
82	ALL	650263.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
84	ALL	650303.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk

83	ALL	650283.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
81	ALL	650243.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
243	ALL	650043.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
80	ALL	650223.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
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733	ALL	650883.9	4204318	NonCancerChronicDerived_InhSoilDermMMilk
115	ALL	650143.9	4203618	NonCancerChronicDerived_InhSoilDermMMilk
79	ALL	650203.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
275	ALL	649943.9	4203818	NonCancerChronicDerived_InhSoilDermMMilk
98	ALL	650163.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
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217	ALL	650063.9	4203718	NonCancerChronicDerived_InhSoilDermMMilk
19	ALL	650423.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
167	ALL	650103.9	4203658	NonCancerChronicDerived_InhSoilDermMMilk
265	ALL	649963.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
242	ALL	650023.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
38	ALL	650383.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
228	ALL	650043.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
61	ALL	650323.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
57	ALL	650243.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
60	ALL	650303.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
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855	ALL	650163.9	4204518	NonCancerChronicDerived_InhSoilDermMMilk
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188	ALL	650083.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
255	ALL	649983.9	4203778	NonCancerChronicDerived_InhSoilDermMMilk
18	ALL	650403.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
264	ALL	649943.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
54	ALL	650183.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
203	ALL	650063.9	4203698	NonCancerChronicDerived_InhSoilDermMMilk

241	ALL	650003.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
216	ALL	650043.9	4203718	NonCancerChronicDerived_InhSoilDermMMilk
76	ALL	650143.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
17	ALL	650383.9	4203518	NonCancerChronicDerived_InhSoilDermMMilk
227	ALL	650023.9	4203738	NonCancerChronicDerived_InhSoilDermMMilk
96	ALL	650123.9	4203598	NonCancerChronicDerived_InhSoilDermMMilk
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263	ALL	649923.9	4203798	NonCancerChronicDerived_InhSoilDermMMilk
31	ALL	650203.9	4203538	NonCancerChronicDerived_InhSoilDermMMilk
748	ALL	650883.9	4204338	NonCancerChronicDerived_InhSoilDermMMilk
240	ALL	649983.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
187	ALL	650063.9	4203678	NonCancerChronicDerived_InhSoilDermMMilk
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52	ALL	650143.9	4203558	NonCancerChronicDerived_InhSoilDermMMilk
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202	ALL	650043.9	4203698	NonCancerChronicDerived_InhSoilDermMMilk
138	ALL	650083.9	4203638	NonCancerChronicDerived_InhSoilDermMMilk
75	ALL	650123.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
253	ALL	649943.9	4203778	NonCancerChronicDerived_InhSoilDermMMilk
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215	ALL	650023.9	4203718	NonCancerChronicDerived_InhSoilDermMMilk
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764	ALL	650883.9	4204358	NonCancerChronicDerived_InhSoilDermMMilk
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237	ALL	649923.9	4203758	NonCancerChronicDerived_InhSoilDermMMilk
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70	ALL	650003.9	4203578	NonCancerChronicDerived_InhSoilDermMMilk
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2	ALL	649918.4	4203526	NonCancerChronicDerived_InhSoilDermMMilk
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Appendix K
Noise Model Outputs

Appendix H - Construction Noise Modeling

receptor: **Phase 1 - Reference (50 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	concrete saw	1	20	90	50	89.9	60	74
	excavator	1	40	81	50	80.9	60	68
	dozer	1	40	82	50	81.9	60	69
								75.8
Site Preparation	dozer	1	40	82	50	81.9	60	69
	front end loader	1	40	79	50	78.9	60	66
	backhoe	1	40	78	50	77.9	60	65
								71.7
Grading	excavator	1	40	81	50	80.9	60	68
	grader	1	40	85	50	84.9	60	72
	dozer	1	40	82	50	81.9	60	69
	backhoe	1	40	78	50	77.9	60	65
								75.1

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 2 - Reference (50 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	concrete saw	1	20	90	50	89.9	60	74
	excavator	1	40	81	50	80.9	60	68
	dozer	1	40	82	50	81.9	60	69
								75.8
Site Preparation	dozer	1	40	82	50	81.9	60	69
	front end loader	1	40	79	50	78.9	60	66
	backhoe	1	40	78	50	77.9	60	65
								71.7
Grading	excavator	1	40	81	50	80.9	60	68
	grader	1	40	85	50	84.9	60	72
	dozer	1						
	scraper	1	40	84	50	83.9	60	71
	backhoe	1	40	78	50	77.9	60	65
								75.7
Buiding Construction	Crane	1	16	81	50	80.9	60	64
	Gradall	1	40	83	50	82.9	60	70
	Generator	1	50	72	50	71.9	60	60
	backhoe	1	40	78	50	77.9	60	65
	Welder / Torch	1	40	73	50	72.9	60	60
								72.4
Architectural Coating	Compressor (air)	1	40	78	50	77.9	60	65
								64.9

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 3 - Reference (50 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Grading	excavator	1	40	81	50	80.9	60	68
	grader	1	40	85	50	84.9	60	72
	dozer	1	40	82	50	81.9	60	69
	scraper	1	40	84	50	83.9	60	71
	backhoe	1	40	78	50	77.9	60	65
								76.5
Buiding Construction	Crane	1	16	81	50	80.9	60	64
	Gradall	1	40	83	50	82.9	60	70
	Generator	1	50	72	50	71.9	60	60
	backhoe	1	40	78	50	77.9	60	65
	Welder / Torch	1	40	73	50	72.9	60	60
								72.4
Architectural Coating	Compressor (air)	1	40	78	50	77.9	60	65
								64.9

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 4 - Reference (50 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	concrete saw	1	20	90	50	89.9	60	74
	excavator	1	40	81	50	80.9	60	68
	dozer	1	40	82	50	81.9	60	69
								75.8
Facade Improvements and Interior Renovation	Crane	1	16	81	50	80.9	60	64
	dozer	1	40	82	50	81.9	60	69
	backhoe	1	40	78	50	77.9	60	65
								71.2
Architectural Coating	Compressor (air)	1	40	78	50	77.9	60	65
								64.9

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 5 - Reference (50 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	concrete saw	1	20	90	50	89.9	60	74
	excavator	1	40	81	50	80.9	60	68
	dozer	1	40	82	50	81.9	60	69
								75.8
Site Preparation	dozer	1	40	82	50	81.9	60	69
	front end loader	1	40	79	50	78.9	60	66
	backhoe	1	40	78	50	77.9	60	65
								71.7
Grading	excavator	1	40	81	50	80.9	60	68
	grader	1	40	85	50	84.9	60	72
	front end loader	1	40	79	50	78.9	60	66
	backhoe	1	40	78	50	77.9	60	65
								74.5
Building Construction	Crane	1	16	81	50	80.9	60	64
	Gradall	1	40	83	50	82.9	60	70
	Generator	1	50	72	50	71.9	60	60
	backhoe	1	40	78	50	77.9	60	65
	Welder / Torch	1	40	73	50	72.9	60	60
								72.4
Architectural Coating	Compressor (air)	1	40	78	50	77.9	60	65
								64.9

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 5 - Project PL to Residential Setback - 434 E Cleveland St PL (175 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	concrete saw	1	20	90	175	75.4	60	59
	excavator	1	40	81	175	66.4	60	53
	dozer	1	40	82	175	67.4	60	54
								61.3
Site Preparation	dozer	1	40	82	175	67.4	60	54
	front end loader	1	40	79	175	64.4	60	51
								56.1
Grading	excavator	1	40	81	175	66.4	60	53
	grader	1	40	85	175	70.4	60	57
	dozer	1	40	82	175	67.4	60	54
	backhoe	1	40	78	175	63.4	60	50
								60.6

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 5 - Project PL to Residential Setback - 434 E Cleveland St PL (175 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	concrete saw	1	20	90	175	75.4	60	59
	excavator	1	40	81	175	66.4	60	53
	dozer	1	40	82	175	67.4	60	54
								61.3
Site Preparation	dozer	1	40	82	175	67.4	60	54
	front end loader	1	40	79	175	64.4	60	51
								56.1
Grading	excavator	1	40	81	175	66.4	60	53
	grader	1	40	85	175	70.4	60	57
	dozer	1	40	82	175	67.4	60	54
	scraper	1	40	84	175	69.4	60	56
	backhoe	1	40	78	175	63.4	60	50
								62.0
Buiding Construction	Crane	1	16	81	175	66.4	60	49
	Gradall	1	40	83	175	68.4	60	55
	Generator	1	50	72	175	57.4	60	45
	backhoe	1	40	78	175	63.4	60	50
	Welder / Torch	1	40	73	175	58.4	60	45
								57.8
Architectural Coating	Compressor (air)	1	40	78	175	63.4	60	50
								50.4

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 5 - Project PL to Residential Setback - 434 E Cleveland St PL (175 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Grading	excavator	1	40	81	175	66.4	60	53
	grader	1	40	85	175	70.4	60	57
	dozer	1	40	82	175	67.4	60	54
	backhoe	1	40	78	175	63.4	60	50
								60.6
Building Construction	Crane	1	16	81	175	66.4	60	49
	Gradall	1	40	83	175	68.4	60	55
	Generator	1	50	72	175	57.4	60	45
	backhoe	1	40	78	175	63.4	60	50
	Welder / Torch	1	40	73	175	58.4	60	45
								57.8
Architectural Coating	Compressor (air)	1	40	78	175	63.4	60	50
								50.4

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 5 - Project PL to Residential Setback - 434 E Cleveland St PL (175 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	concrete saw	1	20	90	175	75.4	60	59
	excavator	1	40	81	175	66.4	60	53
	dozer	1	40	82	175	67.4	60	54
								61.3
Facade Improvements and Interior Renovation	Crane	1	16	81	175	66.4	60	49
	dozer	1	40	82	175	67.4	60	54
	backhoe	1	40	78	175	63.4	60	50
								56.7
Architectural Coating	Compressor (air)	1	40	78	175	63.4	60	50
								50.4

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 5 - Project PL to Residential Setback - 434 E Cleveland St PL (175 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	concrete saw	1	20	90	175	75.4	60	59
	excavator	1	40	81	175	66.4	60	53
	dozer	1	40	82	175	67.4	60	54
								61.3
Site Preparation	dozer	1	40	82	175	67.4	60	54
	front end loader	1	40	79	175	64.4	60	51
								56.1
Grading	excavator	1	40	81	175	66.4	60	53
	grader	1	40	85	175	70.4	60	57
	dozer	1	40	82	175	67.4	60	54
	backhoe	1	40	78	175	63.4	60	50
								60.6
Building Construction	Crane	1	16	81	175	66.4	60	49
	Gradall	1	40	83	175	68.4	60	55
	Generator	1	50	72	175	57.4	60	45
	backhoe	1	40	78	175	63.4	60	50
	Welder / Torch	1	40	73	175	58.4	60	45
								57.8
Architectural Coating	Compressor (air)	1	40	78	175	63.4	60	50
								50.4

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 5 - Acoustical Center to Residential setback - 434 E Cleveland St PL (380 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	concrete saw	1	20	90	380	67.7	60	52
	excavator	3	40	81	380	58.7	60	50
	dozer	2	40	82	380	59.7	60	50
								55.4
Site Preparation	dozer	3	40	82	380	59.7	60	51
	front end loader	4	40	79	380	56.7	60	50
								53.6
Grading	excavator	1	40	81	380	58.7	60	46
	grader	1	40	85	380	62.7	60	50
	dozer	1	40	82	380	59.7	60	47
	backhoe	3	40	78	380	55.7	60	47
								53.6

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 5 - Acoustical Center to Residential setback - 434 E Cleveland St PL (380 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	concrete saw	1	20	90	380	67.7	60	52
	excavator	3	40	81	380	58.7	60	50
	dozer	2	40	82	380	59.7	60	50
								55.4
Site Preparation	dozer	3	40	82	380	59.7	60	51
	front end loader	4	40	79	380	56.7	60	50
								53.6
Grading	excavator	2	40	81	380	58.7	60	49
	grader	1	40	85	380	62.7	60	50
	dozer	1	40	82	380	59.7	60	47
	scraper	2	40	84	380	61.7	60	52
	backhoe	2	40	78	380	55.7	60	46
								56.0
Buiding Construction	Crane	1	16	81	380	58.7	60	42
	Gradall	3	40	83	380	60.7	60	52
	Generator	1	50	72	380	49.7	60	38
	backhoe	3	40	78	380	55.7	60	47
	Welder / Torch	1	40	73	380	50.7	60	38
								54.1
Architectural Coating	Compressor (air)	1	40	78	380	55.7	60	43
								42.6

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 5 - Acoustical Center to Residential setback - 434 E Cleveland St PL (380 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Grading	excavator	1	40	81	380	58.7	60	46
	grader	1	40	85	380	62.7	60	50
	dozer	1	40	82	380	59.7	60	47
	backhoe	3	40	78	380	55.7	60	47
								53.6
Building Construction	Crane	1	16	81	380	58.7	60	42
	Gradall	3	40	83	380	60.7	60	52
	Generator	1	50	72	380	49.7	60	38
	backhoe	3	40	78	380	55.7	60	47
	Welder / Torch	1	40	73	380	50.7	60	38
								54.1
Architectural Coating	Compressor (air)	1	40	78	380	55.7	60	43
								42.6

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 5 - Acoustical Center to Residential setback - 434 E Cleveland St PL (380 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	concrete saw	1	20	90	380	67.7	60	52
	excavator	1	40	81	380	58.7	60	46
	dozer	2	40	82	380	59.7	60	50
								54.4
Facade Improvements and Interior Renovation	Crane	1	16	81	380	58.7	60	42
	dozer	2	40	82	380	59.7	60	50
	backhoe	2	40	78	380	55.7	60	46
								51.6
Architectural Coating	Compressor (air)	1	40	78	380	55.7	60	43
								42.6

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H - Construction Noise Modeling

receptor: **Phase 5 - Acoustical Center to Residential setback - 434 E Cleveland St PL (380 feet)**

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Source to NSR Distance (ft.)	Distance-Adjusted Lmax	Allowable Operation Time (minutes)	Predicted 8-hour Leq
Demolition	concrete saw	1	20	90	380	67.7	60	52
	excavator	3	40	81	380	58.7	60	50
	dozer	2	40	82	380	59.7	60	50
								55.4
Site Preparation	dozer	3	40	82	380	59.7	60	51
	front end loader	4	40	79	380	56.7	60	50
								53.6
Grading	excavator	1	40	81	380	58.7	60	46
	grader	1	40	85	380	62.7	60	50
	dozer	1	40	82	380	59.7	60	47
	backhoe	3	40	78	380	55.7	60	47
								53.6
Building Construction	Crane	1	16	81	380	58.7	60	42
	Gradall	3	40	83	380	60.7	60	52
	Generator	1	50	72	380	49.7	60	38
	backhoe	3	40	78	380	55.7	60	47
	Welder / Torch	1	40	73	380	50.7	60	38
								54.1
Architectural Coating	Compressor (air)	1	40	78	380	55.7	60	43
								42.6

Notes

* https://ia.cpuc.ca.gov/Environment/info/ene/mesa/attachment/A1503003%20ED-SCE-01%20Q.PD-01%20Attachment%20(Revised%20Noise%20Levels%20Construction%20Equipment).pdf

Appendix H
Long-Term 24 Hour Continuous Noise Monitoring

Project: St Joseph Medical Center
Date: February 28, 2022 to March 01, 2022
Site: LT-0

Hour	Leq	Lmax	L50	L90
18:00	58.5	75.1	55.7	47.4
19:00	57.4	69.0	54.9	47.6
20:00	55.5	74.9	49.5	44.4
21:00	55.0	76.8	47.9	44.1
22:00	54.5	73.2	45.5	43.0
23:00	53.6	69.3	47.4	44.8
0:00	51.2	68.2	46.6	45.7
1:00	56.5	75.8	46.9	45.9
2:00	50.8	70.7	47.3	46.4
3:00	54.6	75.4	48.5	47.3
4:00	55.0	70.8	50.1	48.1
5:00	56.6	70.3	52.9	50.1
6:00	59.4	77.1	57.2	52.7
7:00	61.7	71.9	60.8	55.6
8:00	60.3	70.1	59.0	52.6
9:00	58.2	69.0	56.6	48.9
10:00	60.1	78.8	57.1	49.7
11:00	57.8	73.7	56.4	48.6
12:00	64.2	94.3	56.7	48.9
13:00	62.4	92.1	56.4	49.0
14:00	59.5	83.3	57.1	50.4
15:00	58.7	72.8	57.6	50.0
16:00	59.3	76.0	57.8	48.6
17:00	59.3	70.1	58.0	48.3

Lowermost Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	55.0	69.0	47.9	44.1
Nighttime (10 p.m. - 7 a.m.)	50.8	68.2	45.5	43.0

Average Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	59.8	76.5	56.1	48.9
Nighttime (10 p.m. - 7 a.m.)	55.4	72.3	49.2	47.1

Uppermost-Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	64.2	94.3	60.8	55.6
Nighttime (10 p.m. - 7 a.m.)	59.4	77.1	57.2	52.7

Energy Distribution

Daytime	82%
Nighttime	18%

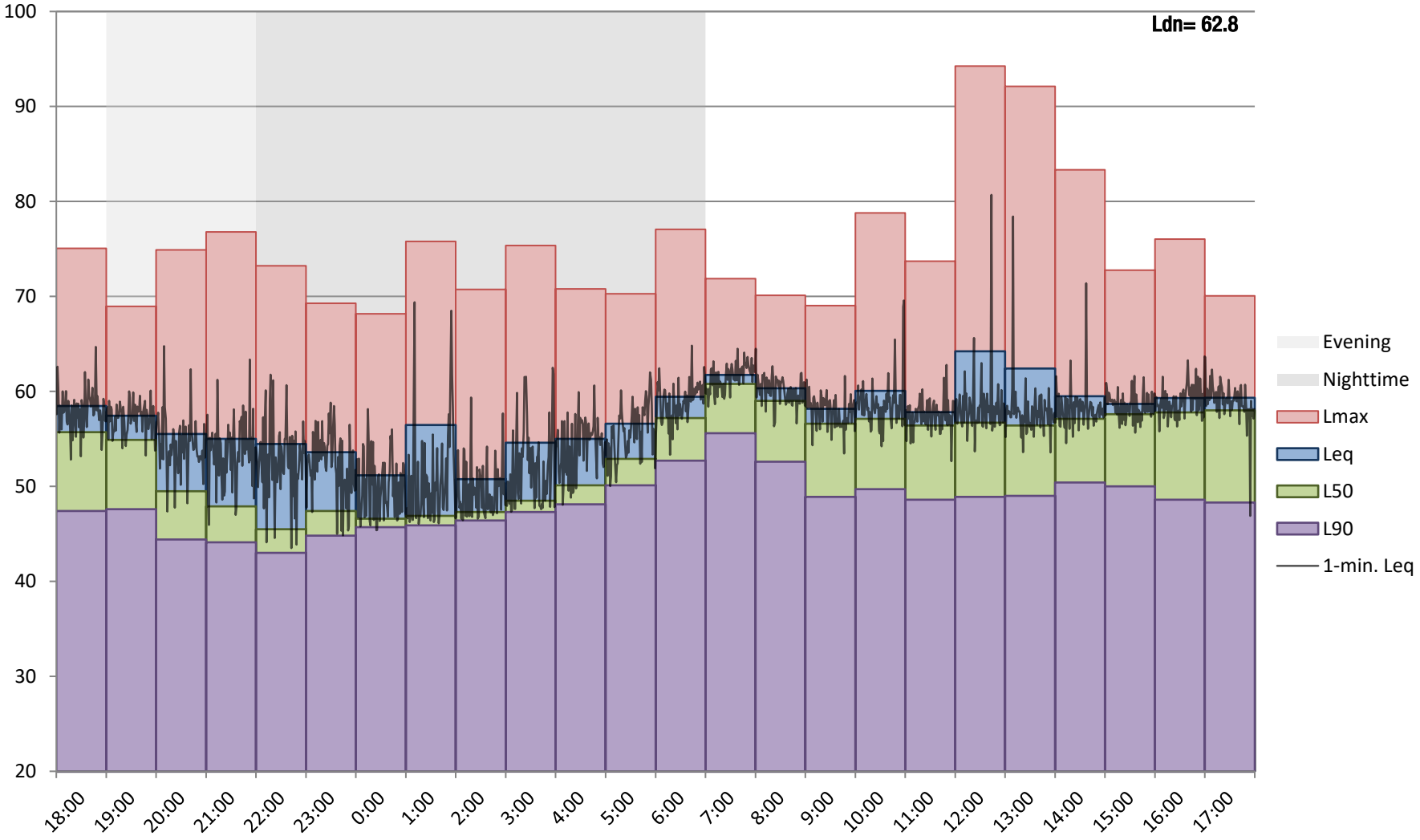
Calculated Ldn, dBA

62.8

Appendix H

St Joseph Medical Center - LT-0

February 28, 2022 to March 01, 2022



Appendix H
Long-Term 24 Hour Continuous Noise Monitoring

Project: St Joseph Medical Center
Date: March 01, 2022 to March 02, 2022
Site: LT-0

Hour	Leq	Lmax	L50	L90
18:00	58.3	77.4	55.9	46.9
19:00	58.5	82.2	54.9	47.2
20:00	55.9	71.3	51.0	46.2
21:00	54.8	71.7	49.6	44.8
22:00	54.5	75.1	47.0	43.9
23:00	57.6	85.0	47.7	44.8
0:00	52.4	71.1	47.0	45.7
1:00	50.2	65.7	46.5	45.8
2:00	55.4	86.2	46.5	45.8
3:00	51.1	67.7	47.2	46.2
4:00	54.1	66.6	49.0	46.9
5:00	55.9	70.9	51.2	48.9
6:00	59.9	74.2	58.1	51.3
7:00	60.7	74.7	59.7	52.4
8:00	59.5	72.0	58.4	50.8
9:00	57.7	69.7	56.3	47.9
10:00	57.0	71.8	55.2	47.9
11:00	57.6	77.8	56.1	48.4
12:00	58.3	72.6	57.0	48.3
13:00	59.4	79.7	57.2	50.1
14:00	57.8	71.7	56.7	49.8
15:00	58.3	69.3	57.3	49.9
16:00	60.1	83.1	57.8	50.4
17:00	60.4	82.9	58.0	49.6

Lowermost Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	54.8	69.3	49.6	44.8
Nighttime (10 p.m. - 7 a.m.)	50.2	65.7	46.5	43.9

Average Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	58.6	75.2	56.1	48.7
Nighttime (10 p.m. - 7 a.m.)	55.6	73.6	48.9	46.6

Uppermost-Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	60.7	83.1	59.7	52.4
Nighttime (10 p.m. - 7 a.m.)	59.9	86.2	58.1	51.3

Energy Distribution

Daytime	77%
Nighttime	23%

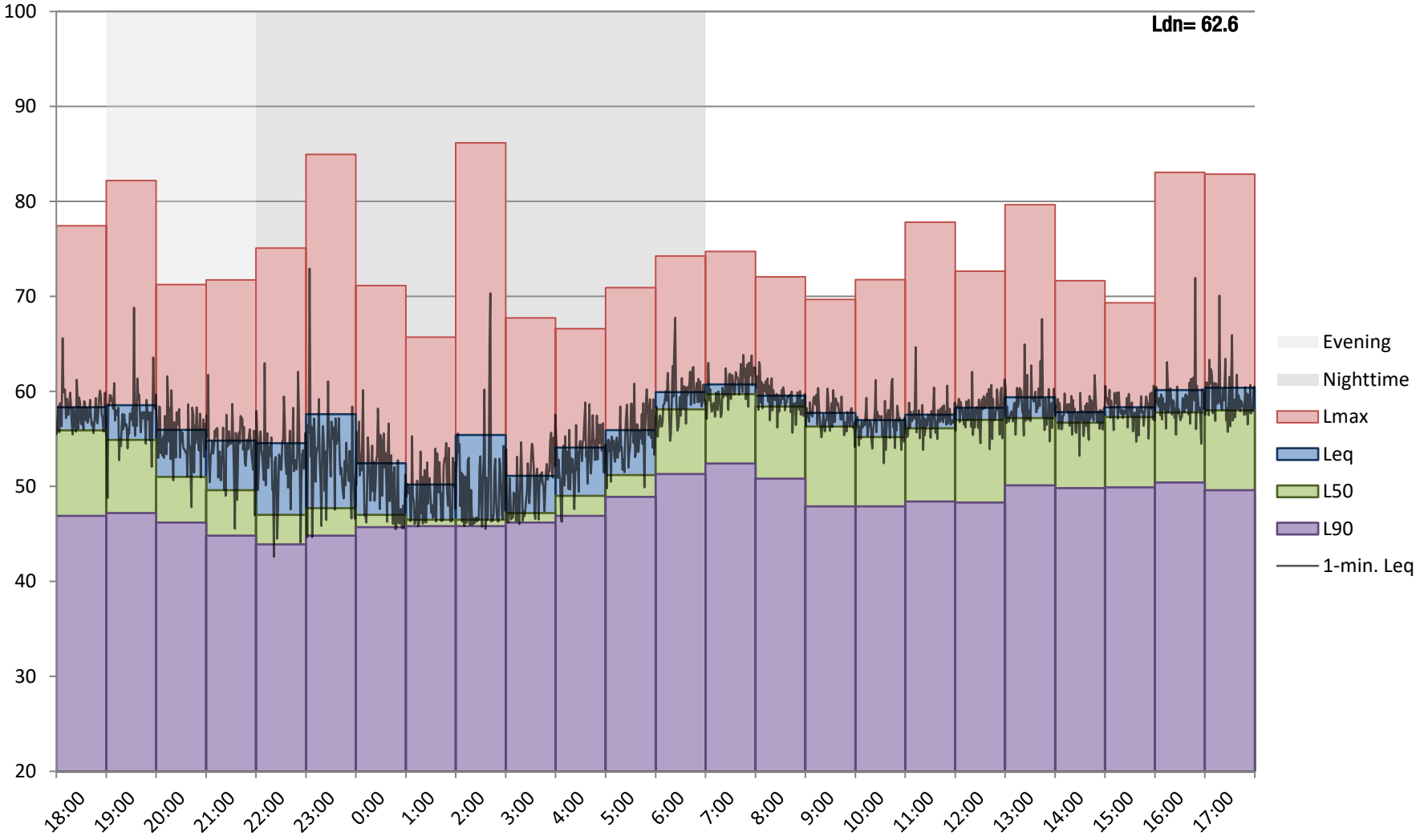
Calculated Ldn, dBA

62.6

Appendix H

St Joseph Medical Center - LT-0

March 01, 2022 to March 02, 2022



Appendix H
Long-Term 24 Hour Continuous Noise Monitoring

Project: St Joseph Medical Center
Date: March 02, 2022 to March 03, 2022
Site: LT-0

Hour	Leq	Lmax	L50	L90
18:00	58.2	80.0	55.6	46.5
19:00	56.6	69.4	53.6	44.8
20:00	56.2	80.8	50.1	43.8
21:00	57.8	79.1	48.1	42.7
22:00	61.5	89.8	45.9	42.4
23:00	52.6	66.6	46.2	43.5
0:00	51.1	73.7	44.6	43.5
1:00	50.0	66.3	45.4	44.2
2:00	51.7	67.8	45.6	44.4
3:00	51.0	69.3	46.0	44.9
4:00	52.8	66.5	47.3	45.9
5:00	55.5	73.1	49.6	46.3
6:00	58.5	71.1	55.4	48.5
7:00	60.8	79.9	59.7	53.1
8:00	58.6	69.2	57.3	48.2
9:00				
10:00				
11:00				
12:00				
13:00				
14:00				
15:00				
16:00				
17:00				

Lowermost Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	0.0	0.0	0.0	0.0
Nighttime (10 p.m. - 7 a.m.)	50.0	66.3	44.6	42.4

Average Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	54.3	30.6	21.6	18.6
Nighttime (10 p.m. - 7 a.m.)	55.7	71.6	47.3	44.8

Uppermost-Level

	Leq	Lmax	L50	L90
Daytime (7 a.m. - 7 p.m.)	60.8	80.8	59.7	53.1
Nighttime (10 p.m. - 7 a.m.)	61.5	89.8	55.4	48.5

Energy Distribution

Daytime	55%
Nighttime	45%

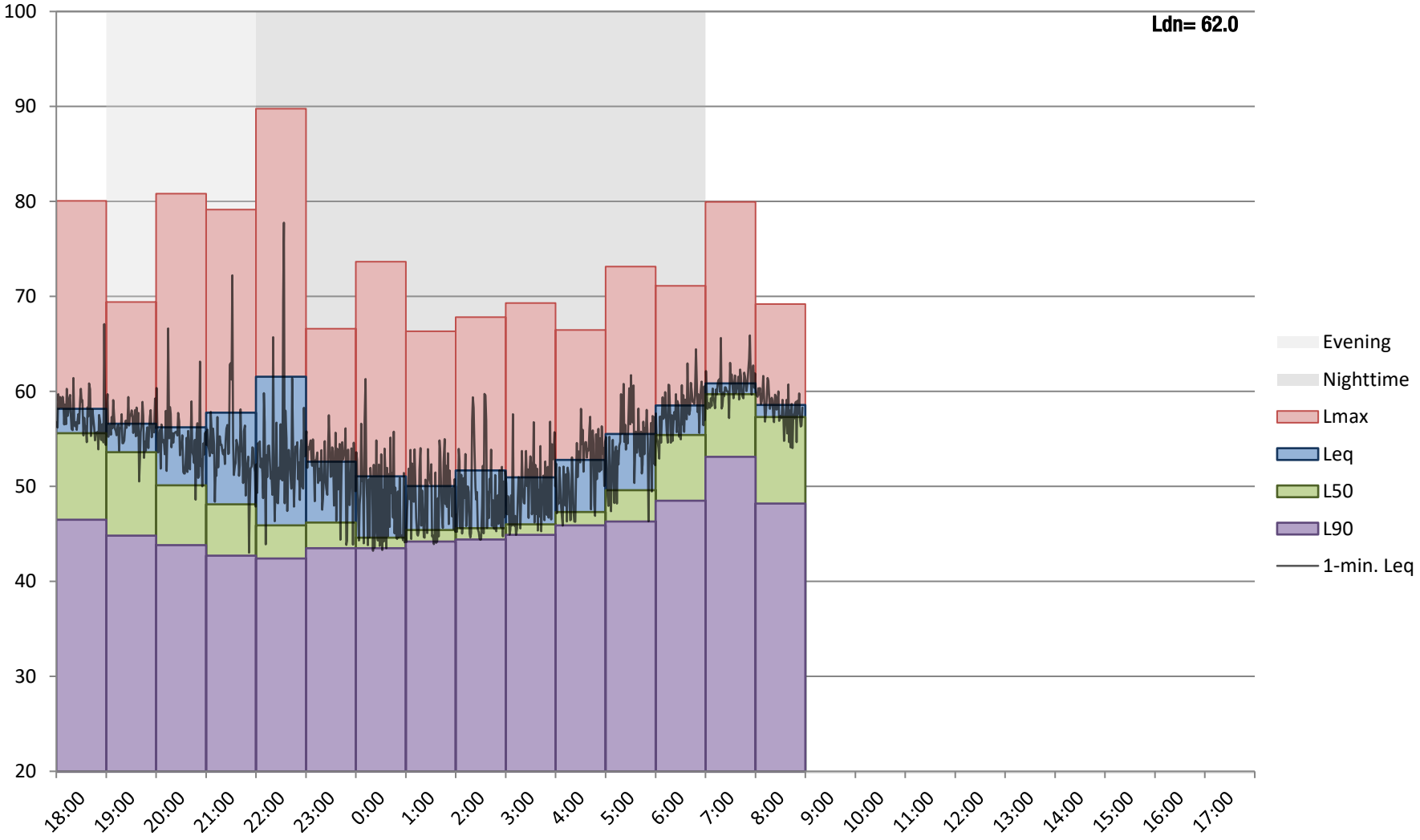
Calculated Ldn, dBA

62.0

Appendix H

St Joseph Medical Center - LT-0

March 02, 2022 to March 03, 2022



Appendix H

Traffic Noise Modeling Calculations - Summary

Project: 13355 - St Joseph Medical Center

Number	Name	Segment Description and Location From	To	Existing	Existing + Project	Δ Existing – Existing + Project	Future	Future + Project	Δ Future – Future + Project
Summary of Net Changes									
1	California Street	between Hawthorne St and McCloud Ave		59.5	59.9	0.4	60.4	60.7	0.3
2	California Street	between Alpine Ave and Cleveland St		59.7	60.1	0.4	60.3	60.7	0.4
3	Cemetery Lane	North of Maple Street		47.4	47.7	0.3	47.4	47.7	0.3
4	Harding Way	between Hunter Street and California Street		63.9	64.1	0.2	64.2	64.4	0.2
5	Harding Way	between California Street and Palm Avenue		69.7	69.8	0.1	69.7	69.8	0.1

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix H

Traffic Noise Model Calculations

Project: 13355 - St Joseph Medical Center

Noise Level Descriptor: CNEL
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor: 10

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						CNEL,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Existing Conditions																		
1	California Street	between Hawthorne St and McCloud Ave		14,764	30	120	155	97.0%	2.0%	1.0%	78.0%		23.0%	59.5	27	58	125	270
2	California Street	between Alpine Ave and Cleveland St		15,578	30	120	155	97.0%	2.0%	1.0%	78.0%		23.0%	59.7	28	60	130	280
3	Cemetery Lane	North of Maple Street		1,190	15	94	94	97.0%	2.0%	1.0%	78.0%		23.0%	47.4	3	6	14	29
4	Harding Way	between Hunter Street and California Street		19,072	30	65	110	97.0%	2.0%	1.0%	78.0%		23.0%	63.9	33	72	155	333
5	Harding Way	between California Street and Palm Avenue		20,016	35	32	85	97.0%	2.0%	1.0%	78.0%		23.0%	69.7	50	107	231	498

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix H

Traffic Noise Model Calculations

Project: 13355 - St Joseph Medical Center

Noise Level Descriptor: CNEL
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor: 10

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						CNEL,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Existing + Project Conditions																		
1	California Street	between Hawthorne St and McCloud Ave		16,333	30	120	155	97.0%	2.0%	1.0%	78.0%		23.0%	59.9	29	62	134	289
2	California Street	between Alpine Ave and Cleveland St		17,160	30	120	155	97.0%	2.0%	1.0%	78.0%		23.0%	60.1	30	64	139	299
3	Cemetery Lane	North of Maple Street		1,261	15	94	94	97.0%	2.0%	1.0%	78.0%		23.0%	47.7	3	7	14	31
4	Harding Way	between Hunter Street and California Street		19,950	30	65	110	97.0%	2.0%	1.0%	78.0%		23.0%	64.1	34	74	159	343
5	Harding Way	between California Street and Palm Avenue		20,368	35	32	85	97.0%	2.0%	1.0%	78.0%		23.0%	69.8	50	109	234	504

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix H

Traffic Noise Model Calculations

Project: 13355 - St Joseph Medical Center

Noise Level Descriptor: CNEL
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor: 10

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						CNEL,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Future Conditions																		
1	California Street	between Hawthorne St and McCloud Ave		18,302	30	120	155	97.0%	2.0%	1.0%	78.0%		23.0%	60.4	31	67	145	312
2	California Street	between Alpine Ave and Cleveland St		18,100	30	120	155	97.0%	2.0%	1.0%	78.0%		23.0%	60.3	31	67	144	310
3	Cemetery Lane	North of Maple Street		1,190	15	94	94	97.0%	2.0%	1.0%	78.0%		23.0%	47.4	3	6	14	29
4	Harding Way	between Hunter Street and California Street		20,513	30	65	110	97.0%	2.0%	1.0%	78.0%		23.0%	64.2	35	75	162	350
5	Harding Way	between California Street and Palm Avenue		20,016	35	32	85	97.0%	2.0%	1.0%	78.0%		23.0%	69.7	50	107	231	498

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix H

Traffic Noise Model Calculations

Project: 13355 - St Joseph Medical Center

Noise Level Descriptor: CNEL
Site Conditions: Soft
Traffic Input: ADT
Traffic K-Factor: 10

	Segment Description and Location			Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics						CNEL,	Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Med	% Hvy	% Day	% Eve	% Night	(dBA)[5,6,7]	70 dBA	65 dBA	60 dBA	55 dBA
Future + Project Conditions																		
1	California Street	between Hawthorne St and McCloud Ave		19,871	30	120	155	97.0%	2.0%	1.0%	77.0%		23.0%	60.7	33	71	153	329
2	California Street	between Alpine Ave and Cleveland St		19,682	30	120	155	97.0%	2.0%	1.0%	78.0%		23.0%	60.7	33	71	152	327
3	Cemetery Lane	North of Maple Street		1,261	15	94	94	97.0%	2.0%	1.0%	78.0%		23.0%	47.7	3	7	14	31
4	Harding Way	between Hunter Street and California Street		21,391	30	65	110	97.0%	2.0%	1.0%	78.0%		23.0%	64.4	36	77	167	360
5	Harding Way	between California Street and Palm Avenue		20,368	35	32	85	97.0%	2.0%	1.0%	78.0%		23.0%	69.8	50	109	234	504

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Appendix H

Traffic Noise Modeling Calculations - References

Citation	Reference
1	Caltrans Technical Noise Supplement. 2009 (November). Table (5-11), Pg 5-60.
2	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-26), Pg 5-60.
3	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-16), Pg 2-32.
4	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-11), Pg 5-47, 48.
5	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-26), Pg 2-55, 56.
6	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-27), Pg 2-57.
7	Caltrans Technical Noise Supplement. 2009 (November). Pg 2-53.
8	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-7), Pg 5-45.
9	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-8), Pg 5-45.
10	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-9), Pg 5-45.
11	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-13), Pg 5-49.
12	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-14), Pg 5-49.
13	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (16), Pg 67
14	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69
15	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (18), Pg 69