MENLO PORTAL PROJECT
DRAFT ENVIRONMENTAL IMPACT REPORT
TECHNICAL APPENDICES

STATE CLEARINGHOUSE NO. 2020010055

MENLO PARK, CALIFORNIA

LSA

February 2021

This page intentionally left blank

TABLE OF CONTENTS

APPENDIX A: NOTICE OF PREPARATION AND COMMENT LETTERS

APPENDIX B: INITIAL STUDY

APPENDIX C: INITIAL STUDY ADDENDUM

APPENDIX D: HOUSING NEEDS ASSESSMENT

APPENDIX E: TRANSPORTATION IMPACT ANALYSIS

APPENDIX F: AIR QUALITY/GREENHOUSE GAS EMISSIONS DATA

APPENDIX G: HEALTH RISK ASSESSMENT DATA

APPENDIX H: NOISE DATA

This page intentionally left blank

APPENDIX A

NOTICE OF PREPARATION AND COMMENT LETTERS

This page intentionally left blank

NOTICE OF PREPARATION
ENVIRONMENTAL IMPACT REPORT
MENLO PORTAL PROJECT
CITY OF MENLO PARK

Date: January 7, 2020

To:	State Clearinghouse State Responsible Agencies State Trustee Agencies Other Public Agencies Interested Organizations	**From:**	Kaitie M. Meador Senior Planner City of Menlo Park 701 Laurel Street Menlo Park, CA 94025

Subject:	**Notice of Preparation (NOP) of an Initial Study and Environmental Impact Report for the Menlo Portal Project**
Lead Agency:	City of Menlo Park, Planning Division
Project Title:	Menlo Portal Project
Project Area:	Bayfront Area, City of Menlo Park

Notice is hereby given that the City of Menlo Park (City) will be the lead agency and will prepare a focused environmental impact report (EIR) for the proposed Menlo Portal Project (project). An Initial Study has been prepared along with this Notice of Preparation (NOP), which scopes out several environmental topics from further review. The focused EIR will address potential physical environmental effects of the proposed project that have not been scoped out, as outlined in the California Environmental Quality Act (CEQA). The City is requesting comments on the scope and content of this focused EIR.

A scoping session will be held as part of the Planning Commission meeting on **January 27, 2020** at **7:00 p.m.** at the Menlo Park City Council Chambers, located at 701 Laurel Street, Menlo Park, CA 94025. The scoping session, which is part of the focused EIR process, is the time when the City solicits input from the public and agencies on specific topics they believe should be addressed in the environmental analysis. The scoping process is designed to enable the City to determine the scope and content of the focused EIR, identify the range of actions, and identify potentially significant environmental effects, alternatives, and mitigation measures to be analyzed in the focused EIR. Written comments on the scope of the focused EIR may also be sent to:

Kaitie M. Meador
City of Menlo Park
Community Development Department, Planning Division
701 Laurel Street
Menlo Park, CA 94025
KMMeador@menlopark.org
Phone: 650.330.6731

Comments on the NOP are due no later than the close of the NOP review period (5:00 p.m. on **Friday, February 7, 2020**). However, we would appreciate your response at the earliest possible date. Please send your written comments to Kaitie Meador at the address shown above or by email to KMMeador@menlopark.org with "Menlo Portal Project EIR" as the subject. Public agencies that provide comments are asked to include a contact person for the agency.

The Initial Study is available online at: https://www.menlopark.org/1601/Menlo-Portal. Paper copies are also available for review at:

- Menlo Park Library (800 Alma Street, Menlo Park, CA 94025)
- Belle Haven Branch Library (413 Ivy Drive, Menlo Park, CA 94025)
- Community Development Department, Civic Center (701 Laurel Street, Menlo Park, CA 94025)

PROJECT LOCATION AND EXISTING CONDITIONS: The project site is located east of US Highway 101 (US 101) in the City of Menlo Park, as shown in Figure 1. The site consists of three parcels located at 104 Constitution Drive, 110 Constitution Drive, and 115 Independence Drive. The project site is generally surrounded by a mix of uses, including older buildings and new construction. The project site is bordered to the north by Constitution Drive, to the east by commercial and light manufacturing uses, to the south by a single-story commercial office building, and to the west by Independence Drive and Marsh Road.

The project site is designated Mixed Use Residential within the Bayfront Area on the City's General Plan Land Use Designations Map and is within the Residential-Mixed Use-Bonus Zoning District. The generally-level site is currently developed with three buildings totaling approximately 64,832 square feet, as shown in Figure 2. The existing buildings were constructed between 1960 and 1966 and are currently occupied by office and industrial uses. Vegetation on the project site consists of small landscaped areas and approximately 13 mature trees along both the southern and northern borders of the project site.

PROJECT DESCRIPTION: The proposed project would result in the demolition of the existing office and industrial buildings and associated improvements and redevelopment of the project site with an approximately 327,970-gross-square-foot, seven-story multi-family apartment building with approximately 335 dwelling units and an approximately 34,819-gross-square-foot commercial office building, as well as associated open space, circulation and parking, and infrastructure improvements, as shown in Figures 3, 4, and 5. The project sponsor is currently proposing that a total of approximately 48 residential units (15 percent) be affordable to low income households. Low income households are those earning up to 80 percent of the area median income. The proposed allotment of affordable housing units would continue to be refined with the City.

The ground floor of each building would be raised 3 to 5 feet above grade to accommodate flood plain design requirements. The proposed residential building would be a maximum of 84 feet, 9 inches and would front to both Constitution Drive and Independence Drive. The commercial office building would be a maximum of 56 feet, 7 inches in height. The residential building would include an at-grade, two-level, approximately 93,716-square-foot, 324-space parking garage. The commercial office building would also include an at-grade, two-level approximately 42,338-square foot parking garage. Across both levels, the parking garage at the commercial office building would include approximately 93 standard parking spaces.

A total of approximately 51,319 square feet of open space would be provided across the entire project site, including a publicly-accessible, approximately 12,870-square-foot central plaza on the ground floor between the residential and commercial buildings.

PROJECT APPROVALS: The following City discretionary approvals would be required prior to development at the project site:

- EIR Certification
- Use Permit
- Architectural Control
- Lot Line Adjustment
- Lot Merger
- Heritage Tree Removal Permit
- Below Market Rate Housing Agreement

There will be a fiscal impact analysis conducted regarding the proposed project. In order to qualify for bonus-level development within the R-MU-B zoning district, the proposed project will also be required to complete an appraisal process to identify the value of the community amenities to be provided in exchange for the opportunity to develop at the bonus level.

RESPONSIBLE AGENCIES: The agencies listed below are expected to review the draft focused EIR to evaluate the proposed project:

- Pacific Gas & Electric
- California Department of Transportation
- California Department of Toxic Substances Control
- California Regional Water Quality Control Board/San Mateo Countywide Water Pollution Prevention Program
- Native American Heritage Commission
- City/County Association of Governments
- Bay Area Air Quality Management District
- San Mateo County Transportation Authority
- San Mateo County Environmental Health Division
- West Bay Sanitary District
- Menlo Park Fire Protection District

INTRODUCTION TO EIR: ConnectMenlo, which updated the City's General Plan Land Use and Circulation Elements and rezoned land in the M-2 Area (now referred to as the Bayfront Area), was approved on November 29, 2016. Because the City's General Plan is a long-range planning document, the ConnectMenlo EIR was prepared as a program EIR, pursuant to CEQA Guidelines Section 15168. The City certified the program EIR for ConnectMenlo on November 29, 2016. Section 15168(d) of the CEQA Guidelines provides information for simplifying the preparation of environmental documents by incorporating by reference analyses and discussions from the program EIR. CEQA Guidelines Section 15162(d) states that where an EIR has been prepared and certified for a program or plan, the environmental review for a later activity consistent with the program or plan should be limited to the effects that were not analyzed as significant in the prior EIR or susceptible to substantial reduction or avoidance.

An Initial Study for the proposed project, which is available for review online, at the City libraries, and at the Community Development Department (as listed above), has been prepared to evaluate the

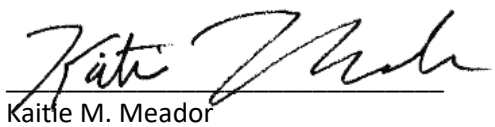
potential environmental impacts of the proposed project and determine what level of additional environmental review is appropriate. In accordance with the requirements outlined in Section 15168 of the CEQA Guidelines, the Initial Study has been prepared to disclose the relevant impacts and mitigation measures covered in the certified program-level ConnectMenlo EIR and discuss whether the proposed project is within the parameters of the certified ConnectMenlo EIR. In addition, as a result of the settlement agreement between the City of Menlo Park and the City of East Palo Alto regarding the ConnectMenlo EIR, certain topics are required to be analyzed. Based on the findings of the Initial Study, a focused EIR will be prepared for impacts that need further discussion and/or mitigation beyond that provided in the certified ConnectMenlo EIR. The focused EIR for the proposed project will be prepared and processed in accordance with CEQA and the CEQA Guidelines.

PROBABLE ENVIRONMENTAL EFFECTS: Based on the conclusions in the Initial Study, the following topics will be scoped out of the EIR: aesthetics; agriculture and forestry resources; biological resources; cultural resources; energy; geology and soils; hazards and hazardous materials; hydrology and water quality; land use and planning; mineral resources; public services; recreation; utilities and service systems; and wildfire. These topic areas were adequately analyzed in the ConnectMenlo EIR and no additional potential impacts or mitigation measures have been identified in the Initial Study. Therefore, the focused EIR will analyze whether the proposed project would have a significant environmental impact in the following areas:

- Air Quality;
- Greenhouse Gas Emissions;
- Noise (traffic noise);
- Population and Housing;
- Transportation; and
- Tribal Cultural Resources

ALTERNATIVES: Based on the significance conclusions determined in the focused EIR, alternatives to the proposed project will be identified and analyzed to reduce identified impacts. Section 15126.6(e) of the CEQA Guidelines requires the evaluation of a No Project Alternative. Other alternatives may be considered during preparation of the EIR and will comply with the CEQA Guidelines, which call for a range of reasonable alternatives to the project, or the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.

EIR PROCESS: Following the close of the NOP comment period, a draft focused EIR will be prepared that will consider all NOP comments. In accordance with CEQA Guidelines Section 15105(a), the draft focused EIR will be released for public review and comment for a required 45-day review period. Following the close of the 45-day public review period, the City will prepare a final EIR, which will include responses to all substantive comments received on the draft focused EIR. The draft focused EIR and final EIR will be considered by the Planning Commission in making the decision to certify the EIR and approve or deny the project.



Kaitie M. Meador
City of Menlo Park

January 7, 2020



LSA

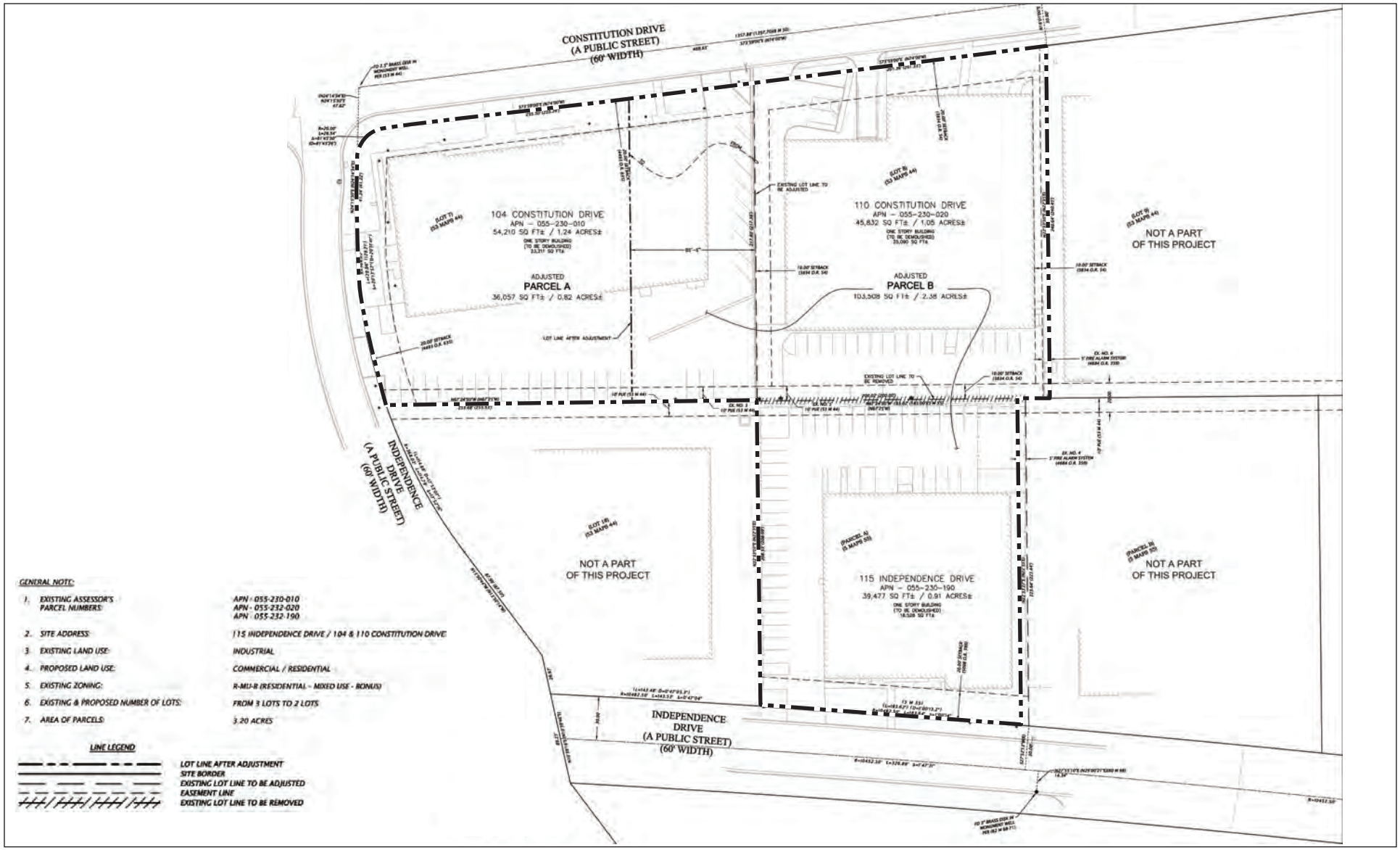
FIGURE 1

Menlo Portal Project NOP

Project Location and Regional Vicinity Map

SOURCES: GOOGLE EARTH 8/9/18; LSA, 2019.

P:\CMK1903 115 Independence\PRODUCTS\Graphics\NOP Figures\Figure 1.ai (1/2/2020)



LSA

FIGURE 2

0 40 80
FEET

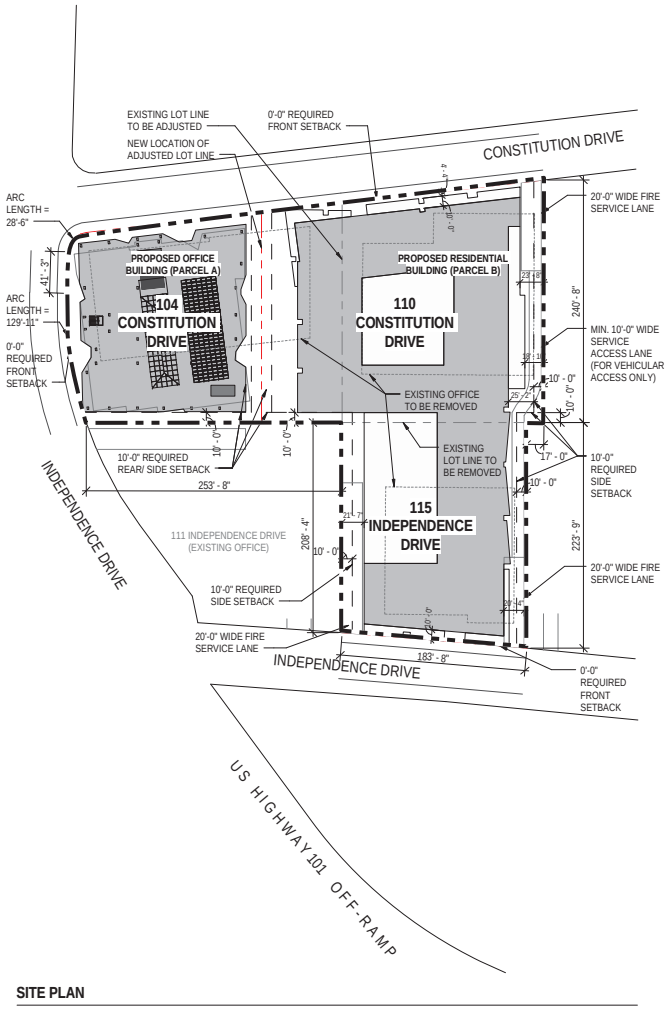
N

Project Boundary

Menlo Portal Project NOP
Existing Site Conditions

SOURCE: BKF, 2018.

P:\CMK1903 115 Independence\PRODUCTS\Graphics\NOP Figures\Figure 2.ai (1/2/2020)



SITE PLAN



SITE CONTEXT - LEVEL 1

LSA

FIGURE 3

0 60 120
FEET

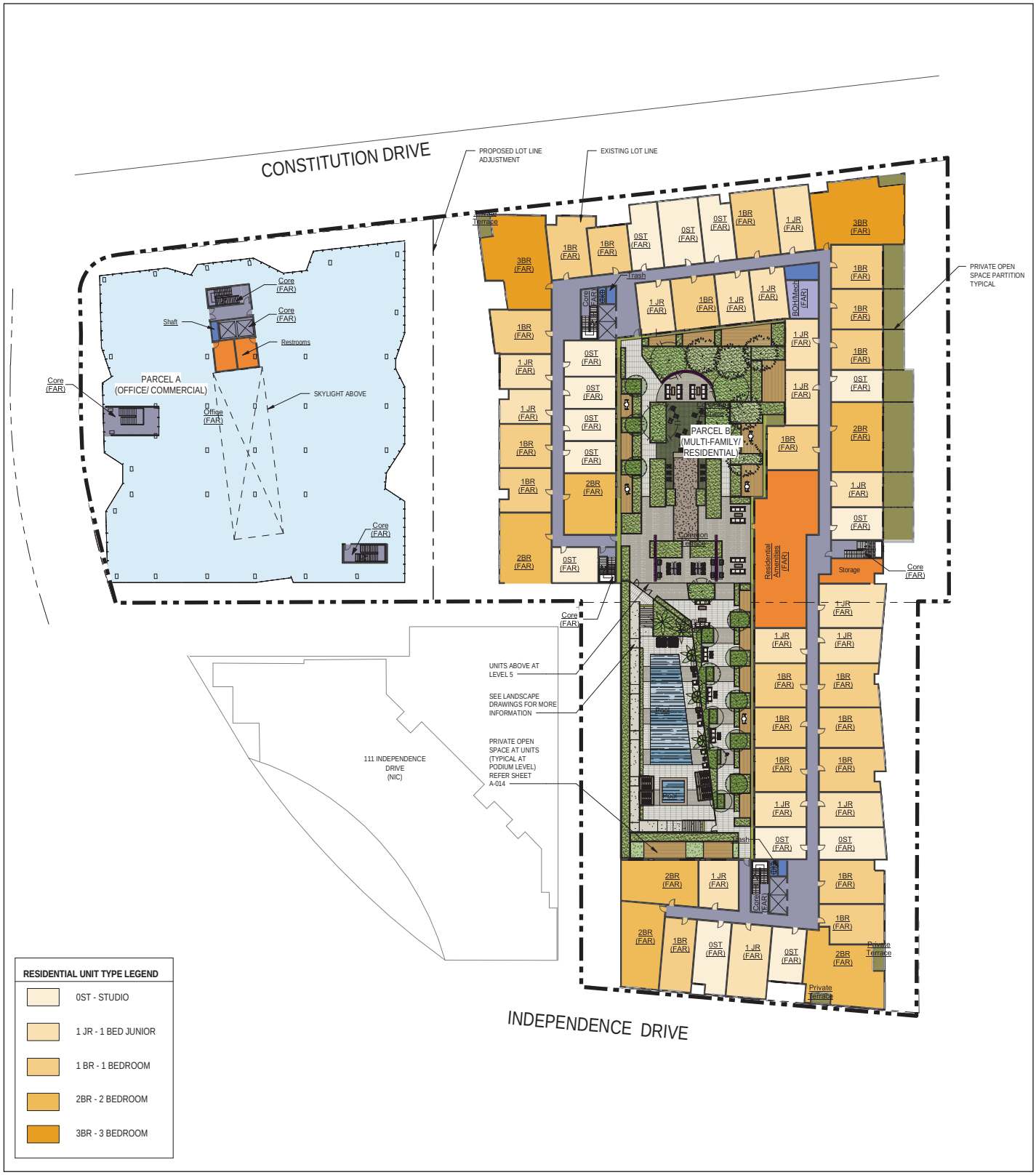
N

Project Boundary

Menlo Portal Project NOP
Conceptual Site Plan

SOURCE: BKF, 12/10/19.

P:\CMK1903 115 Independence\PRODUCTS\Graphics\NOP Figures\Figure 3.ai (1/2/2020)



LSA

FIGURE 4

0 30 60
FEET

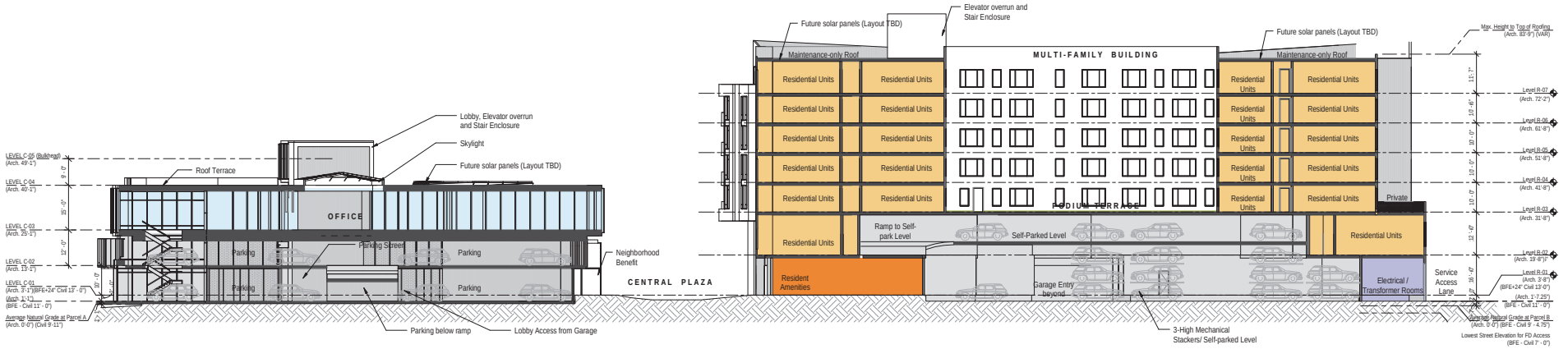
N

Project Boundary

Menlo Portal Project NOP
Conceptual Third Level Site Plan

SOURCE: BKF, 12/10/19.

P:\CMK1903 115 Independence\PRODUCTS\Graphics\NOP Figures\Figure 4.ai (1/2/2020)



WEST EAST BUILDING SECTION



NORTH SOUTH BUILDING SECTION

BUILDING SECTION NOTES:

1. BFE IS BASE FLOOD ELEVATION (CIVIL GRADE 11.0)
2. BFE+24" IS THE CODE REQUIRED MIN. FINISHED FLOOR ELEVATIONS FOR OCCUPIED LEVELS OF NEW CONSTRUCTION (CIVIL GRADE 13.0)
3. AVERAGE NATURAL GRADE OF OFFICE BUILDING IN PARCEL A IS +/-9.96' OR 9'-11"
4. AVERAGE NATURAL GRADE OF RESIDENTIAL BUILDING IN PARCEL B IS +/-9.44 OR 9'-5"

LSA

FIGURE 5

0 16 32
FEET

Menlo Portal Project NOP
Conceptual Building Sections

SOURCE: BKF, 12/10/19.

P:\CMK1903 115 Independence\PRODUCTS\Graphics\NOP Figures\Figure 5.ai (1/2/2020)

Meador, Kaitie M

From: Judy Adams <judyblueeyes1@gmail.com>
Sent: Monday, January 13, 2020 11:47 AM
To: Meador, Kaitie M; _CCIN
Subject: Menlo Portal proposal

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION: This email originated from outside of the organization. Unless you recognize the sender's email address and know the content is safe, DO NOT click links, open attachments or reply.

I applaude the including of a % of affordable/low-imcome apartments, but would like to see 20% and a specific low-income level listed, as "affordable, below market" is usually woefully out of reach for low-income, minimum wage workforce families. I would further add that I would like to see Menlo Park not consider any developments of office space until we meet an acceptable level of truly low-income housing to bring us up to state requirements or better-than, so that we can restore economic diversity in our community, where workers don't have to drive for an hour or more to get to work, and to include in that requirement, teacher's housing.

Judy Adams
Menlo Park homeowner, family of 2

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

ALAMEDA COUNTY
John J. Bauters
Pauline Russo Cutter
Scott Haggerty
Nate Miley

CONTRA COSTA COUNTY
John Gioia
David Hudson
Karen Mitchoff
(Secretary)
Mark Ross

MARIN COUNTY
Katie Rice

NAPA COUNTY
Brad Wagenknecht

SAN FRANCISCO COUNTY
VACANT
Shamann Walton
Tyron Jue
(SF Mayor's Appointee)

SAN MATEO COUNTY
David J. Canepa
Carole Groom
Davina Hurt

SANTA CLARA COUNTY
Margaret Abe-Koga
Cindy Chavez
(Vice Chair)
Liz Kniss
Rod G. Sinks
(Chair)

SOLANO COUNTY
James Spering
Lori Wilson

SONOMA COUNTY
Teresa Barrett
Shirlee Zane

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

Connect with the
Bay Area Air District:

February 6, 2020

RECEIVED
FEB 10 2020
CITY OF MENLO PARK
BUILDING DIVISION

Ms. Kaitie Meador
Senior Planner
City of Menlo Park
701 Laurel Street
Menlo Park, CA 94025

RE: Notice of Preparation of an Initial Study and Environmental Impact Report for the Menlo Portal Project

Dear Ms. Meador:

Bay Area Air Quality Management District (Air District) staff has reviewed the Notice of Preparation (NOP) of an Initial Study and Environmental Impact Report (EIR) for the Menlo Portal Project. The Project consists of demolition of existing office and industrial buildings and development of a project site with an approximately 327,970-gross-square-foot (gsf.), seven-story multi-family residential apartment building with approximately 335 dwelling units, a 34,819 gsf. commercial office building and associated open space and parking.

Air District staff recommend the EIR include the following information and analysis:

- **The GHG impact analysis should include an evaluation of the Project's consistency with the most recent draft of the AB 32 Scoping Plan by the California Air Resources Board and with the State's 2030 and 2050 climate goals.** The Air District's current recommended GHG thresholds in our CEQA Guidelines are based on the State's 2020 GHG targets, which are now superseded by the 2030 GHG targets, established in SB 32. The EIR should demonstrate how the Project will be consistent with the Scoping Plan.

- The proposed project site is located east of U.S. Highway 101 (US 101) in the City of Menlo Park. Based on the close proximity to US 101, **the EIR should estimate and evaluate the potential health risk to existing and future sensitive populations within and near the Project area from toxic air contaminants (TAC) and fine particulate matter ($PM_{2.5}$) as a result of the Project's construction and operation.** Air District staff recommends that the EIR evaluate potential cumulative health risk impacts of TAC and $PM_{2.5}$ emissions on sensitive receptors within and near the Project area.

- **The EIR should evaluate all feasible project features, both onsite and**

offsite, to minimize air quality and GHG impacts. The EIR should prioritize the following desirable project features onsite and offsite within the Project area. Examples of potential project features that should be evaluated and considered include, but are not limited to:

- Requiring construction vehicles to operate with Tier 4 or the highest tier engines commercially available;
- Prohibiting trucks from idling for more than two minutes or prohibiting idling altogether;
- Prohibiting or minimizing the use of diesel fuel, consistent with the Air District's Diesel Free By '33 initiative (http://dieselfree33.baaqmd.gov/);
- Implementing a program that incentivizes building residents and tenants to carpool, use electric vehicles (EVs), or use public transit to travel to and from the site. The program may include the following features, as feasible:

    a. A residential transit pass program;
    b. Shuttle service to and from Menlo Park Caltrain station, SamTrans bus routes and the Dumbarton Express;
    c. Preferential parking to carpool vehicles, vanpool vehicles, and EVs;
    d. Require that parking is paid for separately and is not included in rent (i.e., unbundled leases).

- Providing funding for zero-emission transportation projects, including a neighborhood EV program, community shuttle/van services and car sharing, bike racks and enhancement of active transportation initiatives;
- Providing infrastructure to facilitate bicycle access from the project to bike routes, public transit services and major activity centers and providing funding towards additional bicycle projects to promote and encourage bicycle activity;
- Providing safe and convenient pedestrian access and connections to streets, sidewalks, walkways and paths, transit stops, and local services;
- Implementing green infrastructure and fossil fuel alternatives in the development and operation of the Project, such as solar photovoltaic (PV) panels, electric heat pump water heaters, electric air source heat pump HVAC, and solar PV back-up generators with battery storage;
- Installing EV charging infrastructure on second level of parking garage to minimize potential flood damage;
- Installing outdoor flood resistant electrical receptacles for charging or powering of electric landscape equipment;
- Implementing a zero-waste program consistent with SB 1383 organic waste disposal reduction targets including the recovery of edible food for human consumption.

- **The EIR should evaluate the Project's consistency with the Air District's 2017 Clean Air Plan (2017 CAP).** The EIR should discuss 2017 CAP measures relevant to the Project and show the Project's consistency with the measures. The 2017 CAP can be found on the Air District's website: http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans.
- **The EIR should evaluate the Project's consistency with the City of Menlo Park's Climate Action Plan.** The EIR should analyze the Project's consistency with the City of Menlo Park's 2015 Climate Action Plan Update and Status Report (CAP) and discuss the CAP measures relevant to the Project.
- **The Air District's CEQA website contains several tools and resources to assist lead agencies in analyzing air quality and GHG impacts.** These tools include guidance on quantifying local emissions and exposure impacts. The tools can be found on the Air District's website: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools. If the Project requires a site-specific analysis, please contact Air District staff to obtain more recent data.
- **Certain aspects of the Project may require a permit from the Air District (for example, back-up diesel generators).** Please contact Barry Young, Senior Advanced Projects Advisor, at (415) 749-4721 or byoung@baaqmd.gov to discuss permit requirements. Any applicable permit requirements should be discussed in the EIR.

We encourage the City to contact Air District staff with any questions and/or to request assistance during the environmental review process. If you have any questions regarding these comments, please contact Andrea Gordon, Senior Environmental Planner, at 415-749-4940 or agordon@baaqmd.gov.

Sincerely,

Greg Nudd
Deputy Air Pollution Control Officer

cc: BAAQMD Director David Canepa
BAAQMD Director Carole Groom
BAAQMD Director Davina Hurt

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
P.O. BOX 23660, MS-10D
OAKLAND, CA 94623-0660
PHONE (510) 286-5528
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

January 24, 2020

SCH #2020010055
GTS # 04-SM-2020-00293
GTS ID: 18305
SM/84/PM 25.93

Katie Meador, Senior Planner
City of Menlo Park
Community Development Department, Planning Division
701 Laurel Street
Menlo Park, CA 94025

Menlo Portal Project – Notice of Preparation (NOP)

Dear Katie Meador:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Menlo Portal Project. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the January 2020 NOP.

Project Understanding

The project sponsor proposes demolition of the existing office and industrial buildings, associated improvements, and redevelopment of the project site with an approximately 327,970-gross-square-foot, seven-story multi-family apartment building with approximately 335 dwelling units and an approximately 34,819-gross-square-foot commercial office building, as well as associated open space, circulation and parking, and infrastructure improvements. The project sponsor is currently proposing that a total of approximately 48 residential units (15 percent) be affordable to low income households. The proposed allotment of affordable housing units would continue to be refined with the City of Menlo Park. The ground floor of each building would be raised 3 to 5 feet above grade to accommodate flood plain design requirements. The proposed residential building would be a maximum of 84 feet, 9 inches and would front to both Constitution Drive and Independence Drive. The commercial office building would be a maximum of 56 feet, 7 inches in height. The residential building

would include an at-grade, two-level, approximately 93,716-square-foot, 324-space parking garage. The commercial office building would also include an at-grade, two-level approximately 42,338-square foot parking garage. Across both levels, the parking garage at the commercial office building would include approximately 93 standard parking spaces. Regional access is provided from State Route (SR)-84 (Marsh Road) and Constitution Drive Intersection, approximately 100 feet away from the project site.

Travel Demand Analysis

Please submit a travel demand analysis that provides a Vehicle Miles Traveled (VMT) analysis resulting from the proposed project. With the enactment of Senate Bill (SB) 743, Caltrans is focusing on transportation infrastructure that supports smart growth and efficient development to ensure alignment with State policies using efficient development patterns, innovative travel demand reduction strategies, multimodal improvements, and VMT as the primary transportation impact metric. Please ensure that the travel demand analysis includes:

- A vicinity map, regional location map, and site plan clearly showing project access in relation to the State Transportation Network (STN). Ingress and egress for all project components should be clearly identified. Clearly identify the State right-of-way (ROW). Project driveways, local roads and intersections, car/bike parking, and transit facilities should be mapped.

- A VMT analysis pursuant to the City's guidelines or, if the City has no guidelines, the Office of Planning and Research's Draft Guidelines. Projects that result in automobile VMT per capita greater than 15% below existing (i.e. baseline) city-wide or regional values for similar land use types may indicate a significant impact. If necessary, mitigation for increasing VMT should be identified. Mitigation should support the use of transit and active transportation modes. Potential mitigation measures that include the requirements of other agencies such as Caltrans are fully enforceable through permit conditions, agreements, or other legally-binding instruments under the control of the City.

- A schematic illustration of walking, biking and auto conditions at the project site and study area roadways. Potential safety issues for all road users should be identified and fully mitigated.

- The project's primary and secondary effects on pedestrians, bicycles, travelers with disabilities and transit performance should be evaluated, including countermeasures and trade-offs resulting from mitigating VMT

increases. Access to pedestrians, bicycle, and transit facilities must be maintained.

With respect to the local and regional roadway system, provide project related trip generation, distribution, and assignment estimates, including but not limited to, Marsh Road, SR-84, and US-101. Provide details of the driveways for both the existing and/or the proposed connection from Marsh Road. To ensure that queue formation on the STN does not create traffic conflicts, the project-generated trips should be added to the existing, future and cumulative scenario traffic volumes. Potential queuing issues should be evaluated including on-ramp storage capacity and analysis of freeway segments near the project; turning movements should also be evaluated. In conducting these evaluations, it is necessary to use demand volumes rather than output volumes or constrained flow volume.

Vehicle Trip Reduction

From Caltrans' *Smart Mobility 2010: A Call to Action for the New Decade*, the project site is identified as **Place Type 4c: Suburban Communities** where location efficiency factors, such as community design, are often weak and regional accessibility varies. Given the place, type and size of the project, it should include a robust Transportation Demand Management (TDM) Program to reduce VMT and greenhouse gas emissions. Such measures are critical to facilitating efficient site access. The measures listed below can promote smart mobility and reduce regional VMT.

- Project design to encourage walking, bicycling and transit access;
- Transit and trip planning resources such as a commute information kiosk;
- Real-time transit information system;
- Transit subsidies on an ongoing basis;
- Ten percent vehicle parking reductions;
- Charging stations and designated parking spaces for electric vehicles;
- Carpool and clean-fuel parking spaces;
- Designated parking spaces for a car share program;
- Unbundled parking;
- Showers, changing rooms and clothing lockers for employees that commute via active transportation;
- Emergency Ride Home program;
- Employee transportation coordinator;
- Secured bicycle storage facilities;
- Fix-it bicycle repair station(s);
- Bicycle route mapping resources;

- Participation/Formation in/of a Transportation Management Association (TMA) in partnership with other developments in the area; and
- Aggressive trip reduction targets with Lead Agency monitoring and enforcement.

Transportation Demand Management programs should be documented with annual monitoring reports by a TDM coordinator to demonstrate effectiveness. If the project does not achieve the VMT reduction goals, the reports should also include next steps to take in order to achieve those targets. Also, reducing parking supply can encourage active forms of transportation, reduce regional VMT, and lessen future transportation impacts on State facilities.

For additional TDM options, please refer to the Federal Highway Administration's *Integrating Demand Management into the Transportation Planning Process: A Desk Reference* (Chapter 8). The reference is available online at: http://www.ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf.

Transportation Impact Fees
Please identify project-generated travel demand and estimate the costs of transit and active transportation improvements necessitated by the proposed project; viable funding sources such as development and/or transportation impact fees should also be identified. We encourage a sufficient allocation of fair share contributions toward multi-modal and regional transit improvements to fully mitigate cumulative impacts to regional transportation. We also strongly support measures to increase sustainable mode shares, thereby reducing VMT.

Hydraulics
Please include an explanation of how raising the ground elevation 3 to 5 feet would not impede or redirect flood flows in a manner which would result in additional flooding impacts to neighboring properties.

Sea Level Rise
The effects of sea level rise may have impacts on transportation facilities located in the project area. Executive Order (EO) S-13-08 directs State agencies planning construction projects in areas vulnerable to sea level rise to begin planning for potential impacts by considering a range of sea level rise scenarios for the years 2050 and 2100. Higher water levels may increase erosion rates, change environmental characteristics that affect material durability, lead to increased groundwater levels and change sediment movement along shores and at estuaries and river mouths, as well as affect soil pore pressure at dikes and levees on which transportation facilities are constructed. All these factors

must be addressed through geotechnical and hydrological studies conducted in coordination with Caltrans.

Lead Agency
As the Lead Agency, the City of Menlo Park is responsible for all project mitigation, including any needed improvements to the STN. The project's fair share contribution, financing, scheduling, implementation responsibilities and lead agency monitoring should be fully discussed for all proposed mitigation measures.

Encroachment Permit
Please be advised that any work or traffic control that encroaches onto the State ROW requires a Caltrans-issued encroachment permit. To obtain an encroachment permit, a completed encroachment permit application, environmental documentation, six (6) sets of plans clearly indicating the State ROW, and six (6) copies of signed, dated and stamped (include stamp expiration date) traffic control plans must be submitted to: Office of Encroachment Permits, California DOT, District 4, P.O. Box 23660, Oakland, CA 94623-0660. To download the permit application and obtain more information, visit https://dot.ca.gov/programs/traffic-operations/ep/applications.

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Andrew Chan at 510-622-5433 or andrew.chan@dot.ca.gov.

Sincerely,

Mark Leong
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

Meador, Kaitie M

From: Karen Grove <karenfgrove@gmail.com>
Sent: Sunday, January 26, 2020 8:25 PM
To: _Planning Commission
Subject: Menlo Portal study session - BMR

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION: This email originated from outside of the organization. Unless you recognize the sender's email address and know the content is safe, DO NOT click links, open attachments or reply.

Dear Planning Commission,

I'm a member of the Housing Commission, but I'm writing as myself.

As you discuss BMR expectations for the Menlo Portal residential project please encourage the developer to include BMR units at a mix of unit sizes that is in proportion to the development overall; and within each unit size, to provide units at a mix of income-level affordability. Having a mix of income levels allows for tenants to remain in the development while their income grows.

Please also keep in mind that we are behind in meeting our RHNA allocation for very low- low- and moderate-income BMR units.

I appreciate the commitment to provide 15% of the units as BMR units at the equivalent of low-income affordability (and hopefully at a range of income levels per the above). I'm very glad that the developer is meeting our baseline BMR requirement. However, the need is so great, I urge you to consider requesting that 20% of the units be BMR units at a mix of sizes and income levels.

For your reference, here is where we were as of the last reporting period in our progress towards meeting our RHNA allocation by income level.

Very Low Income:
RHNA Allocation = 233
Permitted to date = 103
Remaining = 130

Low income:
RHNA Allocation = 129
Permitted to date = 37
Remaining = 92

Moderate Income:
RHNA Allocation = 143
Permitted to date = 4
Remaining = 139

Above Moderate Income:
RHNA Allocation = 150

Permitted to date = 775
Remaining = (none, per RHNA… but we do need them!)

Thanks for your service,
-Karen
Pronouns: she/her/hers
650-868-2732

Meador, Kaitie M

From: jackie leonard-dimmick <akita550@hotmail.com>
Sent: Friday, January 17, 2020 3:43 PM
To: Meador, Kaitie M
Subject: Greystar

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION: This email originated from outside of the organization. Unless you recognize the sender's email address and know the content is safe, DO NOT click links, open attachments or reply.

Kaitier Meador:

I read the article in "The Almanac" (1/15/20), 'City Takes on Second Greystar Plan to Add Hundreds of Apartments' by Kate Bradshaw. It stated: "Together, both projects would add 818 new homes to a city where jobs far outnumber housing units."

There has been a lot of publicity about the need for affordable housing and the homeless. Everywhere I look, every local newspaper I read tells about more and more development going up. Some of these buildings will contain "affordable" housing. What is affordable today will not be affordable tomorrow. Before long we will have city to city housing. High density housing "a people factory farm" is not the answer.

The homeless definitely need a place to live, where they feel comfortable. I feel like too much emphasis has been placed on the picture of homelessness - an EFFECT, but little or no energy on the CAUSE. One will get nowhere by constantly baling out an over flowing bath tub. The faucet must first be turned off. The above statement from "The Almanac" makes it quite clear to me. There are too many jobs on the peninsula and/or too many of these jobs hire people from elsewhere, instead of from the local community.

Another issue that few people want to look at is OVER POPULATION - externally and internally, (people coming in from other localities, states and countries, for jobs, and the number of children couples choose to have) .Population plays a BIG role in the health of our environment. It is not just technology that will save(?) us from global warming, climate change and rising tides, but as, if not more important , COMMOM SENSE.

Bottom line is BALANCE. I think we have gone overboard with new construction and it is time to take a break.

Thank you for letting me share a view on this subject from a different angle.

Jackie Leonard-Dimmick

Meador, Kaitie M

From: Amy Roleder <amyrol@gmail.com>
Sent: Friday, January 17, 2020 1:33 PM
To: Meador, Kaitie M
Subject: Menlo Uptown and Portal proposal

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION: This email originated from outside of the organization. Unless you recognize the sender's email address and know the content is safe, DO NOT click links, open attachments or reply.

Hi Katie,
I would like to comment on the Menlo Uptown proposal. My opinion is, unless the developer makes the majority of the units below market rate, the people who desperately need housing such as our retail and other lower wage earners that are essential to our community and are currently priced out will not be able to afford to live there, which should be the whole point of adding more housing to Menlo Park. So, unless they agree to at least 60% or greater housing below market, I think you should deny it being built.

Other things to consider is that adding this housing is only going to increase traffic further, so unless its for the good of the community, it should not be granted.

Also, the FaceBook expansion hasn't even been fininshed yet. So no new projects should be approved until we can see the traffic impact of that. The traffic problem, as you obviously know, is severe in that area, along with Willow Rd., west of 101.

The Menlo Portal proposal should also not be granted, until again we can see the Impacts of the FaceBook expansion, and the LEAST thing we need is more office space. Please, stop with the office space! Affordable units should also be key to this project as well.

Thank you,
A. Lupo
Durham St., Menlo Park

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
Marshall McKay
Wintun

COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
Joseph Myers
Pomo

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

January 8, 2020

Kaitie Meador
Menlo Park, City of
701 Laurel Street
Menlo Park, CA 94025

Re: 2020010055, Menlo Portal Project, San Mateo County

Dear Ms. Meador:

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.

RECEIVED
JAN 13 2020
CITY OF MENLO PARK
BUILDING DIVISION

AB 52

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

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

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

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

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

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

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

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

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

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

SB 18

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

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

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

NAHC Recommendations for Cultural Resources Assessments

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

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

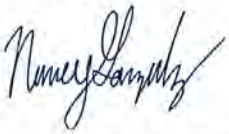
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

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

Sincerely,



Nancy Gonzalez-Lopez
Staff Services Analyst

cc: State Clearinghouse

January 24, 2020

Kaitie Meador
City of Menlo Park
Community Development Department, Planning Division
701 Laurel Street
Menlo Park, CA 94025
Sent via email to: kmmeador@menlopark.org

Subject: Comments on Scope of Environmental Impact Report – Menlo Portal Project, Menlo Park, San Mateo County

Thank you for the opportunity to comment on the scope of the focused Environmental Impact Report for the Menlo Portal Project in Menlo Park, California. The San Francisco Bay Area Water Quality Control Board (Water Board) reviewed the Initial Study and Notice of Preparation and submits these comments.

Background

The proposed Menlo Portal project would demolish existing office and industrial buildings and construct a new mixed-use residential and a new office building at 115 Independence Drive and 104 and 110 Constitution Drive in Menlo Park (the Site). The new apartment building is planned to be seven-stories built at-grade with the ground-floor used for a mixture of retail and parking, the second level used for a mixture of residential use and parking, and the upper levels for residential use. The new office building is planned to be three-stories built at-grade with the ground-floor used for retail space and parking, the second floor for parking, and the third floor for office space. The ground floor of each building would be raised 3 to 5 feet above grade to accommodate flood plain design requirements.

The Initial Study, dated January 2020, states that "the public and/or the environment could be affected by the release of hazardous materials from the project site into the environment by: 1) exposing workers and/or the public to potentially contaminated soil and groundwater during construction and/or operation of the project; or 2) exposing workers and/or the public to hazardous building materials during demolition of the existing office and industrial structures."

A Phase I Environmental Site Assessment (ESA), dated October 2018, indicates that historical site operations included the use of chlorinated solvents. A Phase II ESA, dated October 2018, determined that concentrations of tetrachloroethene, trichloroethene, and total petroleum hydrocarbons in groundwater at the Site exceed residential environmental screening levels. These volatile organic compounds (VOCs)

could migrate from the groundwater into soil vapor and indoor air, posing a potential vapor intrusion risk to building occupants.

The Initial Study identified the need for the following mitigation measures to ensure that "potential impacts of the proposed project would be less than significant and that no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final [Environmental Impact Report] EIR."

- Implementation of a project-specific Environmental Site Management Plan (ESMP) that is "prepared in consultation with" the Water Board or Department of Toxics Substances Control (DTSC); and
- A vapor intrusion assessment and associated vapor controls or source removal, as appropriate.

Water Board Comments

1) Because the proposed project is located within the area of a known regional VOC plume, the Water Board agrees that the proposed mitigation measures, including an ESMP, vapor intrusion assessment, and source removal and vapor intrusion mitigation as needed, should be required as described in the Initial Study.

2) The Water Board requests that the City of Menlo Park place conditions on permits as appropriate to require the project to obtain written acceptance of the items summarized below from the regulatory agency overseeing vapor intrusion assessment and mitigation concerns at the time.

Document Title	Timeframe
Environmental Site Management Plan and Vapor Intrusion Assessment – Including VIMS design, operations and maintenance plan, contingency plans, and financial assurance plan	Approval needed prior to start of construction
VIMS Construction Completion Report – Including as-built drawings	Approval needed prior to building occupancy

3) The Water Board is one of at least three regulatory agencies that could potentially oversee future vapor intrusion assessment and mitigation measures associated with this project. The others include the DTSC or the San Mateo County Division of Environmental Health Services.

4) The overseeing regulatory agency will likely require a cost recovery agreement to allow for review and evaluation of monitoring and evaluation reports such as those included in the Water Board's Fact Sheet: Development on Properties with a Vapor Intrusion Threat.

If you have any questions, please contact Kimberlee West of my staff at (510) 622-2432 or kimberlee.west@waterboards.ca.gov.

Sincerely,

Michael Montgomery
Executive Officer

Copy by email:
Andrew Morcos, Menlo Park Portal Venture, LLC, amorcos@greystar.com
Jacob Madden, San Mateo County Groundwater Protection Program, JMadden@smcgov.org

SEQUOIA UNION HIGH SCHOOL DISTRICT

ADMINISTRATIVE SERVICES

480 JAMES AVENUE, REDWOOD CITY, CALIFORNIA 94062-1041
TEL. (650) 369-1411 EXT. 22218 - FAX (650) 306-1762
WWW.SEQ.ORG

BOARD OF TRUSTEES
CARRIE DU BOIS
GEORGIA JACK
ALAN SARVER
CHRIS THOMSEN
ALLEN WEINER

SUPERINTENDENT
MARY STRESHLY

ASSOCIATE SUPERINTENDENT
CRYSTAL LEACH

February 7, 2020

By U.S. Mail & E-Mail: kmmeador@menlopark.org

Kaitie Meador
City of Menlo Park
Community Development Department, Planning Division
701 Laurel Street
Menlo Park, CA 94025

Re: Response of Sequoia Union High School District to Notice of Preparation of Focused Environmental Impact Report for Menlo Portal Project

Dear Ms. Meador:

Sequoia Union High School District ("District") appreciates the opportunity to provide comments and input regarding the Notice of Preparation of a Focused Environmental Impact Report ("EIR") for the Menlo Portal Project ("Project").

The District is particularly interested in and concerned about this Project, along with several other projects pending before the City in the Bayfront neighborhood, because it is located in very close proximity to the District's TIDE Academy. The District has previously submitted comments regarding several other large proposed projects located in the Bayfront Area, most recently including the proposed Menlo Uptown project. Given the similarities between the Menlo Uptown and Menlo Portal projects, the District reiterates many of its prior comments in this letter. **As in the District's prior letter regarding the Menlo Uptown project sent to the City on January 10, 2020, the District requests that all direct and indirect impacts related to the Project's proximity to a school be thoroughly reviewed, analyzed, and mitigated.**

The Project, sponsored by Menlo Park Portal Venture, LLC ("Developer"), is proposed to be located at the approximately 3.2-acre site having the addresses of 104 Constitution Drive, 110 Constitution Drive, and 115 Independence Drive, Menlo Park, CA (collectively, the "Property"). The Property currently contains two single-story office buildings and one warehouse/industrial building with a small office component. The Developer is proposing to demolish the existing office and industrial space and redevelop the Property with a

seven-story, approximately 335 multi-family residential complex, approximately 33,212 square feet ("sf") of office space, and approximately 1,608 sf of commercial space. The Project, which will require a number of entitlements from the City, is anticipated to generate approximately 70 new high school students.

The City, through its Initial Study, concludes that the Project will have no additional impacts on the District's ability to provide its public service, other than those impacts addressed in the ConnectMenlo Final Environmental Impact Report ("ConnectMenlo EIR") that was certified by the City in late 2016. Accordingly, the City is attempting to rely on the ConnectMenlo EIR as grounds to prepare a "focused," or limited EIR, which does not evaluate the Project's impacts on the District's ability to provide its public service. We believe that this approach is improper, and the limited scope of the City's proposed EIR inappropriate. Rather, the EIR prepared for the Project must contain a detailed discussion of the Project's potential impacts on the District, and manners in which to mitigate those impacts.

Neither the Initial Study nor the ConnectMenlo EIR adequately evaluated the Project's impacts to the District and, in particular, the District's TIDE Academy. Neither study adequately addressed how the Project will impact the District's ability to house its students; how the Project's impacts on transportation, traffic, and circulation in the area will impact air quality at the TIDE Academy, as well as the safety and convenience of District students, parents, and staff; and generally how the Project will impact the District's ability to deliver its educational program at TIDE Academy. All of these impacts, in addition to mitigation measures for same, must be analyzed in the EIR for the Project.

District staff attended and expressed some of the District's concerns regarding the Project at the City's Scoping Meeting held on January 27, 2020, and appreciated the City's time in listening to same. District is hopeful that the District, Developer, and City will continue to be able to engage in a productive dialogue, and that the parties will be able to agree upon mutually beneficial solutions to all impacts posed by the Project, with appropriate mitigation.

The District submits these comments in order to preserve its concerns and rights regarding the proposed scope and content of the proposed EIR.

Inappropriate Reliance on ConnectMenlo EIR

By contending that the ConnectMenlo EIR is a "program" EIR for purposes of evaluating the Project's impacts, the City relies on the ConnectMenlo EIR as its basis for preparing a "focused," or simplified EIR for the Project. Due to the City's failure to appropriately consider the ConnectMenlo program's impacts on the District's ability to provide its public service in the first place, and due to changed circumstances since the time that the ConnectMenlo EIR was prepared, the City's reliance on the ConnectMenlo EIR as the basis for disregarding certain Project impacts on the District is improper and misguided.

A "program" EIR is an EIR prepared for a series of small projects that can be characterized as one large project. (14 Cal. Code Regs. § 15168(a).) A project proponent may rely on a program EIR's analysis of the program's environmental impacts, mitigation measures, and alternatives in order to engage in a simplified environmental review for a future project contemplated by the program. (Id. at subd. (d).) However, when a program EIR is relied upon by a future project proponent, the new project proponent must carefully examine the impacts addressed in the program EIR and determine whether additional environmental review is required. An agency's evaluation of the sufficiency of a program EIR for later approval of a project contemplated by the program involves a two-step process:

unreliable. The last State school facilities bond fund (Proposition 51) has been exhausted, and it is currently unclear when/whether those school districts that apply for state funding will be able to receive such funding. Local bond funds are also difficult to generate, as local bonds are subject to school district bonding capacity limitations and voter approval. Either way, the funding formula was never intended to require the State and local taxpayers to shoulder a disproportionate portion of the cost of school facilities.

Additional changes to the circumstances under which the ConnectMenlo EIR was approved render the analysis of environmental impacts under that EIR inadequate. For one, if Proposition 13, placed on the ballot by California Assembly Bill ("AB") 48 is approved by the California voters at the March 2020 election, each of the three sources of funds discussed above will be significantly altered. Of particular note, and further undermining the contention that developer fees constitute full and adequate mitigation for impacts caused by the Project, AB 48: (1) eliminates school impact fees for multifamily homes within a half mile of a major transit stop; (2) reduces impact fees for all other multifamily homes by 20%; and (3) suspends level 3 school impact fees. Without full payment of school impact fees from the Project, coupled with the extremely high and rising costs of land, the District will be unable to alleviate many of the Project's impacts through the acquisition of land and construction of new school facilities.

In light of the ConnectMenlo EIR and Initial Study's many inadequacies, below are specific scoping requests for the EIR, which the City must address in the EIR to evaluate adequately the potential environmental impacts of the Project on the District and its students.

Transportation/Circulation/Traffic Analysis

1. **Describe the existing and the anticipated vehicular traffic and student pedestrian movement patterns to and from school sites, including movement patterns to and from TIDE Academy and Menlo Atherton High School, and including consideration of bus routes.**

2. **Assess the impact(s) of increased vehicular movement and volumes caused by the Project, including but not limited to potential conflicts with school pedestrian movement, school transportation, and busing activities to and from TIDE Academy and Menlo Atherton High School.**

3. **Estimate travel demand and trip generation, trip distribution, and trip assignment by including consideration of school sites and home-to-school travel.**

4. **Assess cumulative impacts on schools and the community in general resulting from increased vehicular movement and volumes expected from additional development already approved or pending in the City and Bayfront neighborhood.**

5. **Discuss the direct, indirect, and cumulative impacts on the circulation and traffic patterns in the community as a result of traffic generated by the transportation needs of students to and from the Project and schools throughout the District during and after the Project build-out.**

6. **Assess the impacts on the routes and safety of students traveling to school by vehicle, bus, walking, and bicycles.**

The District has significant concerns about the traffic, transportation, and circulation impacts that the Project may have on the District, including the District's staff, parents, and students that attend the TIDE Academy.

The foregoing categories of information are critical for determining the extent of those impacts on the District, none of which were adequately identified or discussed in either the Initial Study or the ConnectMenlo EIR.

A. City Must Consider All Traffic and Related Impacts, Including Impacts of Traffic on Student Safety, Caused by the Project.

Any environmental analysis related to the proposed Project must address potential effects related to traffic, noise, air quality, and any other issues affecting schools. (Pub. Resources Code, §§ 21000, *et seq.*; Cal. Code Regs., tit. 14, §§ 15000, *et seq.*; *Chawanakee Unified School District v. County of Madera, et al.,* (2011) 196 Cal.App.4th 1016.) Additionally, specifically related to traffic, there must be an analysis of safety issues related to traffic impacts, such as reduced pedestrian safety, particularly as to students walking or bicycling to and from TIDE Academy; potentially reduced response times for emergency services and first responders traveling to these schools; and increased potential for accidents due to gridlock during school drop-off and pick up hours. (See, Journal of Planning Education and Research, "Planning for Safe Schools: Impacts of School Siting and Surrounding Environments on Traffic Safety," November 2015, Chia-Yuan Yu and Xuemei Zhu, pg. 8 [Study of traffic accidents near Austin, Texas schools found that "[a] higher percentage of commercial uses was associated with more motorist and pedestrian crashes" around schools].) The District's expectation is that, due to the Project's proximity to the TIDE Academy, all safety related analysis be robust, detailed, and comprehensive.

The State Office of Planning and Research has developed new CEQA Guidelines which set forth new criteria for the assessment of traffic impacts, and now encourages the use of metrics such as vehicle miles traveled (VMT), rather than level-of-service (LOS), to analyze project impacts on traffic. (14 Cal. Code Regs. § 15064.3.) However, local agencies may still consider impacts on traffic congestion at intersections where appropriate, and must do so where, as here, such traffic congestion will cause significant impacts on air quality, noise, and safety issues caused by traffic. (Pub. Res. Code § 21099(b)(3).) As the District representative stated at the City's EIR scoping meeting held on January 27, 2020 for this Project, the District insists that the LOS metrics be employed in all traffic related Project analysis.

Regional vehicular access to the Property is provided by US Highway 101 (US 101), via the Marsh Road on- and off-ramps located to the west and State Route 84 (SR 84 or the Bayfront Expressway) located to the north. Direct local access is provided via Independence Drive and Constitution Drive which border the site immediately to the north, west, and south. The Bayfront Area of Menlo Park has experienced a drastic impact in traffic over the last ten to fifteen years as the City has continued to approve of newer corporate campuses and mixed biotechnology, commercial, office, and residential land uses. The City's 2016 General Plan Update calls for an increase of 2.3 million square feet of non-residential space, 400 hotel rooms, 4,500 residential units, 11,570 new residents, and 5,500 new employees in the Bayfront Area. This will result in a total build-out of 4.7 million square feet of non-residential office space, 850 hotel rooms, 5,430 residential units, 13,960 residents, and 20,150 employees, all within the Bayfront Area.[1] The ConnectMenlo EIR concluded that the General Plan Update would result in significant and unavoidable impacts to roadway segments and increase peak hour delays at intersections from increased traffic, even after the mitigation measures called for in the General Plan Update are implemented (if ever).[2]

---

[1] ConnectMenlo: General Plan Land Use & Circulation Elements and M-2 Area Zoning Update Draft EIR (June 1, 2016), Table 3-2.

[2] Menlo Park Small High School Project Final EIR (October 6, 2016), pp. 2-15 – 2-16; ConnectMenlo: General Plan Land Use & Circulation Elements and M-2 Area Zoning Update (June 1, 2016), p. 4.13-73.

The construction of and traffic generated by the Project will severely exacerbate the already stifling traffic in the general area and Bayfront Area, and the safety issues posed thereby. These impacts will severely inhibit the District's abilities to operate its educational programs, including at TIDE Academy.

The proposed Project is anticipated to impede circulation in the Bayfront Area, and clog the access roads to, from, and around the District's TIDE Academy. (See, 5 Cal. Code Regs. § 14010(k), which requires that school facilities be easily accessible from arterial roads.) As discussed, the District's TIDE Academy is located less than one quarter mile southeast of the Property. Thus, both TIDE Academy and the proposed Project would be accessed by the same roads, including Independence Drive, Constitution Drive, and the immediately surrounding streets. In addition to drawing hundreds of new residents to the area, including an estimated 70 new high school students, the proposed Project will draw thousands of daily office commuters, visitors, and emergency access vehicles from around the Bay Area. In addition to the immediate roads surrounding the Property and TIDE Academy, these new residents and commuters will rely heavily on the Bayfront Expressway, Bayshore Freeway, Willow Road, and Marsh Road to the west of TIDE Academy.

As indicated in the City's General Plan, the City's roads are not currently equipped to accommodate such high density development and high levels of traffic. Accordingly, such increases to traffic in the area will not only make it much more difficult for students and staff to travel to and from TIDE Academy, but will also drastically increase the risk of vehicular accidents to District families, students, and staff traveling to and from school. For instance, many students at TIDE Academy access school by turning onto Independent Drive from Marsh Road (immediately to the northwest of the Property). This turn is already extremely dangerous, as it requires drivers essentially to complete a 180 degree turn, with no visibility of the cars and/or people traveling on Independence Drive. By packing hundreds of new residents and visitors into the area immediately adjacent to the intersection of Independence Drive and Marsh Road, the Project will be magnifying this dangerous road condition, further placing District students, families, and staff in harm's way.

In addition to increased risks of vehicular accidents, the traffic impacts posed by the Project will severely impact the safety and convenience of TIDE Academy students who walk or bike to school. Title 5 of the California Code of Regulations requires that school sites be located within a proposed attendance area that encourages student walking and avoids extensive bussing. (5 Cal. Code Regs. § 14010(l).) To mitigate the impacts of increased traffic in the Bayfront Area, the District has committed to develop and implement a Travel Demand Management Plan. Through this Plan, the District encourages the use of student walking, biking, and other alternative means of student transport to school.[3] Further, to mitigate the impacts of conflicts and/or dangerous interactions between pedestrians, bicyclists, and vehicles, the District agreed to prepare a "Safe Routes to School Map" that identifies facilities such as traffic lights, crosswalks, and demarcated bikeways that promote safe routes to school.[4] The City has likewise committed to supporting and promoting such safe route to school programs to enhance the safety of school children who walk to school.[5]

Finally, as previously discussed, the Project's impacts on traffic, transportation, circulation, and safety will be exacerbated by AB 48 (discussed above), coupled with the extremely high costs of land. As the District's ability to transport students to and from District schools becomes more constrained due to increased development in the District, the District will need to construct new educational facilities to accommodate

[3] Menlo Park Small High School Project Draft EIR (July 8, 2016), p. S-4; The City of Menlo Park's Comprehensive Bicycle Development Plan (2005) identifies school-aged bicycle commuters as one of the two key bicycle commute groups utilizing the City's bicycle infrastructure.

[4] Menlo Park Small High School Project Draft EIR (July 8, 2016), p. S-6

[5] ConnectMenlo: General Plan Land Use & Circulation Elements and M-2 Area Zoning Update Draft EIR (June 1, 2016), p. 4.9-7 – 4.9-8

changes in transportation patterns. However, AB 48 will hamstring the District's ability to construct new facilities by dramatically reducing the amount of developer fees available to the District.

As TIDE Academy did not yet exist, and AB 48 had not yet been proposed, none of the above impacts on student safety and the District's ability to provide its educational program were adequately evaluated in the ConnectMenlo EIR. While the Initial Study provides that the City will prepare a transportation impact analysis and examine several intersections, the Initial Study otherwise gives no indication that it will examine the above-described impacts, or what criteria will be used by the City in evaluating these impacts. The EIR must analyze and mitigate all of the above traffic and related impacts, including those impacts related to student safety and convenience, the District's ability to implement its transportation and safety mitigation measures for the TIDE Academy, and the District's ability to promote alternative modes of transportation to and from TIDE Academy. It is important that these traffic impacts are not only assessed through a VMT analysis, but also through a LOS analysis, as severe traffic congestion surrounding the District's TIDE Academy caused by the Project will in turn cause significant issues related to safety, noise, and air quality.

B. City Must Consider Cumulative Traffic and Related Impacts.

Environmental impact reports must discuss cumulative impacts of a project when the project's effects on the environment, viewed in conjunction with impacts of other past, present, or reasonably foreseeable future projects, is cumulatively considerable. (14 CCR 15130(a).) (See *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 CA4th 713, 720, finding that piecemeal approval of several projects with related impacts could lead to severe environmental harm.) While a lead agency may incorporate information from previously prepared program EIRs into the agency's analysis of a project's cumulative impacts, the lead agency must address all cumulative impacts that were not previously addressed in the program EIR. (Pub. Res. Code § 21083.3(c); 14 CCR 14183(b)(3).)

The Project's above- and below-discussed anticipated impacts on the District, combined with the anticipated impacts of the vast number of development projects that have recently been approved in the Bayfront Area, are cumulatively considerable. Contrary to the assertions contained in the Initial Study, all of these impacts are exacerbated by the rapidity at which the City is approving of development projects in the Bayfront Area, as the District and City are unable to accommodate the massive influx of students through facilities, infrastructure, and related improvements.

Based on the City's website, approximately 3,600 new residential units have already been approved or are in the process of being approved by the City in the Bayfront Area. In the immediate vicinity of TIDE Academy, the City has already approved several large residential projects, including the 777 Hamilton Drive project (195 new apartments); the 3639 Haven Avenue project (394 new apartments); and the 3645 Haven Avenue project (146 new apartments). There are now several other large residential projects being considered by the City, including the Willow Village Master Plan Project at 1350-1390 Willow Road, 925-1098 Hamilton Avenue (1,735 proposed residential units); the Menlo Uptown Project located at 180 and 186 Constitution Drive (483 proposed residential units); and the 111 Independence Drive Project (105 multi-family dwelling units). Thus, in approximately four years since the City has certified the ConnectMenlo EIR, close to 70 percent of the total residential build-out envisioned by ConnectMenlo for the period of 2016-2040 is completed or pending before the City.

Each of these projects alone promises to drastically increase traffic in the neighborhood, resulting in air quality, noise, and safety issues for District families and staff attending TIDE Academy. When considered together, their collective impacts on traffic, safety, and air quality in the neighborhood will be devastating. These

cumulative impacts on the District's TIDE Academy were neither adequately discussed in the Initial Study, nor evaluated in the ConnectMenlo EIR. **The impacts of the Project must be considered in conjunction with the anticipated impacts of all the other development being considered and approved in this area.**

Air Quality

7. Identify and assess the direct and indirect air quality impacts of the Project on sensitive receptors, such as the District's TIDE Academy.

8. **Identify and assess cumulative air quality impacts on schools and the community in general resulting from increased vehicular movement and volumes expected from additional development already approved or pending in the City and Bayfront neighborhood.**

The Bay Area Air Quality Management District's (BAAQMD) CEQA Guidelines (May 2017) impose numerous limitations on the exposure of "sensitive receptors," such as schools, to odors, toxics, and pollutants, including pollutants from vehicular exhaust.

It is anticipated that the Project, including when viewed in conjunction with all of the other development being considered and approved in the Bayfront neighborhood, will have a significant impact on the air quality of the neighborhood due to extensive construction activities and increases in vehicular traffic. The Belle Haven community is particularly sensitive to such concerns regarding air quality due to the high incidence of asthma throughout the community. Even more pressing, the Project is anticipated to result in significant impacts to sensitive receptors as an increased number of vehicles enter and exit the Project, creating increased levels of air toxins and particulate matter that could negatively impact student health. These impacts, as they relate to the District's students at the TIDE Academy, were not specifically addressed in the ConnectMenlo EIR. Accordingly, they must be analyzed in the EIR.

Noise

9. **Identify any noise sources and volumes which may affect school facilities, classrooms and outdoor school areas.**

It is expected that noise from construction and operation of the Project will cause impacts on the District's educational programs at the TIDE Academy. Request No. 9 is intended to clarify that the EIR's consideration of noise issues take into account all of the various ways in which noise may impact schools, including increases in noise levels in the immediate vicinity of TIDE Academy. Again, as the District's TIDE Academy did not yet exist, the ConnectMenlo EIR did not consider these impacts on the District, and so may not be relied upon by the City as grounds to disregard noise impacts in the Project EIR.

Population

10. **Describe historical, current, and future population projections for the District.**

11. **Assess the impacts of population growth within the District on the District's ability to provide its educational program.**

In addition to 335 anticipated residential units, it is anticipated that the proposed Project's 33,212 sf of office space and 1,608 sf of commercial space will draw thousands of residents into the area on a permanent, or at least a daily basis. Using the District's current student generation rate of 0.2, 335 anticipated residential units is likely to generate approximately 70 new high school students to the District. Without the anticipated increase in students from the Project, the District's student population at TIDE Academy is already expected to exceed capacity by 2023. The second closest District high school to the Property, Menlo Atherton High School, is currently over capacity.

The District, therefore, specifically demands that historical, current, and future population projections for the District be addressed in the EIR. Population growth or shrinkage is a primary consideration in determining the impact that development may have on a school district, as a booming population can directly impact the District and its provision of educational services, largely because of resulting school overcrowding, while a district with declining enrollment may depend on new development to avoid school closure or program cuts. Overcrowding can constitute a significant impact within the meaning of CEQA. (See, 14 Cal. Code Regs. §§ 15064(e).) This is particularly true where the overcrowding results in unsafe conditions, decreased quality of education, the need for new bus routes, and a need for new school construction. The same can hold true for potential school closures or program cuts resulting from a declining population.

While the ConnectMenlo EIR discussed the District's student population projections, the City, in reliance on SB 50, disregarded any impacts the General Plan Update's increase in student population could have on the District. For the reasons discussed above, such disregard was legally and practically improper.

Housing

12. **Describe the type and number of anticipated dwelling units indirectly resulting from the Project.**

13. **Describe the average square footage for anticipated dwelling units, broken down by type of unit, indirectly resulting from the Project.**

14. **Estimate the amount of development fees to be generated by development in accordance with implementation of the Project.**

The foregoing categories of information are critical for determining the extent of both physical and fiscal impacts on the District caused by increased population growth. These impacts were not adequately addressed in the ConnectMenlo EIR.

California school districts are dependent on developer fees authorized by the provisions of Government Code Sections 65995, *et seq.*, and Education Code sections 17620, *et seq.*, for financing new school facilities and maintenance of existing facilities. The developer fees mandated by Section 65995 provide the District a significant portion of its local share of financing for facilities needs related to development. However, as discussed, AB 48, combined with the extremely high costs of land, may significantly impair the District's abilities to mitigate impacts caused by school facilities overcrowding.

The adequacy of the statutory development fees to offset the impact of new development on local school districts can be determined only if the types of housing and average square footage can be taken into consideration. For instance, larger homes often generate approximately the same number of students as smaller homes. At the same time, however, a larger home will generate a greater statutory development fee, better providing for facilities to house the student being generated. It is for these reasons that the Government Code

now requires a school district to seek – and presumably to receive – such square footage information from local planning departments. (Gov. Code § 65995.5(c)(3).)

While the foregoing funding considerations raise fiscal issues, they translate directly into physical, environmental impacts, in that inadequate funding for new school construction results in overcrowding of existing facilities. Furthermore, fiscal and social considerations are relevant to an EIR, particularly when they either contribute to or result from physical impacts. (Pub. Resources Code § 21001(g); 14 Cal. Code Regs. §§ 15021(b), 15131(a)-(c), 15142 & 15382.)

Phasing of development is also a crucial consideration in determining the extent of impacts on schools, which is especially relevant considering the rapid build-out of the ConnectMenlo residential units authorized. The timing of the development will determine when new students are expected to be generated, and therefore is an important consideration particularly when considering the cumulative impact of a project in conjunction with other approved or pending development.

Public Services

15. **Describe existing and future conditions within the District, on a school-by-school basis, including size, location and capacity of facilities.**

16. **Describe the adequacy of both existing infrastructure serving schools and anticipated infrastructure needed to serve future schools.**

17. **Describe the District's past and present enrollment trends.**

18. **Describe the District's current uses of its facilities.**

19. **Describe projected teacher/staffing requirements based on anticipated population growth and existing State and District policies.**

20. **Describe any impacts on curriculum as a result of anticipated population growth.**

21. **Identify the cost of providing capital facilities to properly accommodate students on a per-student basis, by the District (including land costs).**

22. **Identify the expected shortfall or excess between the estimated development fees to be generated by the Project and the cost for provision of capital facilities.**

23. **Assess the District's present and projected capital facility, operations, maintenance, and personnel costs.**

24. **Assess financing and funding sources available to the District, including but not limited to those mitigation measures set forth in Section 65996 of the Government Code.**

25. **Identify any expected fiscal impacts on the District, including an assessment of projected cost of land acquisition, school construction, and other facilities needs.**

26. **Assess cumulative impacts on schools resulting from additional development already approved, pending, or anticipated.**

27. **Identify how the District will accommodate students from the Project who are not accommodated at current District schools, including the effects on the overall operation and administration of the District, the students and employees.**

As discussed, the Initial Study's reliance on the ConnectMenlo EIR as grounds to disregard the Project's impacts on the District's ability to provide its public services is inappropriate, as the ConnectMenlo EIR did not adequately examine numerous environmental impacts caused by the program and/or the Project, in part due to changes that occurred after the City certified the ConnectMenlo EIR. (14 Cal. Code Regs. § 15168(c)(1).) Nor is the City's reliance upon SB 50 as the sole mitigation measure proper, as developer fees are legally and practically inadequate to mitigate all impacts caused by the Project. Therefore, the District submits the above scoping requests related to the District's ability to continue providing its public service.

Conclusion

The District does not oppose development within District boundaries, and recognizes the importance of housing on the health and welfare of the community. However, the District maintains that the community can only thrive if the District's educational program and its facilities are viable and sufficient, and District staff, families, and students are safe. Accordingly, the needs of the District must be appropriately considered in the environmental review process for all proposed new development that will impact the District, such as the very large Project under consideration.

The District is hopeful that its continued collaboration with Developer and the City will yield solutions that alleviate the impacts caused by the Project, and is prepared to provide any information necessary to assist the City in preparation of the EIR and in addressing each of the comment and scope/content issues set forth above.

We request that all notices and copies of documentation with regard to this Project be mailed both to the District directly, and also to our legal counsel's attention as follows:

Crystal Leach, Associate Superintendent, Administrative Services
Sequoia Union High School District
480 James Avenue
Redwood City, CA 94062

Kelly M. Rem
Lozano Smith
2000 N. Main St., Suite 500
Walnut Creek, CA 94596

Please feel free to contact me directly if we can be of any assistance in reviewing the above issues. Thank you.

Sincerely,

Crystal Leach
Associate Superintendent, Administrative Services

cc: Kelly Rem, Lozano Smith

CITY OF MENLO PARK

PLANNING COMMISSION

In re)
Menlo Portal Project)
_____)

ENVIRONMENTAL IMPACT REPORT

SCOPING SESSION

REPORTER'S TRANSCRIPT OF PROCEEDINGS

MONDAY, JANUARY 27, 2020

MENLO PARK CITY COUNCIL CHAMBERS

Reported by: MARK I. BRICKMAN, CSR, RPR, CRG
License No. 5527

ATTENDEES

THE PLANNING COMMISSION:

Andrew Barnes - Chairperson
Henry Riggs - Vice Chairperson
Camille Kennedy
Chris Decardy
Michele Tate
Michael C. Doran
Larry Kahle

THE CITY STAFF:

Corinna Sandmeier - Senior Planner
Kaitie Meador - Senior Planner

SUPPORT CONSULTANTS:

Matthew Wiswell, LSA Associates
Theresa Wallace, LSA Associates

PROJECT PRESENTERS:

Andrew Morcos
Clark Manus
Karen Krolewski

---o0o---

BE IT REMEMBERED that, pursuant to Notice of the Meeting, and on January 27, 2020, 8:20 PM at the Menlo Park City Council Chambers, 701 Laurel Street, Menlo Park, California, before me, MARK I. BRICKMAN, CSR No. 5527, State of California, there commenced a Planning Commission meeting under the provisions of the City of Menlo Park.

---o0o---

MEETING AGENDA

	Page
Summary of the Scoping Session - Kaitie Meador	6
Presentation by Project Planners	8
Consultant Presentation 19	
Public Comments	28
Commissioner Comments	36

JANUARY 27, 2020 8:20 PM

P R O C E E D I N G S

---o0o---

CHAIR BARNES: Which leads us to the last item on our agenda. Okay. This is the last item on tonight's agenda, and this is F3, which is the Public Hearing portion of it, and G1, which is Study Session portion of it are in the same staff report and we will be treating -- going from -- through them in two pieces.

And I'll start with F3, which is the Environmental Impact Report (EIR) Scoping Session for 104 Constitution Drive, 110 Constitution Drive and 115 Independence Drive commonly known as the Menlo Portal Project.

This is a request for a use permit, architectural control, environmental review, lot line adjustment, lot merger, below market rate housing agreement and heritage tree removal permits to redevelop three parcels with approximately 335 multi-family dwelling units, approximately 33,211 square feet of office and approximately 1,608 square feet of neighborhood serving commercial space.

The project would contain two buildings, a seven-story residential building and a three-story commercial building with office use on the upper floors

and the neighborhood commercial space on the ground level.

Both buildings would include above grade two-story parking garages integrated into the building. The project site is located in the R-MU-B (Residential Mixed Use, Bonus) zoning district. The project site currently contains three single-story office buildings that would be demolished.

The proposed residential building would contain approximately 327,970 of gross floor area with a floor area ratio of 235 percent.

The proposed commercial building would contain approximately 34,917 square feet of gross floor area with a floor area ratio of twenty-five percent.

The proposal includes a request for an increase in height, density and floor area ratio (FAR) under the bonus level development allowance in exchange for community amenities.

The proposed project would include a below market rate housing agreement that requires a minimum of fifteen percent of the units to be affordable.

The applicant is proposing to incorporate fifteen additional market rate units (which are included in the total 335 units per density), per the density bonus provisions in the BMR Housing Program (Chapter

16.96.040) which allows density and exceptions to the City Zoning Ordinance requirements when BMR units are incorporated into the project.

Good evening, Ms. Kaitie Meador.

MS. MEADOR: Good evening. Thank you for that summary. I just have a short presentation which you will have probably seen before on the process for the Scoping Session and the Study Session.

So this project Chair Barnes summarized thoroughly, but I'll just go into like a little bit of detail on the site location, which is in the Bayfront area.

You can see the building highlighted in a pink/red color there and Highway 101 and Bayfront Expressway nearby. The applicant will also go into more details on the project in their presentation.

So tonight we'll have two hearings. The first will be the Environmental Impact Report Scoping Session. So this is the opportunity for the Planning Commission and the public to comment on what will be studied in the EIR, and for this part of the meeting, I would really try to focus on the topics we want to be studied in the EIR and save all design comments for the Study Session.

The court reporter will be here to record any Public Comments on this portion of the project, but will

not be here for the Study Session.

So after the EIR Scoping Session, we will go into the Study Session where the public and the Planning Commission can provide feedback on the project plans and the design details.

There was one previous Study Session in July 2019 and also tonight there will be no action taken on the item. It's purely just to collect feedback on the project.

So the format we're recommending tonight is for the EIR Scoping Session will start with the applicant's presentation and then a presentation by the EIR consultant followed by Planning Commissioner questions, Public Comment, Commissioner comments and then closing of the Scoping Session.

After that, we'll have a Study Session. We won't redo the presentation. We'll jump right back into Commissioner questions, Public Comments again and then Commissioner comments.

So other than that, we did receive three letters since the Staff Report was published. One was on BMR units. The other was from the Water Board and the last was from -- from Caltrain. So you should have those in front of you, as well.

CHAIR BARNES: Thank you.

Any clarifying questions for staff? Any questions from you regarding procedure?

Seeing no lights on, I will say good evening to -- to who? To the applicant. Good evening. Before I say -- I've already said good evening to you. I'd like to say good evening to the court reporter. You're always here silent.

May I ask your name, please?

THE REPORTER: Mark Brickman.

CHAIR BARNES: Good evening, Mark. Thank you for coming in tonight.

So with that, if the applicant would do a presentation on your proposal.

MR. MORCOS: Of course. Thank you for having me tonight, Planning Commissioners. My name is Andrew Morcos and I'm the senior development director for Greystar in Menlo Park.

What you see in front of you is our Project Menlo Portal. It is in the M-2 area of Menlo Park which was rezoned for housing in 2016 due to significantly existing office and office under development or zoned for development.

About a month ago, I was here with you all presenting our other project, Menlo Uptown, which is a 483 unit housing project. In that presentation, I talked

about how there are 2.3 jobs for every housing unit in Menlo Park. I explained that four of the five largest employers in Menlo Park are within walking distance of these sites.

There are nearly one million square feet of office that are under construction today which implies 5,000 additional employees traveling to and from this location, and that doesn't account for the zoning and future development projects.

All of this information demonstrates a significant number of jobs and not enough housing in this area for people to live in. The vast majority are getting here by car, causing traffic and pollution related to traffic.

So today I want to focus on something else. The environmental impact does not provide housing nor jobs. Over 200,000 people per -- commute over two hours daily to jobs in the Bay Area.

Transportation emissions are the single largest contributor to CO2 production and passenger car use is the single largest contributor to these emissions.

Over twenty-five percent of California's carbon footprint comes from people driving cars. The only way we're going to start combating transportation emissions is by building housing near major employment centers like

these.

That all leads me to this project, Menlo Portal, which is across the street from the newly built buildings you were just hearing about, 700,000 square feet of office and the largest employer in Menlo Park.

This housing project totals 335 multi-family rental units and 35,000 square feet of office, and we're working with the City to ensure compliance with all of is the design standards.

We've organized community meetings on this project to date, and the key themes concerning the City's future and about this project specifically.

One is the need for affordable housing. This project will include at least forty-eight affordable housing units to be located onsite and distributed equitably throughout the project.

Between our two projects, that totals over 120 affordable units that will be delivered to Menlo Park.

We'll work with the community and the City to continue to determine levels. We've heard a lot of feedback about the BMR affordability and we want to continue those conversations with each of you to come to a solution that works for all of us.

We've consolidated open space in the project between the office and the housing and we've included

almost 13,000 square feet of publicly acceptable open space, which is over fifty percent more than our requirement.

We're working with staff to determine our neighborhood benefit, but have included 1,600 square feet that could be contributed.

We've made this site walkable and bikeable and are giving residents the best opportunity to work -- to get to work through sustainable transportation.

Lastly, Menlo Park has among the most ambitious goal in the country, environmental goals in the country. This project will be certified LEED Gold, operate with a hundred percent renewable energy, provide substantial Ev charging opportunities and reduce the typical parking footprint by using parking staffers. It will also be a fully electric building. No gas whatsoever.

I'd like to compare the project you saw previously in July here to our current project. A few things we've heard at Planning Commission and the community meetings through individual meetings have been reflected here.

One is continued outreach to the neighborhood on neighborhood benefit and the -- on the BMR proposal. We were asked to consider how to activate the publicly accessible plaza.

Some of the ideas we brought to the table are gathering and seating areas with lush landscaping. We intend to include public parks, movie nights, music performances and other events to draw the community to this area.

We worked with -- we worked on the garage screening and are looking forward to comments based on previous planning session -- Planning Commission comments and we've started our outreach and support for Dumbarton rail which we really appreciated the -- the kind of kick in the butt on that.

We're taking that seriously. We're meeting with key stakeholders towards that effort and will be actively involved since one potential stop near Kelley Park is walking distance from the site.

We're excited to continue to work entitlements with presentation of our Notice of Preparation and will continue engaging the community for additional feedback.

I want to introduce my team. Heller Manus is the lead architect. Clark Manus and PGA's our landscape architect and they'll continue the presentation from here.

MR. MANUS: Good evening, Commissioners. You'll excuse me. I'm battling a cold like everybody else here, so I'll manage to -- so when we were here last

time for the Study Session, several of you had some wonderful comments, and I think what we have here reflects -- Karen and I are going to basically take you through some of the changes that we made and look for your comments on that.

The Scoping Project is relatively simple, similar to what you saw before in terms of the size of the site, paseo orientation, the average height, parking and bikes.

But one of the things I think probably is the most significant that we will sort of touch on here is one, Karen will talk a little bit more about the sort of the increased character or increased augmentation of a -- the pocket park that we've created between the multi-family and the office building.

The second is -- and Commissioner Riggs was good enough to sort of use the sort of nomenclature of looking at how we can make this a little bit more home-like.

We worked very hard both on material character and the colors as a result of that, so what you see on the right is the office building, bronze in color -- color, glass is light in character for transparency and the materials that you see on the material board that you have behind you are a combination of both sort of white

and a charcoal and accent of a gray screen element on the corners in order to help warm the nature of the project up.

And so that's looking into this open space here that we see as a real benefit in terms of those people who live there, working there as well as any of the residents in -- in the area. We really see this is something that people will dwell and use as part of that.

Again, this is again that view looking at the street. One of the things that I think you certainly probably picked up in the Staff Report is we worked very hard in the minor and major modulation that is in the early design guidelines.

We reflected on this. I think there's a couple small items that we'll continue to work with staff on, but I think -- overwhelmingly, I think staff has been very happy with the orientation that we've created on the street frontages and all around the building.

Karen will talk a little bit more about this, and I think this is very similar to what you saw last time, but I think the thing that probably is most significant is the nature of the kind of uses that we see in the ground floor in the multi-family.

We see them as in all places where people can actually provide activated use that are -- they're

visible from public open space, and on the left side is the screening for the garage and all the way at the end is the commercial use that we've been talking about relative to the community benefit opportunities.

One of the things I think that probably is different -- and I think we're -- we're actually very happy with it -- is this sort of entry sequence sort of off of Marsh Road and the use of materials that are warm in color, both that are connected to both the office building and the residential I think are part of the tone that we're trying to set.

Some of you talked last time about the nature of the screening. I think one of the things that I feel has been very important in this is to try and create a screening mechanism that will allow us to not actually see the cars and to provide a sort of filtered view of them or a filtered view from the street and what you actually see in there is the opportunity to create some sort of landscape vines that actually again soften -- soften the character of that.

So again on the board that's behind you, the kind of materials that we're suggesting are ones that are basically used to be able to screen the view of the cars.

You saw this last time. Again I'll just sort of run through this very quickly. Configuration of the

buildings on the U-shaped lot is no different than what you saw in the Study Session. Residential on the right, office building on the left.

Probably the most significant difference in the configuration of the office building is the incorporation of the minor and major modulation.

What you saw in the Study Session before is we took the approach that we didn't believe that they were preferable to staff, and we have talked a lot about that, and as a result what you see is actually a reflection of that, and there are technical things that we probably want to talk to staff more about, but the idea was to sort of be able to break that service square mass now, and what you see is the sort of demonstration both on the Constitution and Marsh frontages.

Again working our way up, this is the podium floor and rooftop for the office building still is in play. We really see this as an opportunity. It's also on the Marsh Street side in order to provide the sort of separation and privacy for the residents over there and again sort of working our way up through the building.

And then lastly the -- the section through the building.

One of the overriding things that I think we have been very consistently trying to reflect here is

trying to bury the cars from view in the residential portion.

There's only one portion that's actually along the fire lane where the view -- where the visible remainder basically concealed within the -- the podium level where the five levels of residential start.

And then lastly I want to turn this over to Karen. She's going to take you through a little more detail in terms of the development of the open space both on the space that's fronting both the office building and the residential and on the street frontages.

MS. KROLEWSKI: Hi there. Thank you.

I'm Karen Krolewski from PGA Design, the landscape architect for the project and I'm going to take you through maybe the central plaza space which is designed to be a vibrant, active and publicly accessible open space.

It's a generously sized plaza. It's 12,780 square feet. Its dimensions are fifty feet across and 175 feet deep, the -- the approximate size and shape of the well-known Kelly Park in New York City, which is a celebrated public space.

The plaza's edges are -- are designed to be activated by uses throughout the day and night including residential and office amenity spaces which will open out

on the plaza as well as we envision outdoor dining areas that will connect to these spaces.

The plaza safety have been enhanced through open sitelines, daytime and nighttime uses, and the overlook windows from offices and residences.

We imagine the plaza to be activated by things like activities such as outdoor fitness classes, office workers on lunch breaks, neighbors walking their dogs, outdoor cafe areas and potentially even occasional outdoor movie nights or music performances.

So we're -- we're designing a plaza that can kind of be close to all these activities and be a flexible outdoor open space.

The plaza also features gathering areas for groups of different sizes, ample seating and site furnishings, bike parking, decorative features as well as lighting and a lush planting scheme including a robust tree canopy.

In addition, one of the focuses of the plaza will be a public art piece and way finding features to draw people into the site. It's an informal seating area.

We hope -- we hope and we are working with the neighbors at 111 Independence to coordinate the activity and uses of our space and to integrate the two.

There's continued grading going on between the two sites, but we think we can work well with the adjacent site to connect those two spaces.

And as you saw with the -- the office space, we're able to provide enhanced screening around the -- the parking garage side where it fronts the road, and we're continuing to work with the architect on that, as well.

And next I'd like to hand it back to Andrew.

MR. MORCOS: That's our presentation. Thank you, Planning Commissioners. We're open to questions.

CHAIR BARNES: When we have questions related to architectural components, we'll give those questions in the second half of this. Stay tuned. We've got a load of those, I'm sure.

We will progress now to the presentation by the City's EIR consultant.

MR. WISWELL: Good evening. I'm Matthew Wiswell. I'm a planner at LSA. We are the City's environmental consultant for preparation of the EIR for the Menlo Portal Project.

With me tonight is Theresa Wallace, LSA's principal in charge.

So -- so this first slide are the slide that I'll cover in my brief presentation tonight including the

purpose of the Scoping Meeting, an overview of the ConnectMenlo EIR and its relationship to this project, the initial study that was prepared for this project, the EIR -- the EIR that will be prepared and an overview of the environmental review process and schedule and then we'll open it up to Public Comments.

So the California Environmental Quality Act, or CEQA, requires that lead agencies that approve projects to identify impacts associated with those projects and then either avoid or mitigate those impacts.

So the purpose of the scoping session tonight is to engage interested parties early on in the environmental review process and to get your thoughts on the topics that should be considered in the environmental review of the proposed project.

The merits of the project are not considered in the EIR, so your comments at least for now should focus on specific issues that relate to the environmental impacts.

Comments should focus on the range of environmental topics that -- to be considered in the EIR. Any specific issues of concern related to environmental topics that you think should be addressed in the EIR and the approach and methods used in the analysis as well as any potential mitigation measures or alternatives you

think should be considered.

As you know well by now, ConnectMenlo was approved by the City Council in 2016 and the ConnectMenlo Final EIR provided a program level analysis of development in the Bayfront area -- including the Bayfront area where the project site is located.

The City of East Palo Alto challenged the City's certification of the ConnectMenlo Final EIR, and to settle the litigation, the parties entered into a settlement agreement that allows for environmental review for a later activity, such as the proposed project tonight, that is consistent with the program of development to be limited to effects that were not analyzed as -- as significant in the prior EIR or are subject to a substantial reduction or avoidance through project revision, but requires certain projects, including those utilizing bonus level development like -- like the proposed project to conduct a focused EIR with regard to housing and transportation.

Environmental review of the project will tier from the ConnectMenlo EIR and will also comply with the terms of the settlement agreement.

So at the initial steps in the environmental review process, an initial study was prepared to evaluate the potential impacts of the project and determine what

levels of additional analysis will be appropriate for the EIR.

The initial study discloses relevant impacts and mitigation measures covered in the ConnectMenlo EIR and discusses whether the project is within the parameters of the ConnectMenlo EIR.

I would like to note that although we are tiering off of the ConnectMenlo in terms of the maximum development potential we've considered, we are also evaluating the project against baseline conditions as they exist today and also evaluating the project against the currently applicable regulations and thresholds.

For example, the CEQA guidelines were updated since the certification of the ConnectMenlo EIR and those changes were considered and addressed in the initial study review and will also be addressed in the EIR.

So based on the inclusions of the initial study, the topics shown on this slide will not be further evaluated because the project is not anticipated to result in significant effects as related to these issues or because the initial studies found that these topics were adequately -- adequately addressed through the program level EIR prepared for ConnectMenlo.

So the topics of cultural resources, geology and soils, which covers paleontological resources,

hazards and hazardous materials and noise, it was determined that applicable mitigation measures from the ConnectMenlo EIR would ensure that these impacts would be less than significant.

The focused EIR will analyze whether the proposed project would result in significant impacts to these five -- six issues, sorry, listed on the slide.

For air quality, the ConnectMenlo EIR identified mitigation measures that required technical assessment of project operation and construction period, air quality impacts.

The site is also located in -- in proximity to several major roadways which requires preparation of health risk assessments.

For green -- for greenhouse gas emissions, the project's contribution to emissions will be studied based on the transportation impacts identified in the project.

For noise, although the ConnectMenlo EIR determined that impacts would be less than significant with implementation of recommended mitigation measures, there is a possibility that transportation -- the transportation analysis conducted for the project will identify new or more severe impacts related to transportation, and therefore transportation related noise.

There would be no more impacts related to transportation related noise, so this topic will be addressed in the EIR.

For population and housing, a housing needs assessment will be prepared pursuant to the terms of the settlement agreement with East Palo Alto and this topic will also be covered in the EIR, and again the terms of the settlement agreement require the preparation of a project specific transportation impact assessment.

This study will include an analysis of the potential impacts at fifteen study intersections and the identification of project specific mitigation measures in the transportation section of the EIR.

And then you'll see travel cultural resources listed up -- on the slide, as well, but that's -- that will be included in the EIR based on any potential consultation with tribes under 8052.

So finally the EIR's required to evaluate a reasonable range of alternatives. The alternatives should contain most of the basic project object -- project objectives and should avoid or substantially lessen any significant effects of the project, any significant impacts of the project.

The alternatives will be developed after the impacts are identified and with input received during

this NOP comment period.

A no project alternative will also be considered which is required by CEQA and a -- a reduced size project may be considered based on the potential impacts.

So this slide shows the anticipated schedule for the environmental review process. On January 7th, the City issued a Notice of Preparation, or an NOP, notifying interested parties and responsible agencies that an EIR will be prepared and initial -- and the initial study will be included for review.

The comment period to provide public comments on the scope and content of the EIR ends as you can see on February 7th.

So during this time, which is right now, interested parties are encouraged to submit comments on the scope of the EIR in writing or verbally which would take place tonight.

Over the next several months, we'll prepare the EIR. The Draft EIR is expected to be published some time in late spring.

After the EIR is published, there's a 45-day public comment period. During these forty-five days, interested parties will again have an opportunity to review the Draft EIR and submit any comments to the City.

The City will also hold another Public Hearing on the Draft EIR during the 45-day comment period and at that time the public can also provide ver -- verbal or written comments.

After the close of the Public Comment period, we will then prepare written responses to each substantive comment received on the adequacy of the EIR analysis and/or response the comments period.

The response to comments document will also include any revisions to the Draft EIR if any are necessary.

Together that Draft EIR and the response to comments document constitutes the Final EIR. The Final EIR will be published and available for review a minimum of ten days before any hearings are held.

Once the Final EIR's complete, the City will consider certification of the EIR and after that will consider approval of the project as a separate action.

The public is free to attend these hearings and provide any comments on the Final EIR, and as you can see, the EIR certification is currently anticipated for fall of this year.

So again just finally the -- the purpose of this meeting is to engage the public early on in the environmental review process and to get your thoughts on

topics that should be evaluated in the EIR.

Even if you provide your comments verbally tonight, we will encourage you to also submit them in writing again prior to February 7th before 5:00 PM.

And with that, we have available for your questions. Thanks.

CHAIR BARNES: Questions for the EIR consultant? Commissioner Riggs.

COMMISSIONER RIGGS: Yes. Thank you. You know, it strikes me that my questions are more in the form of EIR comments.

Would you like to hold those to a time after the public has a chance --

CHAIR BARNES: Yes. Commissioner comments will follow Public Comments. Thank you for clarifying that.

If there's no clarifying comments to the EIR consultant, I will proceed now to call for Public Comment on the scope and then bring it back up for Commissioner comments to the scope.

So with that, I'll call for Public Comments on the EIR scope. I have one card from Mr. Zito, an EIR scope and I've got another for Ms. Jones.

Is this for the EIR scoping or is this for the Study Session?

MS. JONES: I'm going to take a chance for the scope.

CHAIR BARNES: So we've got Mr. Zito followed by Ms. Jones. Good evening, Mr. Zito. Thank you for coming. Please state your name and applicable jurisdiction or organization.

MR. ZITO: Absolutely. Good evening. Matthew Zito from the high school, Sequoia Union High School District. We appreciate an opportunity to provide to comment on the EIR for the second very large project from Greystar.

It creates concern. We remain concerned about the scale of all of those reasonably proposed residential development in the ConnectMenlo area.

This project's right around the corner from TIDE Academy, our new high school. This development is also has a very large project also directly across from the high school. That's also under review.

I think between the two projects, 900 units will be either directly right in front of the school or right around the corner.

Up to 700 potential students will be generated from these two plus other projects that are under your consideration, and we do understand that the Sobrato Group is actually interested in building 800 townhomes in

between Menlo Portal and Menlo Uptown, so you have all of this cumulative impact. They've purchased five parcels already.

The ConnectMenlo EIR does not contemplate or analyze the district's ability to provide its public service in relation to Menlo Portal, its impact on TIDE Academy, which wasn't even proposed, or the decision to rely on the quote.

Therefore, the district's position is that a focused EIR is really is inappropriate in this particular situation.

So we disagree with LSA on the exclusion of public service from the EIR for this particular project. I think that was in the excluded category. We really feel that that's inappropriate to exclude that. You have all this housing directly across the street from a brand new high school. It's not at capacity, either.

ConnectMenlo did not evaluate impacts caused by other projects on schools, and the statutory developer fees are woefully inadequate.

They cover a fraction of the cost of providing facilities. They cover nothing for the purchase of land which we figure is about twelve million dollars an acre right now.

Our feeling is TIDE Academy must be studied.

In particular we really want the -- the project will reduce pedestrian safety, safety -- increase accidents, slow emergency response and perhaps the other than student safety, this other situation will cause complete gridlock out there at least two times during the day, and if you don't think a high school can cause gridlock, go out to M/A at 3:15 every day and you can see the effect of that.

The district requests the EIR analyze and mitigate traffic safety concerns and we would really like the EIR to review the level of service, not just vehicle miles traveled. We really feel that a level of service analysis is much more appropriate.

In addition to these direct impacts, the project exacerbates the lack of existing capacity in current facilities, particularly as relating to traffic since we have no room at M/A, the largest high school in the county, requiring students having to travel a very large distance from this particular area.

So there is no capacity in the school that these residential developments reside in.

We would really like -- in terms of the scoping again, I just have a couple quick things. The EIR really must analyze existing or anticipated student movement patterns -- it's all about safety - including a school

pedestrian movement, school transportation and busing activities.

We do have concerns about air quality. All of our students are sensitive receptors and noise concerns during construction in particular.

The district is interested in partnering with the City and developers like Greystar for the greater good to provide housing. You also need housing for the students as these projects develop or create, and I must say these 120 affordable units in the combined two projects are going to generate quite a few students.

So we -- looking at the ConnectMenlo EIR, you know, development was anticipated from 2016 to 2040, except in four or five years, you're going to reach the development potential that was anticipated over twenty more years, and so use that program EIR to -- to kind of in some ways excuse the responsibility for doing more analysis.

Not on the project, just doing more analysis is a real concern to the district because it's coming very fast, very furious, from the developments that are coming to present this to you and the housing is a critical need, but you do have need to be able to house students, as well.

The district also, unlike Menlo Park's City

School District, is getting development from Stanford in the El Camino Real Special Plan Development.

So those units are going to come online. They may produce fewer students than these units. There's thousands of units of housing, and again, M/A has they 2,400 students, the largest high school in the county.

TIDE was created to actually reduce M/A's population to a more reasonable level. Certainly that doesn't look like that's happening any time soon.

Appreciate the opportunity to speak and we really would like to spend more time with Greystar really talking about these things in real mitigation.

And also things like our students are going to walk through all your landscape, so there's some things in terms of coordination that would really benefit -- benefit you as well as benefiting us because we'll all be out there together.

Great thing having a high school or any school, but schools -- schools have real impacts on the develop that surrounds them.

Usually that's a residential neighborhoods, but we kind of have a more -- more much more interesting mix of business, housing, schools out there, but we really need to be able to work more closely and -- and we're just concerned about that program EIR which is perfectly

fine.

We don't -- we don't agree with the point that the developers meet the requirement for school housing. We think there's other requirements, but using that EIR that was commissioned and done almost in a different -- it was almost done in a vacuum, right?

So anyway, I don't mean to beat a dead horse. Really appreciate the opportunity to speak and hear more about the project, and we are looking again to be involved in the process as the EIR rolls out.

Thank you very much.

CHAIR BARNES: Thank you.

Next is Ms. Jones. And my last card is from Ms. Jones, so if anyone would like to give public comment, now is the time to come forward.

Good evening.

MR. JONES: Good evening. Pamela Jones, specifically in the Belle Haven neighborhood. I do not speak for the neighborhood. I speak for Pamela Jones, who has been a resident there for forty-five yearsish. Maybe forty-seven.

You heard the statistic on the number of employees when the buildings over at -- on Constitution, Menlo Gateway and the MK Building 22 when they open, and we have -- we're only building 923 units.

So clearly we have to build more units. So none of these comments have anything to do with the number of units.

I want to applaud Greystar because I believe they've done fairly good outreach. I've sat in on a number of their presentations and had private with them and I'm wondering if out of that is where this additional fifteen units came from, because they are aware that we do need housing.

With all of that being said, I'm going to go back to -- go to their studies when they do population and housing, that they have to include a detailed study of all the ongoing gentrification.

They have to note the number of current residents in Menlo Park that are housing challenged, rent challenged. That's a fairly high percentage there.

Because I'm looking at them and appreciate their BMR from fifteen to twenty percent and there needs to be another thirty percent of affordable.

In that study, they should be noting the number of people that work in Menlo Park that live in -- beyond units that's also causing us to have increased traffic.

All traffic mitigation given all of these projects, the fact that TIDE Academy will have its full capacity by the time their projects are done.

Traffic mitigation must be done before they put one resident in any units over there. So I don't know how they'll work that out, but I think that's something that the developers can do.

We can't wait until there's a problem before we try and fix it when we know there's going to be a problem because we already have a problem.

I would also like to see them add into the transportation are limiting portion. Accessibility from those units over to Kelley Park.

Right now that -- that area will not be able to access Kelley Park, and the new comprehensive community center at the end of Terminal given all the traffic situations, and I want to be able to use their facilities, and there's no way for me to really safely bike over there out of the Belle Haven neighborhood.

And the last thing is under tribal resources, they may not get quite the level of -- of communication from the state level because the state level I understand the Tribal Resources Department only has one employee, one or two employees, so it's hard for them to respond.

So under that area, need to review all the projects that have been done over there from the beginning because certainly there's been -- there's been remnants found in that area just as they have over at the

Prologix helicopter site.

So I want to go back to the increasing the number of affordability units. They -- Greystar was willing to give us more, forty-eight percent more open space. We need open space, especially in such a dense complex, but we also need to be able to have people afford to live there.

Thank you.

CHAIR BARNES: Thank you.

And so with that, I have no other comment cards, and seeing no one coming forward, with that I will close Public Comment and bring it back up to the dais, and this is for Commissioner comments pursuant to the EIR scope and not related to questions on the project, per se.

Commissioner Decardy.

COMMISSIONER DECARDY: So on the alternatives, there's no project alternative which you're mandated to do, and the other alternatives will be determined at what point in this process so people can comment specifically on them?

MR. WISWELL: First of all, if you have any comments on alternatives, we'd certainly welcome them right now.

We don't want to rule anything out, but it

begins with -- so as part of the project description, we'll determine some basic project objectives, and then at the point at which at we identify any potentially significant impacts, we -- we want to identify all those before we get to any alternatives because really the basic goal of an alternative is to avoid an impact. So it really depends on what those impacts are.

And so I -- I hope that answers your question. There's not quite another time to provide input on what we think an alternative should be. So if you have any thoughts, we'd really welcome those right now.

CHAIR BARNES: Yes. We are in the Commissioner comments on the EIR scope. So specific to the EIR scope.

COMMISSIONER DECARDY: Yes.

CHAIR BARNES: Have at it.

COMMISSIONER DECARDY: I think the conversation on a couple of the measures that you're going to take a look at again, my belief is that I understand that you're going to go through and figure out the impacts.

I think on some of these measures, the impacts are already so high that any additional impact would be considered onerous.

And so I think that specifically looking at

transportation and I think specifically looking at air quality that having no increased impact whatsoever should be one of the alternatives that you take a look at and then determine whatever mechanisms could be actually hit that target.

I think traditionally there's some look at these things to say well, is there a percentage mitigation and let's look at the additional impact separately, but if you're already over a threshold that is just not accessible for impacts on a particular neighborhood, a community and a particular timeframe, and I think it warrants at least on those two looking at no net increase whatsoever.

CHAIR BARNES: Mr. Riggs.

COMMISSIONER RIGGS: One of my comments is the essence of follow-up on Mr. Decardy's subject.

I'll note that I for one -- and I think I've heard some other voices -- have been asking over maybe the last year in particular that large new projects do two things: One is that they include an alternative that is no housing impact, and in this case, that would be rather ironic.

The other is that there would be alternative with no traffic impact, as Mr. Decardy has just mentioned. So I'll have to add my emphasis to that.

I believe that that can be done, particularly since there is so much employment in the immediate area.

We know that simply building the project will add traffic. I think -- believe the staff confirmed that about a previous project in that -- housing project in that the average unit might have two people in it. Two people with excellent salaries, one of whom may work locally, maybe even at Facebook.

The likelihood of the second one working locally is much, much lower, and then as we know, people change jobs in the valley rather frequently.

So one might move into one of these units, work for Facebook for eighteen months or maybe even five years and then go to LinkedIn.

Or interestingly enough Facebook might re-assign you to Sunnyvale, which happened to -- actually, one of our City Councilmembers who had just bought a home adjacent or within easy reach of the Menlo Park Facebook offices. He is now a commuter.

So one of the alternatives needs to reflect that -- reflect a methodology that will not -- simply not increase the traffic impact.

The second point has to do with non-automobile travel. I notice that the project is designed with a very nice emphasis on pedestrian movement, but this kind

of a neighborhood is not the same as our R-1-U or R-1-S or even an R-1-E in terms of mobility.

When you walk in an R-1-U neighborhood, you have a front door every fifty feet. When you walk in an R-1-S, you might have a front door every hundred feet. When you step out of this building, you won't see another front door for at least a block, and it might be a long block.

On the other hand, if you step out the door and get on your scooter, you will feel much more mobile, and I hope do so in order to avoid using the automobile.

So I'm wondering if the project EIR can base an alternative on scooter transit that is not a zero increase in traffic, but is a different kind of trans -- traffic.

And then when we get to the project design review, we can talk about how the site and building can reflect that alternative.

So for the EIR, that's my comments.

CHAIR BARNES: Commissioner Tate.

COMMISSIONER TATE: So my comment is back to the affordable housing, and twenty percent sounds like a -- a decent number to come in and it looks like quite a few community members are thinking the same way, at least twenty percent.

So I definitely hope that you take a better look at that as opposed to the fifteen.

CHAIR BARNES: Thank you.

Mr. Kahle.

COMMISSIONER KAHLE: Thank you.

Mr. Zito spoke passionately about the impact to the schools, particularly the Sequoia Union High School District. I also want to mention something I said at the last Greystar presentation, that with all of the new housing here, it's going to be from my estimation more than enough to support an elementary school and that should be considered in the EIR, as well.

CHAIR BARNES: Looking for any other Commissioner comments on the EIR scope.

Question as it relates to the methodology on the EIR scope. As I look at this project and of the 335 units, 289 are one-bedroom or less, one bedroom -- junior one-bedroom and studio and only thirteen percent are two or three bedrooms.

So when you're developing the methodologies for trips and impacts, how are you ascribing people counts to different room sizes?

MR. WISWELL: So I will note that we are not the transportation engineers, so we -- we can answer that question somewhat generally, but if we -- if you have a

really -- a more in-depth question, maybe we could pass that along to the transportation engineer.

But generally trips are generated by --

CHAIR BARNES: I'm sorry. So we have room sizes. We have one bedroom and less, which is sixty-seven percent or eighty-seven percent of the units.

When you look at those, how are you figuring how many people, how many bodies are in a particular room? So if you could talk to that methodology. Having nothing to do with transportation.

MR. WISWELL: Sure. I understand. We are preparing -- not -- not us particularly, but we have a subconsultant who's preparing, as was mentioned previously, a housing needs impact, and as -- as a part of that, I believe he'll look at trends throughout the City and the -- the typical population within the different types of units that you've mentioned and will present that data, and that will be part of the EIR.

So I -- I can't answer immediately the methodology right now, but I -- that will be -- there will be a figure for that presented at both the housing needs study and the population housing section of the EIR.

CHAIR BARNES: And that will get modified or somewhat adjusted for potential demographics in that

area?

MR. WISWELL: Correct.

CHAIR BARNES: So said differently, you've got an employer in the area. You may be -- you may have younger folks in there, particularly however many to a room, and that all gets figured into the methodology, correct?

MR. WISWELL: Correct.

CHAIR BARNES: Thank you.

Commissioner Kennedy.

COMMISSIONER KENNEDY: EIR feedback. So question. I don't know if this is EIR related or the project, but -- and but every time we sit here and we hear a new project and we talk about housing, we assume two types of -- two types of residents, right?

So it's two income no children or family, and so there's an entire population in this community, the larger broader Menlo Park community of people over the age of 65 who are in houses that are either too large or they can no longer keep up on them and they would like to stay in the community and there's no place for them to downsize to go to.

I would love for there to be an opportunity to look at -- maybe in the housing study on who the user group is, because if you can -- if you can free up

existing capacity and move people out of homes that maybe are too large or they don't -- they'd like to downsize and stay in the community, then you open up those homes that are family friendly for people to move in to maybe out of the apartments that are one and two bedrooms, because these are not for families.

So the -- the supposition that all of these housing units going to create a demand for new elementary school and even a demand for additional high school, you know, I don't think it's borne out.

So I -- I would like us all to sort of look at how we approach the housing need in Menlo Park to be more than just for people between the age of -- for lack of a better range, 25 to 55.

CHAIR BARNES: Thank you, and I'll tail on the back of that. I wasn't clear within the work that you're going to undertake how it relates to the need for facilities for -- you know, whether it's education, whether it's elementary, middle or high school.

Is there modeling that you're going to do to come up with the impact, you know, which take into account demographics?

In this area, I have no idea. Maybe young folks that aren't generating any types of kids are going or it could be the inverse.

Do you model for what the increased demand will be in the school system and what ages and what types of school-aged kids?

MR. WISWELL: For public facilities in particular, no. In this case, we -- we are relying on the ConnectMenlo EIR which included a -- an assumption for the total population generated by new development in the area and then looked at the existing facilities and -- and in that way determined whether or not new facilities would be needed just based on the population count.

And so we would be -- because this project is consistent with the development assumed and the Connect-Menlo area, we would be tiering off that analysis.

CHAIR BARNES: In -- so the ConnectMenlo EIR has in there net new dwelling units and in that programmatic EI -- EIR.

How -- is there any check to see if there's -- so as long as it's within the net new residential units that were contemplated under the ConnectMenlo programmatic EIR, when it's within that unit count, you're relying on that information. Is that correct?

MR. WISWELL: Yes.

CHAIR BARNES: And how do we know if there's a real disparity between what that was modeling out and

what we might see? Are there sanity checks along the way for the bodies stay the same and units will stay the same, but the demographics might be different than we anticipated.

Is there a check and a balance along the way?

MS. WALLACE: So I Would just add that we've heard the comments from the school district and the concerns there, and so we'll certainly be going back and assessing this issue with City Staff to see if there are other items that should be added to the EIR.

CHAIR BARNES: Okay. So -- so for the record, my request would be -- my request is that there is -- are we looking at the assumptions in the programmatic EIR and making sure that's tethered to what we think we're going to see in this location?

And I want to emphasize this has nothing to do with the funding. I mean, we've got -- there's ways that school facilities need to be funded and some of the properties subsidize residents of the community should bear the burden of this and I don't think it necessarily follows on the housing generators.

So it's a very different discussion, just ferreting that out, I think it's important data points to have.

MR. WISWELL: And if I might provide

clarification specifically to demographics and the type of user on the site --

CHAIR BARNES: Correct.

MR. WISWELL: -- correct? Yes.

CHAIR BARNES: Thanks.

Commissioner Riggs.

COMMISSIONER RIGGS: To at least some degree, I would like to echo those comments, although I come at it from a slightly different point of view.

One type made over several years including 2016 with the ConnectMenlo EIR.

I think the question, the assumption that when you build a three-bedroom on Independence or Constitution, that that means you're going to have a family with babies and teenagers.

I have to question it because simply looking at, say, a two-bedroom in a building like this, I have to figure that the rent is going to be in the $6,000 a month range, maybe higher, and it's going to be occupied between two and four techies who are going to share the space, share the rent and work nearby.

If you have a three-bedroom, it's going to have between three and six techies who are going to be sharing the rent, sharing the space as a crash pad.

A family is not going to in my opinion spend

6,000 a month on a two-bedroom in a high-rise in an office area rather than spend 6,000 a month on a three-bedroom, two-bath sixty, seventy-year-old home in a quiet neighborhood like Lorelei or Suburban Park, has a backyard and two-car parking garage that simply doesn't make sense once you have children.

So I -- I understand that if you do a survey of Menlo Park, you will get information that reflects predominantly single family house behavior and use.

If you do a survey of the condominiums between El Camino Real and the Caltrain tracks, you're going to get somewhat different demographics, and then if you upgrade that to current building standards and marketing, you'll probably rule out the last of those would-be family occupants.

So I think if we're going to put forward projections regarding student body count impacts, we have to look at -- if -- if we're going to refer to an existing condition, that condition has to be relevant to the project.

CHAIR BARNES: Great. So looking for any additional comments as it relates to the EIR scope. If there are none, I see no lights on, what I'll do is close the Public Hearing, this portion of the Public Hearing as it relates to the EIR Scoping Session and then we open it

up for the Project Proposal Scoping Session starting with intro by staff and then moving right to Commissioner questions related to the project.

Seeing no lights on, I will do that. I'm going to close this portion of the Public Hearing and check in with my Commissioners.

(This portion concluded at 9:24 PM).

---o0o---

STATE OF CALIFORNIA)
COUNTY OF SAN FRANCISCO)

I, the undersigned, hereby certify that the discussion in the foregoing hearing was taken at the time and place therein stated; that the foregoing is a full, true and complete record of said matter.

I further certify that I am not of counsel or attorney for either or any of the parties in the foregoing hearing and caption named, or in any way interested in the outcome of the cause named in said action.

IN WITNESS WHEREOF, I have hereunto set my hand this _____day of _____, 2020.

_____

MARK I. BRICKMAN CSR 5527

APPENDIX B

INITIAL STUDY

This page intentionally left blank

MENLO PORTAL PROJECT
INITIAL STUDY

MENLO PARK, CALIFORNIA

LSA

January 2020

This page intentionally left blank

MENLO PORTAL PROJECT
INITIAL STUDY

MENLO PARK, CALIFORNIA

Submitted to:

City of Menlo Park
Community Development Department
Planning Division
701 Laurel Street
Menlo Park, California 94025

Prepared by:

LSA
157 Park Place
Pt. Richmond, California 94801
510.236.6810

Project No. CMK1903



January 2020

This page intentionally left blank

TABLE OF CONTENTS

FIGURES AND TABLES ii
LIST OF ABBREVIATIONS AND ACRONYMS iii
1.0 PROJECT INFORMATION 1-1
2.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED 2-1
2.1 DETERMINATION 2-1
3.0 CEQA ENVIRONMENTAL CHECKLIST 3-1
3.1 AESTHETICS 3-1
3.2 AGRICULTURE AND FORESTRY RESOURCES 3-5
3.3 AIR QUALITY 3-8
3.4 BIOLOGICAL RESOURCES 3-10
3.5 CULTURAL RESOURCES 3-13
3.6 ENERGY 3-16
3.7 GEOLOGY AND SOILS 3-21
3.8 GREENHOUSE GAS EMISSIONS 3-28
3.9 HAZARDS AND HAZARDOUS MATERIALS 3-29
3.10 HYDROLOGY AND WATER QUALITY 3-34
3.11 LAND USE AND PLANNING 3-39
3.12 MINERAL RESOURCES 3-41
3.13 NOISE 3-42
3.14 POPULATION AND HOUSING 3-45
3.15 PUBLIC SERVICES 3-46
3.16 RECREATION 3-49
3.17 TRANSPORTATION 3-50
3.18 TRIBAL CULTURAL RESOURCES 3-52
3.19 UTILITIES AND SERVICE SYSTEMS 3-54
3.20 WILDFIRE 3-59
3.21 MANDATORY FINDINGS OF SIGNIFICANCE 3-61
4.0 LIST OF PREPARERS 4-1
5.0 REFERENCES 5-1

APPENDICES

A: CONNECTMENLO FINAL EIR: MITIGATION MONITORING AND REPORTING PROGRAM
B: CALEEMOD OUTPUT SHEETS

FIGURES AND TABLES

FIGURES

Figure 1-1: Project Location and Regional Vicinity Map 1-3
Figure 1-2: Aerial Photograph of the Project Site and Surrounding Land Uses 1-4
Figure 1-3: Photo Locations 1-7
Figure 1-4: Existing Site Conditions 1-8
Figure 1-5: Photos of Existing Site 1-9
Figure 1-6: Conceptual Site Plan 1-13
Figure 1-7: Conceptual Ground Level Site Plan 1-14
Figure 1-8: Conceptual Second Level Site Plan 1-15
Figure 1-9: Conceptual Third Level Site Plan 1-16
Figure 1-10: Conceptual Fourth Level Site Plan 1-17
Figure 1-11: Conceptual Fifth and Sixth Level Site Plan 1-18
Figure 1-12: Conceptual Seventh Level Site Plan 1-19
Figure 1-13: Conceptual Building Sections 1-20
Figure 1-14: Conceptual Street Level Landscape Plan 1-21
Figure 1-15: Conceptual Third and Roof Level Landscape Plans 1-22
Figure 1-16: Photos of Surrounding Land Uses 1-27
Figure 1-17: Photos of Surrounding Land Uses 1-28

TABLES

Table 1.A: Existing Conditions Summary 1-2
Table 1.B: Anticipated Permits and Approvals for Project Implementation 1-26
Table 3.A: Estimated Annual Energy Use of Proposed Project 3-18

LIST OF ABBREVIATIONS AND ACRONYMS

AB 52	Assembly Bill 52
APN	Assessor's Parcel Number
BAAQMD	Bay Area Air Quality Management District
Bay	San Francisco Bay
BMPs	Best Management Practices
CalEEMod	California Emissions Estimator Model
Cal/EPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CH_4	Methane
City	City of Menlo Park
CO_2	Carbon dioxide
ConnectMenlo	General Plan Land Use and Circulation Elements
ConnectMenlo Final EIR	ConnectMenlo Final Environmental Impact Report
DPR	California Department of Parks and Recreation
DTSC	California Department of Toxic Substances Control
ESLs	Environmental Screening Levels
EV	Electric vehicle
EVA	Emergency vehicle access
FEMA	Federal Emergency Management Agency
GHG	Greenhouse gases

gsf	Gross square feet
GWh	Gigawatt-hours
I-280	Interstate 280
kWh	Kilowatt-hours
LID	Low Impact Development
MGD	Million gallons per day
MGY	Million gallons per year
MLD	Most Likely Descendant
MPFPD	Menlo Park Fire Protection District
mpg	Miles per gallon
MPMW	Menlo Park Municipal Water
MPPD	Menlo Park Police Department
N_2O	Nitrous oxide
NAHC	Native American Heritage Commission
NWIC	Northwest Information Center
PCB	Polychlorinated biphenyls
PCE	Peninsula Clean Energy
PG&E	Pacific Gas & Electric
Phase I ESA	Phase I Environmental Site Assessment
R-MU-B	Residential – Mixed Use District – Bonus
SamTrans	San Mateo County Transit District
SB 50	Senate Bill 50
SFPUC	San Francisco Public Utilities Commission
SHPO	State Historic Preservation Office

SMCWPPP	San Mateo Countywide Water Pollution Prevention Program
SR 84	State Route 84
SRA	State Responsibility Area
Stanford HCP	Stanford University Habitat Conservation Plan
SVCW	Silicon Valley Clean Water
TCE	Trichloroethene
TDM	Transportation Demand Management
TIA	Transportation Impact Analysis
TIF	Transportation Impact Fee
UPRR	Union Pacific Railroad
US 101	US Highway 101
USEPA	United States Environmental Protection Agency
UWMP	Urban Water Management Plan
VMT	Vehicle miles traveled
Water Board	San Francisco Bay Regional Water Quality Control Board
WBSD	West Bay Sanitary District
WTP	Water Treatment Plant
WWTP	Waste Water Treatment Plant

This page intentionally left blank

1.0 PROJECT INFORMATION

1. **Project Title:**

   Menlo Portal Project

2. **Lead Agency Name and Address:**

   City of Menlo Park
   City Hall – 1st Floor
   701 Laurel Street
   Menlo Park, California 94025

3. **Contact Person and Phone Number:**

   Kaitie Meador, Senior Planner
   City of Menlo Park
   Community Development Department, Planning Division

   Phone: 650-330-6731
   Email: KMMeador@menlopark.org

4. **Project Location:**

   115 Independence Drive and 104-110 Constitution Drive
   Menlo Park, San Mateo County
   Assessor's Parcel Numbers (APN): 056-236-10, 055-236-020, 055-236-190

5. **Project Sponsor's Name and Address:**

   Menlo Park Portal Venture, LLC
   450 Sansome Street, Suite 500
   San Francisco, California 94111

6. **General Plan Designation:** Mixed Use Residential, Bayfront Area

7. **Zoning:** Residential – Mixed Use District – Bonus (R-MU-B)

8. **Description of Project:**

This section describes the proposed Menlo Portal Project (proposed project) submitted by Menlo Park Portal Venture, LLC (project sponsor) and evaluated in this Initial Study. A description of the proposed project's location, context and objectives is followed by details of the proposed project itself and a summary of required approvals and entitlements.

Project Site

The following describes the geographic context of the site for the proposed project and provides a brief overview of the existing land uses within and in the vicinity of the site.

Regional Location and Access

The approximately 3.20-acre triangular project site is comprised of three parcels located at 104 Constitution Drive, 110 Constitution Drive, and 115 Independence Drive within the City of Menlo Park, San Mateo County. Menlo Park is located approximately 30 miles south of San Francisco, at the southern end of San Francisco Bay (Bay).

Regional vehicular access to the project site is provided by US Highway 101 (US 101), via the Marsh Road on- and off-ramps located to the west and State Route 84 (SR 84 or the Bayfront Expressway) located to the north.[1] Direct local access is via Independence Drive and Constitution Drive which border the site immediately to the north, west, and south. The Menlo Park and Palo Alto Caltrain stations are located within 3 miles of the site to the south, providing weekday service from San Francisco to Gilroy and weekend service from San Francisco to San Jose.

Figure 1-1 depicts the site's regional and local context. Figure 1-2 is an aerial photograph of the project site and the vicinity.

Site Characteristics and Current Site Conditions

The generally-level project site is currently developed with two single-story office buildings and one warehouse/industrial building with a small office component totaling approximately 64,832 square feet in size. Table 1.A provides a summary of the existing conditions on the project site. Ingress and egress to the project site is provided by three driveways along Constitution Drive and two driveways along Independence Drive.

Table 1.A: Existing Conditions Summary

Address	APN	Parcel Size (acres)	Building Size (square feet)	Current Use	Parking Spaces
104 Constitution	055-236-010	1.25	23,212	Office	60
110 Constitution	055-236-020	1.05	25,091	Industrial	29
115 Independence	055-236-190	0.91	16,529	Office	39

Source: Menlo Park, City of, 2019.

[1] The street grid in the immediate vicinity of the project site generally extends northeast-southwest and northwest-southeast. To simplify the direction descriptions used in this document, roadways progressing parallel to US 101 are designated eastbound-westbound and roadways parallel to Marsh Road are designated northbound-southbound. The directional descriptions throughout this document use this geographic convention. However, with respect to transportation and circulation, US 101 is considered to be a northbound-southbound roadway and SR 84 is considered to be an eastbound-westbound roadway.



LSA

FIGURE 1-1

Menlo Portal Project Initial Study

Project Location and Regional Vicinity Map

SOURCES: GOOGLE EARTH 8/9/18; LSA, 2019.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-1.ai (10/29/19)



LSA

FIGURE 1-2

0 200 400
FEET

N

Project Site

Menlo Portal Project Initial Study

Aerial Photograph of the Project Site and Surrounding Land Uses

SOURCES: GOOGLE EARTH 8/9/18; LSA, 2019,

P:\CMK1903 115 Independence\PRODUCTS\Graphics\IS Figures\Figure 1-2.ai (11/26/19)

The existing buildings on the project site were constructed between 1960 and 1966 and are currently occupied by office and industrial tenants. A total of 128 parking spaces are provided across all three parcels. Vegetation on the project site consists of small landscaped areas and approximately 13 mature trees along both the southern and northern borders of the project site, approximately 10 of which are Heritage Trees.[2] Figure 1-3 depicts an aerial view of the project site and Figure 1-4 depicts current site conditions. Figure 1-5 includes representative photos of the existing buildings on the project site (Photo 1, 115 Independence Drive and Photo 2, 104 Constitution Drive); viewpoint locations are depicted in Figure 1-3.

Regulatory Setting

The project site is designated Mixed Use Residential on the City of Menlo Park's (City) General Plan Land Use Designations Map, which was updated as part of the City's General Plan Land Use and Circulation Elements Update (referred to herein as ConnectMenlo). One purpose of ConnectMenlo was to create live/work/play environments and to encourage office, research and development, residential, commercial uses, and hotels, all in close proximity or integrated with one another in the Bayfront Area, which is generally located north of US 101. The Mixed Use Residential designation provides for higher density housing to meet the needs of all income levels. This designation is intended to promote live/work/play environments oriented towards pedestrians, transit, and bicycle use, especially for commuting to nearby jobs.[3]

The project site is located within the Residential Mixed Use Bonus (R-MU-B) zoning district.[4] The purpose and intent of the R-MU-B zoning district, identified in the Zoning Ordinance, is to: 1) provide high density housing to nearby employment; 2) encourage mixed use development with a quality living environment and neighborhood-serving retail and services on the ground floor that are oriented to the public, and promote a live/work/play environment with pedestrian activity; and 3) blend with and complement existing neighborhoods through site regulations and design standards that minimize impacts to adjacent uses.[5] The maximum base residential density is 30 units per acre, a floor area ratio (FAR) of up to 90 percent for residential uses and a height of up to 40 feet. In addition, the bonus-level zoning standard allows for a density of up to 100 dwelling units per acre, a FAR of up to 225 percent for residential uses and 25 percent for non-residential uses, and a height of up to 85 feet in exchange for providing community amenities.

---

2 Hort Science | Bartlett Consulting, 2019. *Arborist Report, Menlo Portal, Menlo Park, CA*. September 25.

3 Menlo Park, City of, 2016. *Menlo Park General Plan*. November 29.

4 Menlo Park, City of, 2019. City of Menlo Park GIS Viewer. Available online at: cmpweb2.menlopark.org/Html5Viewer/Index.html?configBase=https://cmpweb2/Geocortex/Essentials/REST/sites/Menlo_Park/viewers/MPGVH/virtualdirectory/Resources/Config/Default (accessed March 13, 2019).

5 Menlo Park, City of, 2019. Menlo Park Municipal Code. January 15.

Background

On November 29, 2016, the Menlo Park City Council certified the ConnectMenlo Final Environmental Impact Report (ConnectMenlo Final EIR)[6, 7] and approved updates to the Land Use and Circulation Elements of the General Plan.[8] ConnectMenlo also included changes to the City's zoning map and rezoned specific properties to reflect the General Plan updates, including the new land uses within the Bayfront Area of the city. The ConnectMenlo Final EIR provided a program-level analysis of the development potential envisioned for the entire City, including the increased development potential in the Bayfront Area. The Land Use Element specifically identifies new development potential in the Bayfront Area of up to 2.3 million square feet of non-residential space, 400 hotel rooms, and 4,500 residential units. The buildout potential for future development is expected to occur over a 24-year buildout horizon (from approximately 2016 to 2040).[9]

On December 29, 2016, the City of East Palo Alto filed suit challenging the certification of the ConnectMenlo Final EIR. The City of East Palo Alto alleged that the City of Menlo Park did not comply with the California Environmental Quality Act (CEQA) because the Final EIR underestimated the amount of new employment and failed to adequately analyze the traffic impacts that would result from development under ConnectMenlo. To resolve the litigation, the City of Menlo Park and the City of East Palo Alto entered into a settlement agreement. The key terms of the settlement agreement are as follows:

1. Reciprocal Environmental Review for Future Development Projects. Menlo Park will prepare an EIR for any project located in the Office (O), Life Science (LS) or Residential Mixed Use (R-MU) district that exceeds 250,000 net new square feet and would require a use permit, that proposes bonus level development, that proposes a master plan project, or that may have a significant environmental impact. Menlo Park may, with the exception of housing and traffic (which were the focus of East Palo Alto's challenge), simplify the environmental review for future development projects by incorporating analysis and discussions from the ConnectMenlo Final EIR pursuant to CEQA Guidelines Section 15168(d). East Palo Alto will prepare an initial study for future development projects to determine the appropriate level of environmental review and will conduct that review, which can be simplified by incorporating by reference analysis and discussions from its General Plan update referred to as Vista 2035.

---

6 Menlo Park, City of, 2016a. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update, Public Review Draft Environmental Impact Report*, SCH#2015062054. June 1.

7 Menlo Park, City of, 2016b. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update, Response to Comments Document*, SCH#2015062054. October 10.

8 Menlo Park, City of, 2016c. *General Plan: ConnectMenlo, Menlo Park Land Use and Mobility Update*. November 29.

9 Although the ConnectMenlo Final EIR assumed a buildout horizon of 2040, the maximum development potential may be reached sooner than anticipated. Nevertheless, the pace of development would not create additional impacts beyond those identified in the ConnectMenlo Final EIR for topic areas identified in this Initial Study. The ConnectMenlo Final EIR evaluated the maximum development potential that could occur at any given time and did not consider the phased buildout of the development potential.



LSA

FIGURE 1-3

0 150 300
FEET

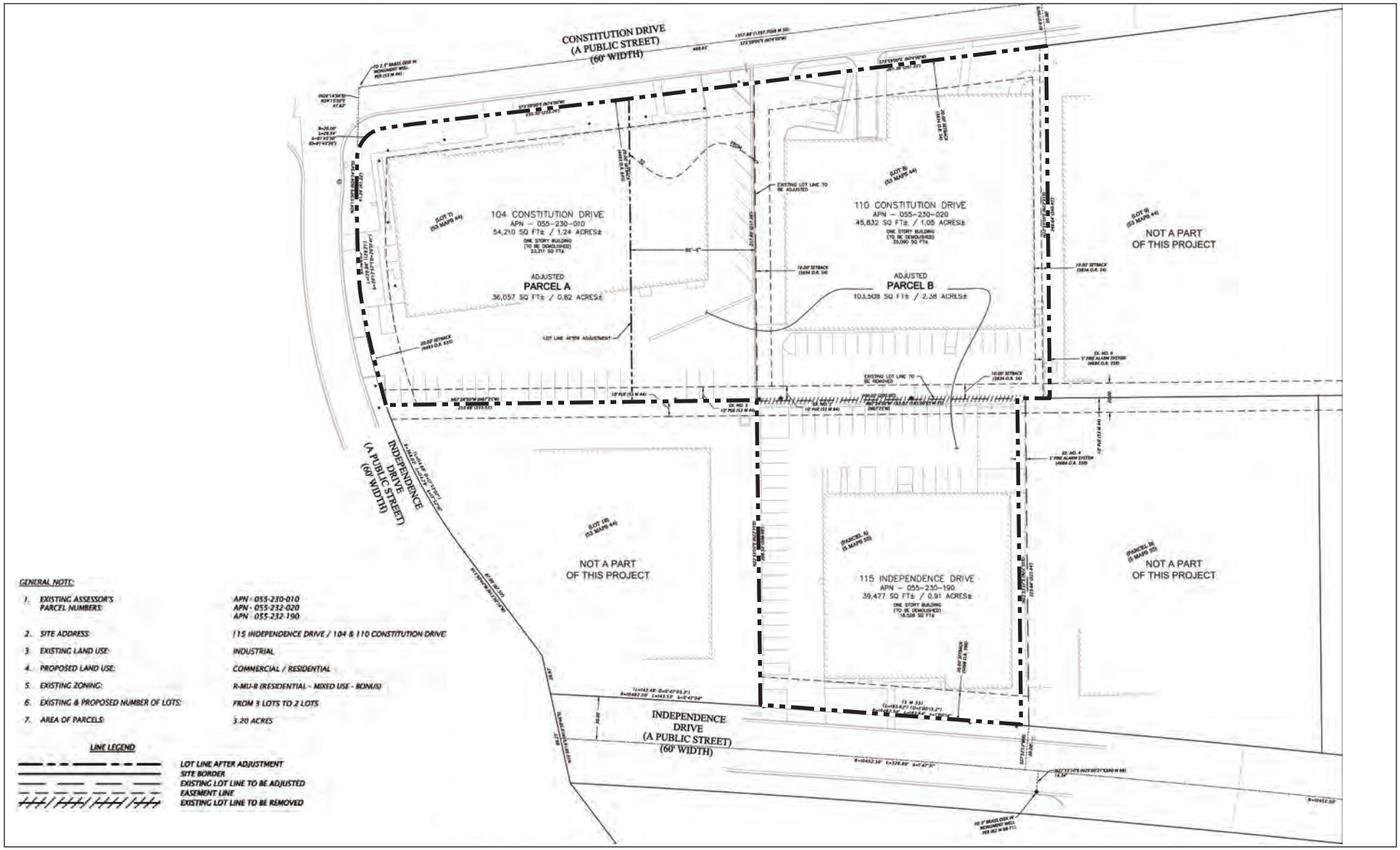
N

Project Site

Menlo Portal Project Initial Study
Photo Locations

SOURCES: GOOGLE EARTH 8/9/18; LSA, 2019,

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-3.ai (10/29/19)



LSA

FIGURE 1-4

0 40 80
FEET

N

Project Boundary

Menlo Portal Project Initial Study
Existing Site Conditions

SOURCE: BKF, 2018.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-4.ai (10/29/19)



Photo 1: Existing building at 115 Independence Drive, as seen from Independence Drive



Photo 2: Existing building at 104 Constitution Drive, as seen from Independence Drive

LSA

FIGURE 1-5

Menlo Portal Project Initial Study
Photos of Existing Site

SOURCE: LSA, 2019.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-5.ai (10/29/19)

This page intentionally left blank

2. Reciprocal Traffic Studies. Menlo Park and East Palo Alto will work together to ensure that future development projects' potentially significant traffic impacts on the other jurisdiction are analyzed and mitigated.

3. Reciprocal Study of Multiplier Effect. When the preparation of an EIR is required as described above, Menlo Park or East Palo Alto, as applicable, will conduct a Housing Needs Assessment, which to the extent possible, will include an analysis of the multiplier effect for indirect and induced employment.[10]

This Initial Study was prepared in accordance with the terms of the settlement agreement, which allows simplification in accordance with CEQA Guidelines Section 15168 for all topic areas except housing and transportation and incorporates by reference the information contained in the ConnectMenlo Final EIR. Per CEQA Guidelines Section 15168 later activities occurring under a program EIR may be examined in light of the program EIR and tier from the program EIR as provided for in CEQA Guidelines Section 15152. Per CEQA Guidelines Section 15152, "where an EIR has been prepared and certified for a program… consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program… should limit the EIR… on the later project to effects which: 1) were not examined as significant effects on the environment in the prior EIR; or 2) are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means." The analysis provided in this Initial Study tiers from the ConnectMenlo Final EIR, as appropriate.

The proposed project would be required to comply with all applicable mitigation measures identified in the ConnectMenlo Mitigation Monitoring and Reporting Program (MMRP), which is a requirement of any proposed development project in the city. The proposed project has been determined to have less than significant impacts in a number of topic areas within this Initial Study (refer to Section 3.0) based on compliance with the ConnectMenlo mitigation measures. A copy of the ConnectMenlo MMRP is included in Appendix A.

Proposed Project

This section provides a description of the proposed project as identified in the project sponsor's application materials submitted to the City, dated May 20, 2019.[11] The proposed project would result in the demolition of the existing office and industrial buildings and associated improvements and redevelopment of the project site with an approximately 327,970-gross-square-foot, seven-story multi-family apartment building with approximately 335 dwelling units and an approximately 34,819-gross-square-foot commercial office building, as well as associated open space, circulation and parking, and infrastructure improvements. The project sponsor is currently proposing that 15 percent of the units would comply with the City's Below Market Rate (BMR) Housing Program

10 Nothing in the settlement agreement was intended to suggest such an analysis is required by CEQA.

11 Menlo Park Portal Venture, LLC, 2019. City of Menlo Park Development Permit Application for the Menlo Portal Project. May 20. It should be noted that project plans may be subject to refinement prior to City action on project entitlements.

Ordinance, Chapter 16.96, and the City's Below Market Rate Guidelines (Guidelines). Individual project components are further described below.

Figure 1-6 through Figure 1-12 depict the currently available conceptual site plans for the first through eighth floors of the proposed buildings. Figure 1-13 depicts conceptual building sections of the proposed buildings. Conceptual landscaping plans are shown in Figure 1-14 and Figure 1-15.

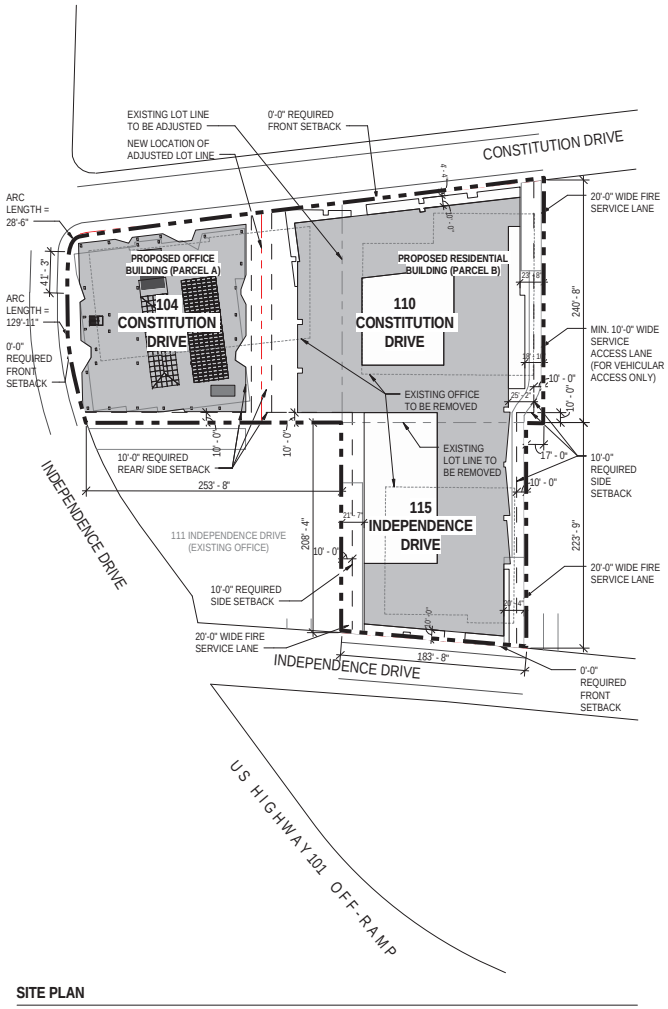
Building Program

The proposed project would result in redevelopment of the project site with a seven-story multi-family apartment building including two levels of above ground parking and a three-story commercial office building. The ground floor of each building would be raised 3 to 5 feet above grade to accommodate flood plain design requirements. A landscaped central plaza area would separate the residential and commercial office buildings and provide a connection between Independence Drive and Constitution Drive. Components of each individual building are described below.

Residential Building. The residential building would contain a total of approximately 327,970 square feet of residential uses (approximately 335 rental units), would be built with a maximum height of approximately 84 feet 9 inches, and would front to both Constitution Drive and Independence Drive. The ground floor of the residential building would include a lobby, storage, residential amenities (which could include a fitness or business center), a portion of the parking garage, and stairwells and elevators providing access to the residential portion of the building. The second level would include the remaining portion of the parking garage (the program for which is further described below), as well as approximately 27 residential units. The third level would include approximately 58 residential units and an approximately 18,342-square-foot amenities deck that would include a pool, social area with a fire pit (if allowed), outdoor room, outdoor kitchen, and dining area. The fourth level would include approximately 60 residential units, and the fifth and sixth levels would each include approximately 63 residential units. The seventh level would include approximately 64 residential units.

Residential units would consist of approximately 68 studio units at an average size of 550 square feet, approximately86 junior one-bedroom units at an average of 630 square feet, approximately 135 one-bedroom units at an average of 700 square feet, approximately 36 two-bedroom units at an average of 1000 square feet, and approximately 10 three-bedroom at an average size of 1300 square feet.

The project sponsor is currently proposing that a total of approximately 48 residential units (minimum of 15 percent) be affordable to low income households. Low income households are those earning up to 80 percent of the area median income. The proposed allotment of affordable housing units would continue to be refined with the City. Density and gross floor area above the maximum allowed density and gross floor area ratio would be achieved through the density bonus provision of the City's Below Market Rate Housing Program. In addition, this program would also allow exemptions for the total parking requirement for the residential units.



SITE PLAN



SITE CONTEXT - LEVEL 1

LSA

FIGURE 1-6

0 60 120
FEET

N

Project Boundary

Menlo Portal Project Initial Study
Conceptual Site Plan

SOURCE: BKF, 12/10/19.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-6.ai (12/31/19)



LSA

FIGURE 1-7

0 30 60
FEET

N

Project Boundary

Menlo Portal Project Initial Study

Conceptual Ground Level Site Plan

SOURCE: BKF, 12/10/19.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-7.ai (12/31/19)



LSA

FIGURE 1-8

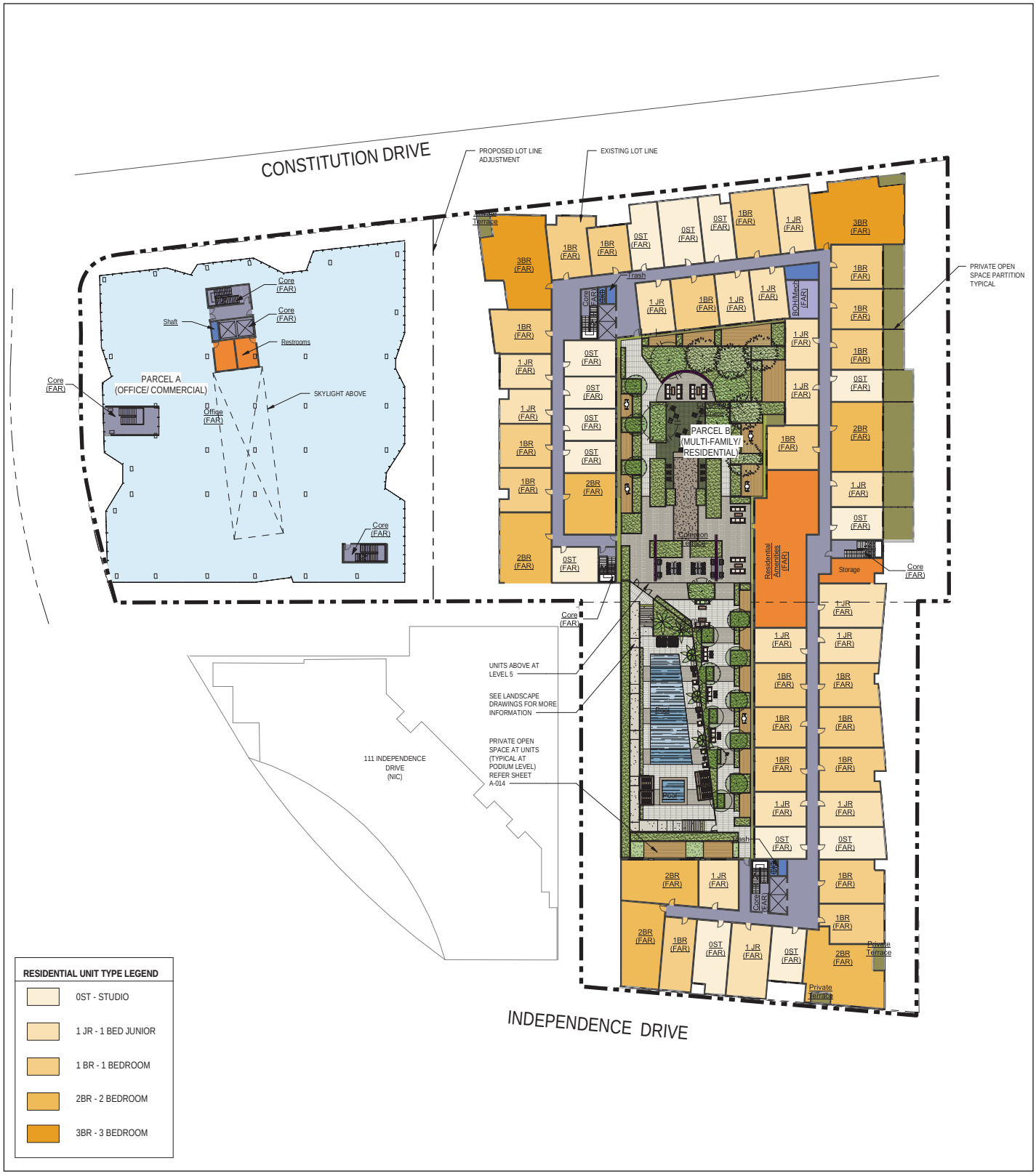
0 30 60
FEET

Project Boundary

Menlo Portal Project Initial Study
Conceptual Second Level Site Plan

SOURCE: BKF, 12/10/19.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-8.ai (12/31/19)



LSA

FIGURE 1-9

0 30 60
FEET

N

Project Boundary

Menlo Portal Project Initial Study
Conceptual Third Level Site Plan

SOURCE: BKF, 12/10/19.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-9.ai (12/31/19)



LSA

FIGURE 1-10

0 30 60
FEET

N

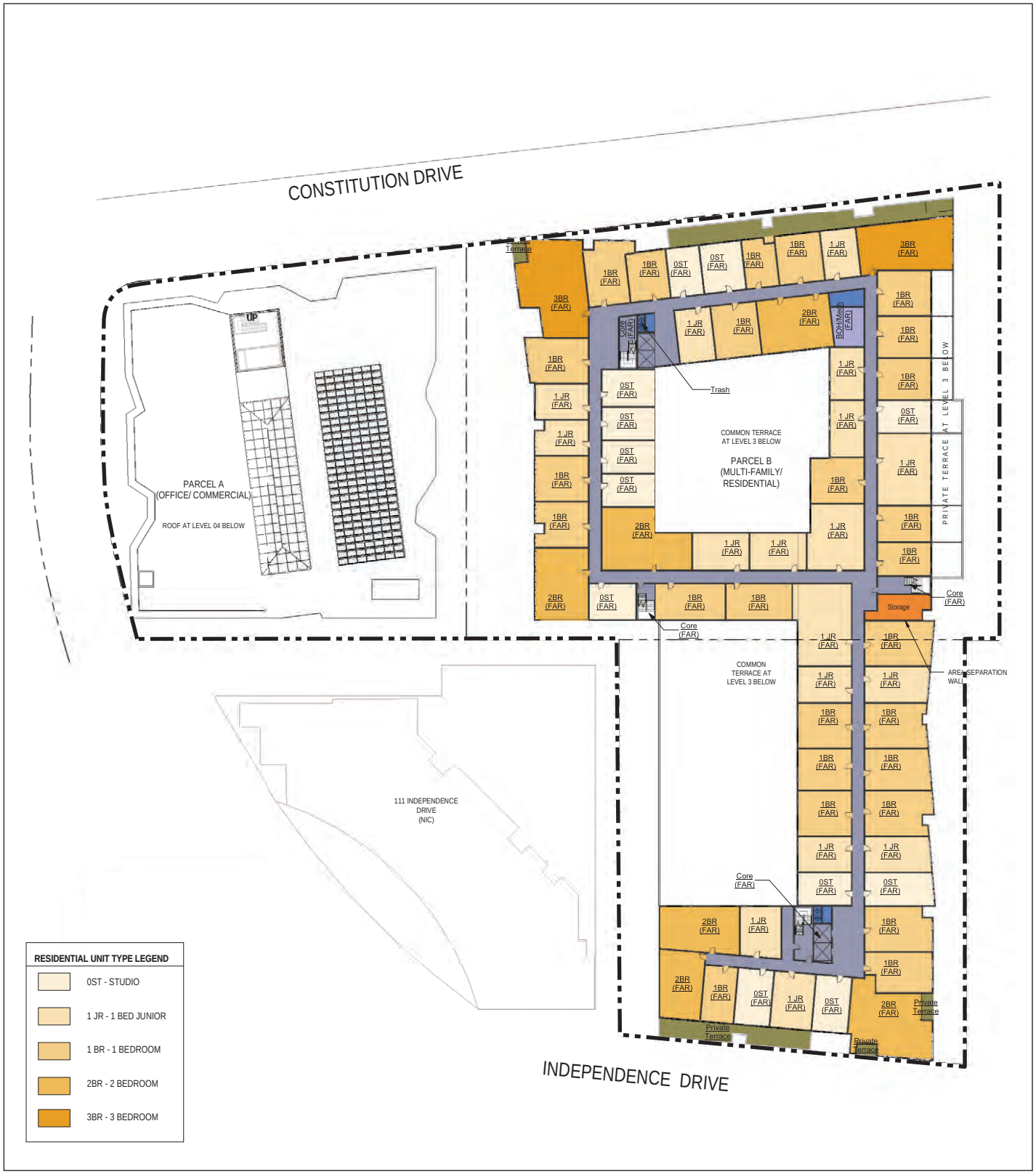
Project Boundary

Menlo Portal Project Initial Study

Conceptual Fourth Level Site Plan

SOURCE: BKF, 12/10/19.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-10.ai (12/31/19)



LSA

FIGURE 1-11

0 30 60
FEET

N

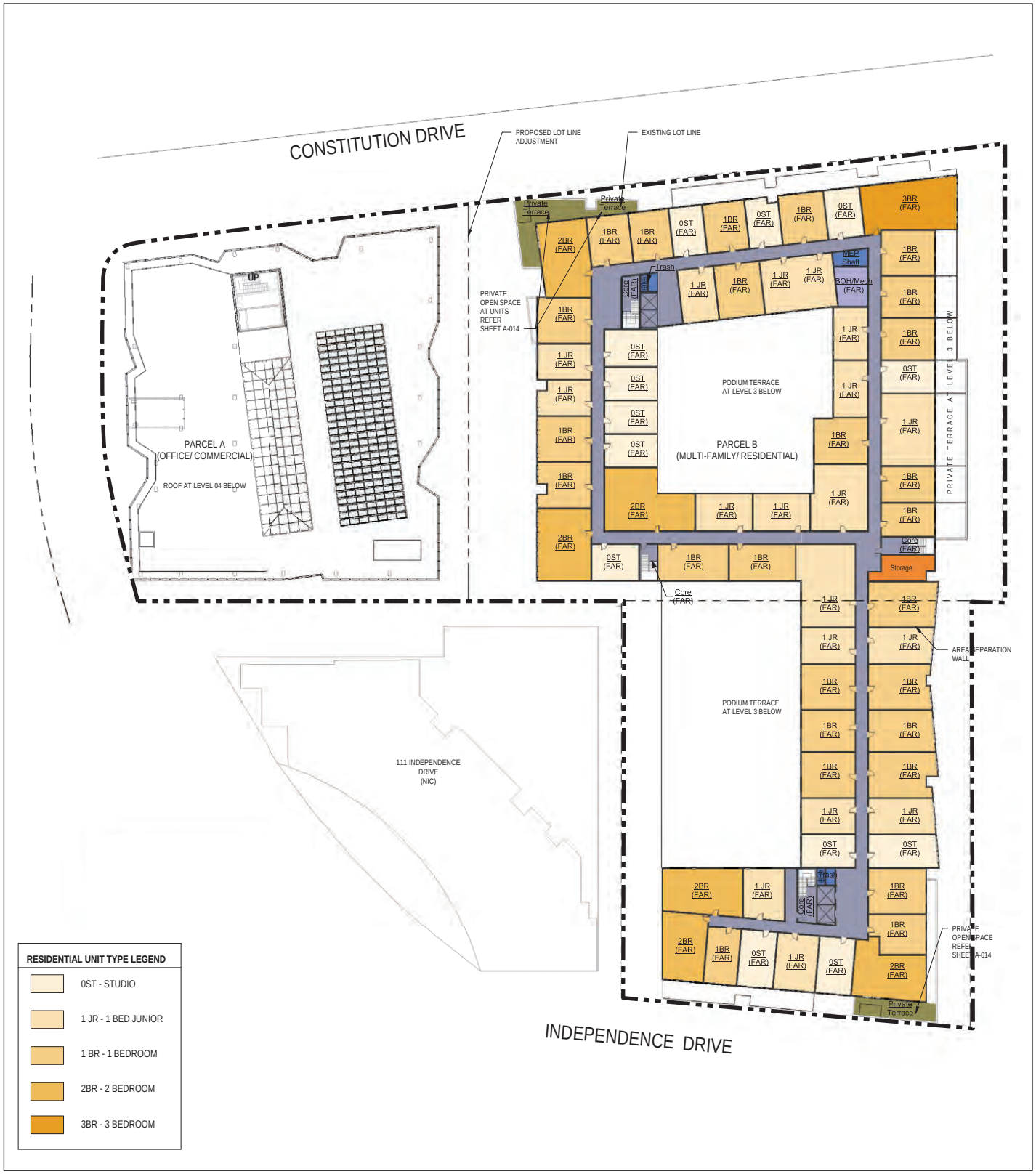
Project Boundary

Menlo Portal Project Initial Study

Conceptual Fifth and Sixth Levels Site Plan

SOURCE: BKF, 12/10/19.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-11.ai (12/31/19)



LSA

FIGURE 1-12

0 30 60
FEET

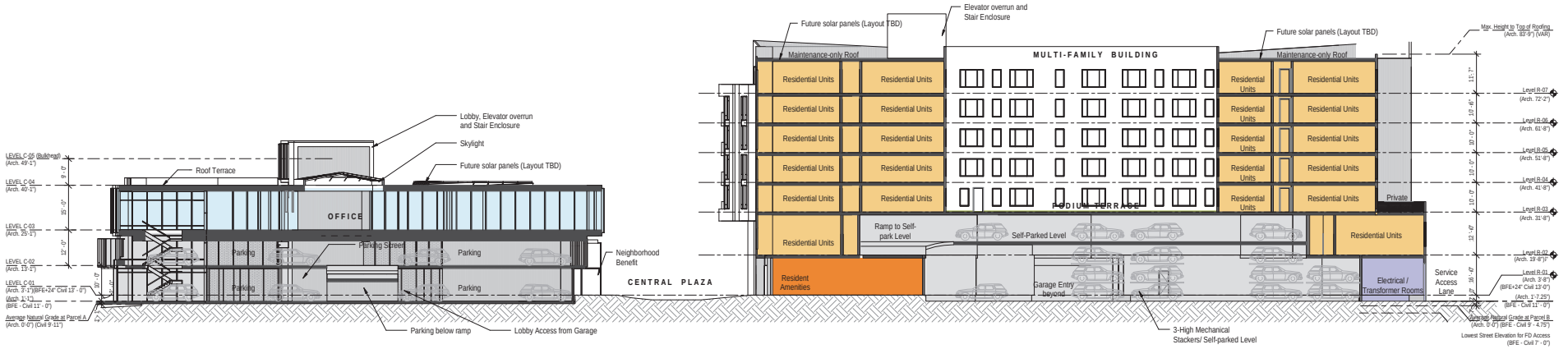
N

Project Boundary

Menlo Portal Project Initial Study
Conceptual Seventh Level Site Plan

SOURCE: BKF, 12/10/19.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-12.ai (12/31/19)



WEST EAST BUILDING SECTION



NORTH SOUTH BUILDING SECTION

BUILDING SECTION NOTES:

1. BFE IS BASE FLOOD ELEVATION (CIVIL GRADE 11.0)
2. BFE+24" IS THE CODE REQUIRED MIN. FINISHED FLOOR ELEVATIONS FOR OCCUPIED LEVELS OF NEW CONSTRUCTION (CIVIL GRADE 13.0)
3. AVERAGE NATURAL GRADE OF OFFICE BUILDING IN PARCEL A IS +/-9.96' OR 9'-11"
4. AVERAGE NATURAL GRADE OF RESIDENTIAL BUILDING IN PARCEL B IS +/-9.44 OR 9'-5"

LSA

FIGURE 1-13

0 16 32
FEET

Menlo Portal Project Initial Study
Conceptual Building Sections

SOURCE: BKF, 12/10/19.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-13.ai (12/31/19)



LSA

FIGURE 1-14

Menlo Portal Project Initial Study
Conceptual Street Level Landscape Plan

SOURCE: PGA DESIGN, 12/10/19.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-14.ai (12/31/19)



LSA

FIGURE 1-15

NOT TO SCALE

Project Boundary (Partial)

SOURCE: PGA DESIGN, 12/10/19.

Menlo Portal Project Initial Study
Conceptual Third and Roof Level Landscape Plans

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-15.ai (12/31/19)

Commercial Office Building. The commercial office building would front to both Constitution and Independence Drives and would consist of three floors with a total of approximately 34,819 gross square feet of commercial uses. In addition, the ground floor would include approximately 1,608 gross square feet of retail/commercial space allocated for a potential neighborhood benefit space that would be open to the public. The commercial office building would be a maximum of approximately 56 feet, 7 inches in height and would include an approximately 9,000 square-foot-roof deck with seating areas for use by occupants of the office building.

Open Space and Landscaping

A total of approximately 51,319 square feet of open space would be provided across the entire project site, including private residential open space, common open space, and publicly accessible open space. Private residential open space would consist of private balconies and terraces, totaling approximately 11,108 square feet. Total common open space of approximately 27,342 square feet for the project would include an approximately 9,000-square-foot roof deck at the commercial office building and the approximately 8,342-square-foot amenity decks on the third floor of the residential building.

The City's Zoning Ordinance requires a minimum of approximately 6.25 percent (8,722 square feet) of the project site to be publicly accessible open space. Approximately 9 percent of the project site would consist of publicly-accessible open space, including the approximately 12,870-square-foot central plaza on the ground floor between the residential and commercial office buildings that would provide access to Constitution Drive.

All of the existing 13 trees on the project site would be removed. Approximately 20 new trees would be planted on the project site, including between both buildings and along Independence Drive and Constitution Drive. In addition, landscaping would be provided throughout the project site in the open space areas mentioned above. Figure 1-14 shows the conceptual landscape plan for the ground floor, and Figure 1-15 shows the conceptual landscape plans for the third floor and roof.

Access, Circulation and Parking

Pedestrian access to the proposed buildings would be provided by Independence Drive and Constitution Drive and from within the site interior. The residential building would include two residential lobbies on the ground floor; one near the Constitution Drive entrance and another near the Independence Drive entrance. The residential units would be accessed via a stairwell and two elevators within either lobby, or via stairwells located adjacent to the plaza between the two buildings. The central plaza would provide access to both buildings.

The residential building would include an at-grade, two-level, approximately 93,716-square-foot, 324-space parking garage.[12] The first level of the parking garage would include approximately 226 parking spaces in a stacker parking system while the second level would include approximately 98 standard parking spaces.

[12] One parking space per residential unit is required to be provided; however, the residential parking garage would include 11 fewer parking spaces. The reduced parking would be incorporated into the residential building parking garage and would not affect the commercial building parking.

Approximately 320 parking spaces would be designated for residents, and 4 would be designated as visitor parking. The parking garage for the residential building would be accessed via a ramp located along Constitution Drive to the north or Independence Drive to the south of the building. A total of 528 bicycle parking spaces would be provided throughout the residential building, consisting of 480 long-term spaces located in a storage room on the ground floor and 48 short-term parking spaces located along Constitution Drive and Independence Drive and throughout the central plaza.

The commercial office building would also include an at-grade, two-level approximately 42,338 square foot parking garage. Across both levels, the parking garage at the commercial office building would include approximately 93 standard parking spaces. A total of 24 bicycle parking spaces would be included at the commercial office building with 12 long-term spaces at the office garage and 12 short-term spaces located near the commercial office building entry. The parking garage for the commercial office building would be accessed via a ramp located along Independence Drive at the west side of the building.

Utilities, Infrastructure and Easements

The project site is located in an urban area with existing utilities and infrastructure. The proposed project would be required to install the following utility connections to the satisfaction of the applicable utility providers: water; wastewater; stormwater drainage; power; and telecommunications services. The proposed buildings would be required to be all electric and no natural gas connections would be installed. Connections to existing infrastructure would occur within the adjacent public right-of-way. The proposed project would incorporate drought-tolerant, non-invasive plants, efficient irrigation, and low-flow fixtures.

The existing project site includes approximately 126,700 square feet of impervious surfaces and approximately 12,800 square feet of pervious surfaces. The proposed project would result in a net decrease in impervious surface coverage of approximately 1,200 square feet compared to existing conditions for a total of 125,500 square feet of impervious surface and 14,000 square feet of pervious surface.

The on-site stormwater would be collected, treated per C.3 treatment methods and conveyed to the City's storm drain main to Constitution Drive. The proposed project would increase the amount of landscaping and pervious area on-site as noted above; therefore, the amount of storm water run-off from the site is expected to decrease.

Demolition, Grading and Construction

The proposed project would include demolition of the existing buildings and surface parking lots on the project site. Construction debris, such as old foundations, pavements, and structures, would be collected and hauled off-site for disposal. Approximately 14,300 cubic yards of demolition waste would be generated by the proposed project.

Approximately 5,000 cubic yards of soils are anticipated to be imported to the site to raise the grade to meet Federal Emergency Management Agency (FEMA) requirements. Foundation footings may extend up to 4 feet below grade.

If approved, construction of the proposed project is anticipated to begin in September 2020. The proposed project would include phased construction, which would consist of a two-month demolition phase, a three-month grading phase, and approximately 34 months of building construction. Overall, construction of the proposed project is anticipated to last approximately 37 months, and is anticipated to be fully operational and occupied by late 2023.

9. Surrounding Land Uses and Setting:

The project site is located in the northern area of the City, within the Bayfront Area near Bedwell Bayfront Park and the Bay. The Bayfront Area is generally bounded by US 101, the Bay, and the County of San Mateo, Redwood City, and East Palo Alto. The site is generally surrounded by a mix of uses, including older buildings and new construction, as depicted in Figure 1-2 and further described below. Figure 1-16 and Figure 1-17 include photos of surrounding land uses; refer to Figure 1-3 for photo viewpoint locations.

- **North of the Project Site.** The project site is bordered immediately to the north by Constitution Drive, a two-lane roadway that connects Marsh Road to the Facebook West Campus to the east. Further north of the project site is the Constitution Site of the Menlo Gateway project, which is currently under construction and anticipated to be complete in April 2020 (Photo 3); SR 84; and the Bedwell Bayfront Park, an approximately 160-acre park managed by the City.

- **East of the Project Site.** The project site is bordered to the east by commercial and light manufacturing uses (Photo 4). The Facebook campus, consisting of approximately 14 buildings along SR 84, begins approximately 0.7 mile east of the project site. Union Pacific Railroad (UPRR) tracks, commonly referred to as the Dumbarton Rail corridor, are also located just east of the Facebook campus. Across the UPRR tracks and approximately 1.2 miles east and south of the site is the Belle Haven residential neighborhood, which is generally occupied by single family residences.

- **South of the Project Site.** The project site is bordered immediately to the south by a single-story commercial office building (Photo 5). The City has received a development application, which would result in the construction of an approximately 105-unit multi-family residential building for the neighboring property of 111 Independence Drive. Further south of the site is the Independence Site of the Menlo Gateway project, which consists of multiple office buildings and an 11-story hotel. Further south is US 101 and the Marsh Road off-ramp, across which are commercial and healthcare uses.

- **West of the Project Site.** The project site is immediately bordered to the west by Independence Drive and Marsh Road, which includes on- and off-ramps to US 101 (Photo 6). Across Marsh Road are office and light manufacturing uses, as well as single- and multi-family residential uses south of US 101.

10. Other Public Agencies Whose Approval is Required (e.g., permits, financial approval, or participation agreements):

A number of permits and approvals would be required to allow development of the proposed project. As lead agency for consideration of the proposed project, the City of Menlo Park would be responsible for the majority of the approvals required for project development. Other agencies also may have some authority related the proposed project and its approvals. A list of required permits and approvals, including the discretionary actions described above, which may be required by the City and other agencies, is provided in Table 1.B.

Table 1.B: Anticipated Permits and Approvals for Project Implementation

Lead Agency	Permit/Approval
City of Menlo Park	● EIR Certification ● Use Permit ● Architectural Control ● Lot Line Adjustment ● Major Subdivision ● Lot Merger ● Heritage Tree Removal Permit ● Below Market Rate Housing Agreement
Responsible Agencies	
Pacific Gas & Electric (PG&E)	● Undergrounding of electrical infrastructure ● Approval of electric improvements and connection permits
California Department of Transportation (Caltrans)	● Review of traffic circulation effects and consultation on potential traffic improvements that may affect state highway facilities, ramps, and intersections
California Department of Toxic Substances Control (DTSC)	● Approval of Environmental Site Management Plan
California Regional Water Quality Control Board/San Mateo Countywide Water Pollution Prevention Program	● Approval of National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharge ● Approval of Environmental Site Management Plan
City/County Association of Governments	● Review of potential effects on Routes of Regional Significance
Bay Area Air Quality Management District (BAAQMD)	● Permits for onsite generators, boilers, and other utility equipment
San Mateo County Transportation Authority	● Review of potential effect on public transit
San Mateo County Environmental Health Division	● Review of onsite generators
Menlo Park Fire Protection District	● Residential Site Plan review
West Bay Sanitary District	● Approval of wastewater hookups

Source: LSA (2019).

There will be a fiscal impact analysis conducted regarding the project. In order to qualify for bonus-level development within the R-MU-B zoning district, the proposed project will also be required to complete an appraisal process to identify the value of the community amenities to be provided in exchange for the opportunity to develop at the bonus level.



Photo 3: Photo of Constitution Site of Menlo Gateway Project, as seen from Independence Drive, north of the project site



Photo 4: Photo of 111 Independence and Independence Site of Menlo Gateway Project, east of the project site.

LSA

FIGURE 1-16

Menlo Portal Project Initial Study
Photos of Surrounding Land Uses

SOURCE: LSA, 2019.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-16.ai (10/29/19)



Photo 5: Existing buildings south of the project site, as seen from Independence Drive, south of the project site.



Photo 6: Vegetated area adjacent to the Marsh Road/US 101 Interchange, west of the project site

LSA

FIGURE 1-17

Menlo Portal Project Initial Study
Photos of Surrounding Land Uses

SOURCE: LSA, 2019.

P:\CMK1903 115 Independence\PRODUCTS\IS Figures\Figure 1-17.ai (10/29/19)

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resource 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.?

A request form describing the proposed project was sent to the Native American Heritage Commission (NAHC) in West Sacramento requesting a list of tribes eligible to consult with the City, pursuant to Public Resources Code section 21080.3.1. The consultation process and its conclusion will be further discussed in the EIR.

This page intentionally left blank

2.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist in Chapter 3.0.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology/Soils	☒ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☒ Noise	☒ Population/Housing[13]	☐ Public Services
☐ Recreation	☒ Transportation	☒ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

2.1 DETERMINATION

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.

Kaitie Meador, Senior Planner

1/6/2020
Date

[13] Because the proposed project is a housing project, it is not anticipated to have potentially significant impacts on population and housing; however, this topic area is being identified to comply with the settlement agreement.

This page intentionally left blank

3.0 CEQA ENVIRONMENTAL CHECKLIST

3.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 a 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?	☐	☐	☒	☐

Pursuant to Public Resources Code Section 21099(d)(1), aesthetic impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment. A transit priority area is an area within one-half mile of a major transit stop, which is defined by Section 51064.3 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.

The nearest public transit stop to the project site is served by SamTrans Route 270 and is located approximately 0.3 miles to the west on Haven Avenue. Route 270 operates on an hourly timetable and provides access to the Redwood City Transit Center, located approximately 4.5 miles northwest of the site. The Atherton Caltrain Station is located approximately 2.8 miles south of the site; however, direct local public transit service to this station is not provided within the vicinity of the site. Facebook is currently constructing a new bus stop to serve the Chilco Campus at 180-200 Jefferson Drive, a few blocks from the project site; however, this bus stop serves buses and trams used by Facebook employees only and does not provide public transit service. Therefore, the project site is not within a transit priority area.

Although the proposed project is a residential development located on an infill site, because the project is not located within a transit priority area the proposed project's potential impacts related to aesthetics are discussed below.

a. Would the project have a substantial effect on a scenic vista? ***(Less-Than-Significant Impact)***

As stated in the ConnectMenlo Final EIR, scenic corridors are considered public views as seen along a linear transportation route and scenic vistas are views of a specific scenic feature. Scenic vistas are generally interpreted as long-range views, while scenic corridors are short-, middle-, and long-range views. The City has not designated any official scenic corridors or vistas. However, the ConnectMenlo Final EIR considered views of the Santa Cruz Mountain Range, views to the Bay, and views of the foothills and San Francisquito Creek within the City as scenic vistas.

The ConnectMenlo Final EIR determined that due to the natural topography and location of the Bayfront Area at the city's northern border, the far-field views of the Santa Cruz Mountain Range, foothills and San Francisquito Creek would not be impacted by new development occurring within the Bayfront Area. Potential building heights in the Bayfront Area, where the project site is located, could block views of the Bay and its scenic resources from various vantage points. Because the topography in the Bayfront Area is essentially flat, the views from street-level to the scenic resources are currently inhibited by existing conditions such as buildings, structures, overhead utilities, and mature trees/vegetation. The ConnectMenlo Final EIR determined that even before the height increases permitted by ConnectMenlo, the opportunity for views of scenic vistas from street-level public viewing areas was limited. Therefore, the height increases permitted with ConnectMenlo would not cause any further substantial obstruction from the street level view to any scenic resource.

The developed parcels in the Bayfront Area are not considered public Bay-viewing destination points. Public Bay-viewing destination points include the Bayfront Expressway and the San Francisco Bay Trail. No new development is planned for between the Bay and these viewing points; thus, no obstruction of views would occur under ConnectMenlo. Furthermore, potential future development would be subject to the City's existing architectural control process, in accordance with Section 16.68.020 of the Zoning Ordinance and would be required to comply with existing design standards outlined in the Zoning Ordinance. The design standards, which apply to all new construction, ensure development results in high-quality design.

Because the project site is located within a developed portion of the Bayfront Area and does not provide public views of the Bay, and because the proposed project would be subject to the City's existing architectural control process, the proposed project would have a less-than-significant impact on scenic vistas and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? ***(Less-Than-Significant Impact)***

As noted in the ConnectMenlo Final EIR, the section of Interstate 280 (I-280) within the City is considered a State scenic highway. However, the Bayfront Area is not located within the viewshed of I-280 and development in the Bayfront Area, as identified in the ConnectMenlo EIR, would have a less-than-significant impact.

Because the project site is located in the Bayfront Area, the proposed project would have a less-than-significant impact on scenic resources and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR. In addition, the existing buildings were built between 1960 and 1966 and are not considered to be historic resources, as noted in Section 3.5, Cultural Resources. Therefore, this impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

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 a 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? ***(Less-Than-Significant Impact)***

The ConnectMenlo Final EIR determined that future development occurring under ConnectMenlo would create a shift in uses in the Bayfront Area from light industrial and business park uses to office, technology, research and development, life sciences and mixed-use with multi-family residential and commercial, and involve notable changes in building intensity and height from 35 feet to 120 feet. However, given the existing commercial, industrial, and residential uses surrounding the areas of potential new growth, the development of future projects would continue to be compatible with the existing visual character and quality of the Bayfront Area and its surroundings.

The proposed project would consist of a seven-story multi-family residential building and three-story office building within the Bayfront Area with a maximum height of approximately 84 feet, 9 inches and an average height of approximately 61.02 feet. The maximum allowed average height for the project site is 62.5 feet. As noted above, the proposed project would be subject to the City's existing architectural control process, which would ensure the proposed project complies with the existing design standards outlined in the Zoning Ordinance. Therefore, the proposed project would have a less-than-significant impact related to existing visual character or quality of public views and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final 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? ***(Less-Than-Significant Impact)***

As stated in the ConnectMenlo Final EIR, the City contains many existing sources of nighttime illumination. These include street and parking area lights, security lighting, and exterior lighting on existing residential, commercial, and institutional buildings. Additional onsite light and glare is caused by surrounding land uses and traffic, specifically from US 101 and the Bayfront Expressway in the Bayfront Area. In addition to new building, security, and lighting for parking areas, buildout of the Bayfront Area would also include lighting aimed at properly illuminating the overall Bayfront Area. Additionally, new larger buildings with more exterior glazing could result in new sources of glare.

New development in the Bayfront Area, including the proposed project, would be required to comply with General Plan policies that ensure new land uses do not generate excessive light levels

that would spill on to adjacent sensitive receptors and reduce light and glare spillover from future development to surrounding land uses.

Specifically, Policy LU-2.3 requires that new development with residential units address potential compatibility issues such as light spillover. The proposed project would be required to comply with this policy as part of the site plan review and architectural control process Therefore, the proposed project would have a less-than-significant impact related to substantial light or glare and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

3.2 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. of 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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? **(No Impact)***

The ConnectMenlo Final EIR determined that impacts related to the conversion of farmland to non-agricultural uses would not occur. There are no agricultural resources located on or near the project site. The project site is classified as "Urban and Built-Up land" by the State Department of Conservation[14] and, as identified in the ConnectMenlo Final EIR, there are no agricultural resources located on or near the project site.

[14] California Department of Conservation, 2016. California Important Farmland Finder (map). Website: maps.conservation.ca.gov/dlrp/ciff (accessed October 2019).

The physical conditions on and in the vicinity of the site related to agricultural resources have not changed since certification of the ConnectMenlo Final EIR; therefore, development of the proposed project would not convert agricultural land to non-agricultural uses, would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use, or result in new or more severe impacts beyond those examined in the ConnectMenlo Final EIR.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract? ***(No Impact)***

The ConnectMenlo Final EIR determined that impacts related to existing zoning for agricultural uses or Williamson Act contracts would not occur. The project site is within the R-MU-B zoning district and is not under a Williamson Act contract.[15] The physical conditions on and in the vicinity of the site related to agricultural resources have not changed since certification of the ConnectMenlo Final EIR; therefore, development of the proposed project would not conflict with existing zoning for an agricultural use or a Williamson Act contract and would not result in new or more severe impacts beyond those examined in the ConnectMenlo Final EIR.

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))? ***(No Impact)***

The ConnectMenlo Final EIR determined that impacts related to existing zoning for forest land or timberland would not occur. The developed project site is located within an urban area in the City of Menlo Park and is within the City's R-MU-B zoning district. The physical conditions on and in the vicinity of the site related to forest land and timberland resources have not changed since certification of the ConnectMenlo Final EIR; therefore, development of the proposed project would not conflict with existing zoning for, or cause rezoning of, forest land or timberland and would not result in new or more severe impacts beyond those examined in the ConnectMenlo Final EIR.

d. Would the project result in the loss of forest land or conversion of forestland to non-forest use? ***(No Impact)***

Refer to Section 3.2.c. The proposed project would not result in the loss of forest land or conversion of forestland to non-forest uses and would not result in new or more severe impacts beyond those examined in the ConnectMenlo Final EIR.

[15] California Department of Conservation, 2012. *San Mateo County Williamson Act FY 2006/2007 (map)*. Available online at: ftp.consrv.ca.gov/pub/dlrp/wa (accessed October 2019).

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? ***(No Impact)***

Refer to Sections 3.2.a and 3.2.c. The project site is located within an existing urban environment and would not result in the extension of infrastructure into an undeveloped area, the development of urban uses on a previously undeveloped greenfield site, or other physical changes that would result in the conversion of farmland to non-agricultural uses or forest land to non-forest uses. The proposed project would not adversely affect agricultural or forestry resources and would not result in new or more severe impacts beyond those examined in the ConnectMenlo Final EIR.

3.3 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.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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. through c. ***(Potentially Significant Impact)***

The ConnectMenlo Final EIR found that future development would result in a substantial long-term increase in criteria air pollutants. The ConnectMenlo Final EIR identified Mitigation Measures AQ-2a, AQ-2b, and AQ-2b2, which require a technical assessment evaluating potential project operation- and construction phase-related air quality impacts and compliance with the Bay Area Air Quality Management District's (BAAQMD) basic control measures for reducing construction emissions. In addition, based on the proposed project's location in proximity to US 101, Marsh Road, and SR 84, and consistent with the requirements of Mitigation Measure AQ-3b from the ConnectMenlo Final EIR, a health risk assessment is required. These assessments will be completed as part of the EIR; therefore, this impact is potentially significant.

As noted in Section 3.17, a transportation evaluation will be prepared. This evaluation may identify new or more significant impacts related to transportation, and therefore air quality, than was previously analyzed in the ConnectMenlo Final EIR. Development activity associated with implementation of the proposed project could increase pollutant concentrations in Menlo Park through increased vehicle trips and construction. This increase could contribute to existing air pollution in the San Francisco Bay Area Air Basin and has the potential to exceed regional air emission thresholds established by the BAAQMD. Construction activities associated with project development, including building demolition, grading, and ground disturbance, could increase concentrations of particulate matter and could expose sensitive receptors to toxic air contaminants. Therefore, the criteria identified above for topics 3.a through 3.c are potentially significant and will be evaluated in an EIR. The EIR will recommend appropriate mitigation measures.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? ***(Less-Than-Significant Impact)***

The ConnectMenlo Final EIR concluded that buildout potential analyzed under ConnectMenlo could include potential odor sources that could affect new sensitive receptors, such as composting, greenwaste, and recycling operations; food processing; and painting/coating operations. Responses to odors are subjective, and vary by individual and type of land use. Residential and office uses are not included in Table 4.2-9 of the ConnectMenlo Final EIR, which lists uses that could be required to undergo environmental review to ensure sensitive land uses are not exposed to objectionable odors, and the proposed project would not be a source of odors. Therefore, the proposed project would not result in other emissions, such as those leading to odors, that would adversely affect a substantial number of people, and this impact would be less-than-significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

3.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
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 Wildlife 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. 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 Wildlife or U.S. Fish and Wildlife Service? **(Less-Than-Significant Impact)***

The ConnectMenlo Final EIR determined that the potential for occurrence of special-status species in developed areas is generally very remote in comparison to undeveloped lands with natural habitat that contain essential habitat characteristics for the range of species known to occur in the Menlo Park vicinity. ConnectMenlo included goals, policies, and programs and bird-safe regulations for the Bayfront Area that would help protect special-status species and birds and minimize impacts.

The project site is currently developed and does not include any sensitive habitat, nor is it located near any sensitive habitats, and therefore a project-specific baseline biological resources assessment pursuant to Mitigation Measure BIO-1 from the ConnectMenlo Final EIR would not be required.

In addition, the proposed project would be required to comply with the bird-safe design measures included in the building regulations for the Bayfront Area. Therefore, the proposed project would not result in direct or indirect adverse effects on special-status plant or wildlife species and this impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

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 Wildlife or U.S. Fish and Wildlife Service? ***(Less-Than-Significant Impact)***

As stated in the ConnectMenlo Final EIR, sensitive natural communities within the City consist of areas of coastal salt marsh vegetation in the baylands, native valley oaks in Saint's Patrick's Seminary, and possibly areas of riparian scribs and woodland along San Francisquito Creek and other drainages. The project site is currently developed and is not located within or in the immediate vicinity of one of these areas, and therefore would have a less-than-significant impact related to riparian habitat and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

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? ***(Less-Than-Significant Impact)***

The ConnectMenlo Final EIR determined that development could have a significant adverse effect on wetlands by allowing development on previously undeveloped parcels in the Bayfront Area with mapped wetlands, which are along University Avenue. The project site is currently developed and does not support any federally protected wetlands. Compliance with all applicable requirements associated with the protection of water quality in stormwater runoff would further ensure that there are no impacts to wetlands within or beyond the Bayfront Area as a result of the proposed project. Compliance with stormwater quality requirements is discussed in Section 3.10, Hydrology and Water Quality, of this Initial Study. Therefore, the proposed project would have a less than significant impact related to wetlands and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

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)***

The ConnectMenlo Final EIR determined that development and land use activities consistent with ConnectMenlo would result in a reduction in the remaining natural habitat within the City. However, most wildlife in these areas are already acclimated to human activity in the urbanized portions of the City. As noted above, the project site is currently developed and does not contain, nor is it located near, any sensitive habitats. Ornamental landscaping located throughout the project site would be removed. Vegetation and landscaping generally have the potential to support nests of common native bird species. All native birds and their nests, regardless of their regulatory status, are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code.

However, because the project site is located in a busy urban area and vegetation on the project site is limited, potential impacts to nesting birds would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

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)***

There are a total of approximately 13 existing trees on the project site, approximately 10 of which are considered heritage trees, as defined by the City's Municipal Code.[16] All existing trees on the site would be removed with the proposed project. The City's Tree Preservation Ordinance requires a permit to remove protected trees and replacement of protected trees at a 2:1 ratio. The proposed project would include the planting of a minimum of 20 new trees; therefore, the proposed project would not conflict with the City's Tree Preservation Ordinance. In addition, the proposed project would include the installation of new landscaping that would comply with Municipal Code Chapter 12.44, Water-Efficient Landscaping, and therefore would not conflict with any local policies or ordinances protecting biological resources. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final 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? ***(No Impact)***

As noted in the ConnectMenlo Final EIR, portions of the City are within the Stanford University Habitat Conservation Plan (Stanford HCP).[17] However, the Stanford HCP only applies to land owned by Stanford University. The project site is not owned by Stanford University, and therefore is not located within the boundaries of an adopted conservation plan. Therefore, the proposed project would not conflict with the provisions of a habitat conservation plan, natural community plan or other approved local, regional or State habitat conservation plan, and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

16 HortScience, 2019. *Arborist Report, Menlo Portal, Menlo Park, CA*. September 25.
17 Stanford University, 2015. *Stanford University Habitat Conservation Plan*. December 22.

3.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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? **(Less-Than-Significant Impact)***

As noted in the ConnectMenlo Final EIR, the two main categories of historical resources that are subject to adverse impacts, and that may be adversely affected by development allowed under ConnectMenlo, are historical archaeological deposits and historical architectural resources. Refer to Section 3.5.b, below for a discussion of archaeological deposits.

There are several recognized historic properties within the City; however, none of these are located within the Bayfront Area, where the project site is located. The ConnectMenlo Final EIR Mitigation Measure CULT-1 requires site-specific historic resources evaluations for individual projects that are proposed on sites with a building more than 50 years old or any site adjoining with a building more than 50 years old. The existing buildings on the project site were constructed between 1960 and 1966, and therefore meet the 50-year-old threshold. A Historic Resources Assessment prepared for the project site determined that none of the buildings appear to be eligible for listing in the National Register of Historical Places or the California Register of Historical Resources.[18] In addition, adjoining properties include buildings that are 50 years or older; however, as noted above, none of the recognized historic properties within the City are located within the Bayfront Area or within the immediate project vicinity. Therefore, the proposed project would not cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5 and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

*b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? **(Less-Than-Significant with Mitigation Incorporated)***

The ConnectMenlo Final EIR determined that it is highly improbable that archaeological deposits associated with the historic period of Menlo Park and Native American prehistoric archeological sites exist on the locations identified for future development, because these locations are concentrated on sites either already developed, and/or in close proximity to existing development, where development will have a lesser impact on historical archeological resources.

[18] FirstCarbon Solutions, 2019. *Historic Resources Assessment, Menlo Portal Multi-family Housing and Office Project, City of Menlo Park, San Mateo County, California.* September 17.

However, future projects that require substantial excavation reaching significant depths below the ground surface could result in the disturbance of unidentified subsurface materials that have the potential to contain prehistoric archaeological resources, including unrecorded Native American prehistoric archaeological sites. The ConnectMenlo Final EIR identified Mitigation Measure CULT-2a, which is presented below, to ensure this impact would be reduced to a less-than-significant level. This mitigation measure would be applicable to the proposed project and would be required to ensure that potential impacts of the proposed project to archaeological deposits would be less than significant and that no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

> **Connect Menlo Final EIR Mitigation Measure CULT-2a:** If a potentially significant subsurface cultural resource is encountered during ground disturbing activities, all construction activities within a 100-foot radius of the find shall cease until a qualified archeologist determines whether the resource requires further study. All developers in the study area shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Any previously undiscovered resources found during construction activities shall be recorded on appropriate California Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of the CEQA criteria by a qualified archeologist. If the resource is determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant. The archaeologist shall also perform appropriate technical analyses; prepare a comprehensive report complete with methods, results, and recommendations; and provide for the permanent curation of the recovered resources. The report shall be submitted to the City of Menlo Park, Northwest Information Center (NWIC), and State Historic Preservation Office (SHPO), if required.

c. Would the project disturb any human remains, including those interred outside of formal cemeteries? ***(Less-Than-Significant with Mitigation Incorporated)***

The ConnectMenlo Final EIR determined that human remains associated with pre-contact archaeological deposits could exist within the City and could be encountered at the time potential future development occurs. The associated ground-disturbing activities, such as site grading and trenching for utilities, have the potential to disturb human remains interred outside of formal cemeteries. Any human remains encountered during ground-disturbing activities are required to be treated in accordance with California Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 and the California Code of Regulations Section 15064.5(e), which state the mandated procedures of conduct following the discovery of human remains. The ConnectMenlo Final EIR identified Mitigation Measure CULT-4, which is presented below, to ensure this impact would be reduced to a less-than-significant level. This mitigation measure would be applicable to the proposed project and would be required to ensure that potential impacts of the proposed project to pre-contact human remains would be less than significant and that no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Connect Menlo Final EIR Mitigation Measure CULT-4: Procedures of conduct following the discovery of human remains have been mandated by Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 and the California Code of Regulations Section 15064.5(e) (CEQA). According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The San Mateo County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the NAHC within 24 hours, who will, in turn, notify the person the NAHC identifies as the Most Likely Descendant (MLD) of any human remains. Further actions shall be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

3.6 ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in a 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 a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation? **(Less-Than-Significant Impact)***

Energy conservation was evaluated in Section 4.15.5 of the ConnectMenlo Final EIR, consistent with CEQA Guidelines Appendix F. The ConnectMenlo Final EIR did not quantify energy demand associated with buildout of ConnectMenlo; however, a brief discussion of energy use and conservation, including the City's Climate Change Action Plan, was included. The ConnectMenlo Final EIR determined that development pursuant to ConnectMenlo would be subject to new requirements under rule making developed at the State and local level regarding greenhouse gas (GHG) emissions. Specifically, the ConnectMenlo Final EIR found that individual projects would be required to adhere to the Heavy Duty National Program, which has been adopted by the United States Environmental Protection Agency (USEPA). The Heavy Duty National Program establishes fuel efficiency and GHG emission standards in the heavy-duty highway sector, which include combination tractors (semi-trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). In addition, as required by Mitigation Measure AQ-2b1 in the ConnectMenlo Final EIR, individual development projects would be required to comply with the current BAAQMD's basic control measures for reducing construction emissions, which would also improve the energy efficiency of the project during construction.

The ConnectMenlo Final EIR determined that new development pursuant to ConnectMenlo would be constructed using energy efficient modern building materials and construction practices, in accordance with the CALGreen Building Code, the California Public Utility Commission's Long Term Energy Efficiency Strategic Plan, and Chapter 12.18 of the Menlo Park Municipal Code which contains the Green Building Ordinance. In addition, the ConnectMenlo Final EIR found that new buildings would also use new modern appliances and equipment, in accordance with the 2006 Appliance Efficiency Regulations.

As discussed in the ConnectMenlo Final EIR, implementation of ConnectMenlo inherently furthers objectives of energy conservation by focusing activities in areas of existing infrastructure and services. In addition, the Land Use, Circulation, and Open Space/Conservation elements of ConenctMenlo contain goals, policies, and programs that would require local planning and development decisions to consider impacts to energy resources.

As a part of ConnectMenlo, all new building within the Bayfront Area are required to comply with specific green building requirements for LEED certification, provide outlets for Electric Vehicle (EV) charging, provide on-site renewable energy generation, and enroll in the USEPA's Energy Star Building Portfolio Manager.

Similar to buildout of ConnectMenlo, the proposed project would increase the demand for energy during construction of the proposed project and would increase the demand for electricity and gasoline during operation of the proposed project. The proposed project would not increase the demand for natural gas as the City's reach codes would require the buildings to be all electric. The discussion and analysis provided below is based on data included in the California Emissions Estimator Model (CalEEMod) output, which is included in Appendix B.

The anticipated construction schedule for the proposed project assumes that the proposed project would be built over 37 months. The proposed project would require demolition, grading, site preparation, and building activities during construction. Construction of the proposed project would require energy for the manufacture and transportation of construction materials, preparation of the site for demolition and grading activities, and construction of the project. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. In order to increase energy efficiency on the site during project construction, the project would restrict equipment idling times to 5 minutes or less and would require construction workers to shut off idle equipment, as required by the ConnectMenlo Final EIR Mitigation Measure AQ-2b1. In addition, construction activities are not anticipated to result in an inefficient use of energy as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. Energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. Therefore, construction energy impacts would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Similar to buildout of ConnectMenlo, energy use consumed during operation of the proposed project would be associated with electricity consumption and fuel used for vehicle trips associated with the proposed project. Energy consumption was estimated for the proposed project using default energy intensities by building type in CalEEMod. In addition, the proposed buildings would be constructed to current CALGreen standards, which was included in CalEEMod inputs. Electricity usage estimates associated with the proposed project are shown in Table 3.A.

The proposed project would result in energy usage associated with gasoline to fuel project-related trips. Based on the CalEEMod analysis, the proposed project would result in approximately 5,048,812 vehicle miles traveled (VMT) per year.[19]

[19] It should be noted that a Transportation Impact Analysis (TIA) will be prepared as part of the EIR. The TIA and EIR may include a refined estimate of VMT; however, any variation in estimated VMT would not affect the analysis or conclusions related to energy as presented in this section.

The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 miles per gallon (mpg) in 1980 to 22.0 mpg in 2015.[20] Therefore, using the USEPA fuel economy estimates for 2015, the proposed project would result in the consumption of approximately 229,491 gallons of gasoline per year. Table 3.A below, shows the estimated potential increased electricity and gasoline demand associated with the proposed project.

Table 3.A: Estimated Annual Energy Use of Proposed Project

Land Use	Electricity Use (kWh per year)	Gasoline (gallons per year)
Residential	141,370	201,264
Retail	433,156	27,867
Parking Structure	260,618	0
Open Space	0	0
Total	**2,108,144**	**229,491**

Source: LSA (October 2019).

As shown in Table 3.A, the estimated potential increased electricity demand associated with the proposed project is 2,108,144 kilowatt-hours (kWh) per year. In 2017, California consumed approximately 288,614 gigawatt-hours (GWh) or 288,614,000,000 kWh.[21] Of this total, San Mateo County consumed 4,367 GWh or 4,367,541,850 kWh.[22] Therefore, electricity demand associated with the proposed project would only be approximately 0.05 percent of San Mateo County's total electricity demand.

In addition, the proposed project would result in energy usage associated with gasoline to fuel project-related trips. As shown above in Table 3.A, vehicle trips associated with the proposed project would consume approximately 229,491 gallons of gasoline per year. In 2015, vehicles in California consumed approximately 15.1 billion gallons of gasoline.[23] Therefore, gasoline demand generated by vehicle trips associated with the proposed project would be a minimal fraction of gasoline and diesel fuel consumption in California.

Consistent with ConnectMenlo requirements, the proposed project would comply with specific green building requirements for LEED certification, provide outlets for EV charging, provide on-site renewable energy generation, enroll in the USEPA's Energy Star Building Portfolio Manager, use new

[20] U.S. Department of Transportation. "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." Website: https://www.bts.gov/archive/publications/national_transportation_statistics/table_04_23/ (accessed October 2019).

[21] California Energy Commission. 2017. Energy Consumption Data Management Service. Electricity Consumption by County. Available online at: http://www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed October 2019).

[22] Ibid.

[23] California Energy Commission. 2017. California Gasoline Data, Facts, and Statistics. Available online at: http://www.energy.ca.gov/almanac/transportation_data/gasoline/ (accessed October 2019).

modern appliances and equipment, and comply with current CALGreen standards, which would help to reduce energy consumption.

The proposed project would not result in the wasteful, inefficient, or unnecessary consumption of fuel or energy and would incorporate renewable energy or energy efficiency measures into building design, equipment use, and transportation. Therefore, construction and operation period impacts related to consumption of energy resources would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? ***(Less-Than-Significant Impact)***

As previously stated, the proposed project would be required to comply with the CALGreen Code, which includes provisions related to insulation and design aimed at minimizing energy consumption. In addition, as described in the ConnectMenlo Final EIR, new development as envisioned in ConnectMenlo would be constructed using modern and energy efficient building materials and construction practices, in accordance with the CALGreen Building Code, the California Public Utility Commission's Long Term Energy Efficiency Strategic Plan, and Chapter 12.18 of the Menlo Park Municipal Code, which contains the Green Building Ordinance. In addition, the ConnectMenlo Final EIR found that new buildings would also use new modern appliances and equipment, in accordance with the 2006 Appliance Efficiency Regulations.

As discussed in the ConnectMenlo Final EIR, implementation of ConnectMenlo inherently furthers objectives of energy conservation by focusing activities in areas of existing infrastructure and services. In addition, the Land Use, Circulation, and Open Space/Conservation elements of ConnectMenlo contain goals, policies, and programs that would require local planning and development decisions to consider impacts to energy resources. As a part of ConnectMenlo, all new buildings within the Bayfront Area are required to comply with specific green building requirements for LEED certification, provide outlets for EV charging, provide on-site renewable energy generation, and enroll in the USEPA's Energy Star Building Portfolio Manager.

The ConnectMenlo Final EIR also found that future development under ConnectMenlo, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and Zoning Ordinance regulations that have been prepared to promote energy conservation and efficiency by implementing sustainable building practices and reducing automobile dependency. Furthermore, the ConnectMenlo Final EIR found that with continued implementation of the City's Climate Action Plan (CAP), compliance with the CALGreen Building Code, and the other applicable State and local energy efficiency measures cited above, significant energy conservation and savings would be realized from future development under ConnectMenlo.

In addition, as discussed in the ConnectMenlo Final EIR, as infill development, ConnectMenlo inherently furthers objectives of energy conservation related to transportation by focusing activities in areas of existing infrastructure and services. Transportation features that are priorities of ConnectMenlo promote non-motorized transportation within and to anticipated development within the Bayfront Area, as well as city-wide, thereby potentially reducing energy consumption that would otherwise be related to motorized vehicle use (i.e., automobiles).

Consistent with ConnectMenlo requirements, the proposed project would comply with specific green building requirements for LEED certification, provide outlets for electric vehicle charging, provide on-site renewable energy generation, enroll in the USEPA's Energy Star Building Portfolio Manager, use new modern appliances and equipment, and comply with current CALGreen standards, which would help to reduce energy consumption. The proposed project would also be consistent with the ConnectMenlo energy conservation policies, as noted above, and the City's Climate CAP. In addition, the project site consists of an infill site in an urban area and the proposed project would provide residential uses to help balance high job-generating uses in the project vicinity.

The proposed project would also implement Transportation Demand Management (TDM) measures, which would help reduce transportation energy usage consistent with ConnectMenlo requirements.

In addition, as indicated above, energy usage on the project site during construction would be temporary in nature and energy usage associated with operation of the proposed project would be relatively small in comparison to the State's available energy sources and energy impacts would be negligible at the regional level. Because California's energy conservation planning actions are conducted at a regional level, and because the proposed project's total impact to regional energy supplies would be minor, the proposed project would not conflict with energy conservation plans. Thus, as shown above, the proposed project would avoid or reduce the inefficient, wasteful, and unnecessary consumption of energy and would not result in any irreversible or irretrievable commitments of energy. Therefore, the proposed project would be consistent with applicable plans related to renewable energy and energy efficiency. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

3.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐

The information presented in this section is based on data and findings provided in the Preliminary Geotechnical Investigation[24] prepared for the project site, unless otherwise noted.

[24] Rockridge Geotechnical, Inc., 2018. *Preliminary Geotechnical Investigation to Support Due Diligence Evaluation, Menlo Park III, 115 Independence Drive, 104 & 110 Constitution Drive, Menlo Park, California.* October 24.

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? ***(No Impact)***

The California Supreme Court concluded in its *CBIA vs. BAAQMD* decision that "CEQA generally does not require an analysis of how existing environmental conditions will affect a project's future users or residents." With this ruling, CEQA no longer considers the impact of the environment on a project (such as the impact of existing seismic hazards on new project occupants) to be an environmental impact, unless the project could exacerbate an existing environmental hazard. The proposed project would not change existing seismic hazards and, therefore, would not exacerbate existing hazards related to surface fault rupture and seismic ground shaking. As such, the following discussions of seismic hazards related to surface fault rupture and seismic ground shaking are provided for informational purposes only.

Fault Rupture. Surface fault rupture occurs when the ground surface is broken due to fault movement during an earthquake. Fault rupture is generally expected to occur along active fault traces.

Areas susceptible to fault rupture are delineated by the California Geological Survey Alquist-Priolo Earthquake Fault Zones and require specific geological investigations prior to development to reduce the threat to public health and safety and to minimize the loss of life and property posed by an earthquake-induced ground failure.

The ConnectMenlo Final EIR determined that no Alquist-Priolo Earthquake Fault Zones have been mapped within the Bayfront Area. There are no mapped faults going through or adjacent to the project site, and the project site is not located within an Earthquake Fault Zone. The closest active fault to the project site is the San Andreas Fault, which is located approximately 6.2 miles southwest. Therefore, the proposed project would have no impact related to fault rupture and no new or more severe impacts beyond those examined in the ConnectMenlo Final EIR.

Ground Shaking. Seismic ground shaking generally refers to all aspects of motion of the earth's surface resulting from an earthquake, and is normally the major cause of damage in seismic events. The extent of ground shaking is controlled by the magnitude and intensity of the earthquake, distance from the epicenter, and local geologic conditions. The magnitude of a seismic event is a measure of the energy released by an earthquake; it is assessed by seismographs that measure the amplitude of seismic waves. The intensity of an earthquake is a subjective measure of the perceptible effects of a seismic event at a given point.

In the future, the proposed project would likely experience severe ground shaking during moderate and large magnitude earthquakes produced along the San Andreas Fault or other active Bay Area fault zones. Using information from recent earthquakes, improved mapping of active faults, ground motion modeling, and a new model for estimating earthquake probabilities, there is a 72 percent chance that at least one earthquake of Magnitude 6.7 or greater will occur in the Bay Area before

2043. The Hayward Fault, located approximately 13 miles northeast of the project site, has the highest likelihood of an earthquake greater than or equal to Magnitude 6.7 in the Bay Area, estimated at 33 percent.

The risk of ground shaking impacts is reduced through adherence to the design and materials set forth in building codes. The City of Menlo Park has adopted the 2016 California Building Code (Title 24, California Code of Regulations), which provides for stringent construction requirements on projects in areas of high seismic risk. The Preliminary Geotechnical Investigation prepared for the project site recommends seismic design parameters to be used in accordance with the 2016 California Building Code to account for earthquake ground motions.

As noted in the ConnectMenlo Final EIR, the design and construction for the proposed project is required to conform with, or exceed, current best standards for earthquake resistant construction in accordance with the most current California Building Code and with the generally accepted standards of geotechnical practice for seismic design in Northern California.

Seismic hazards cannot be completely eliminated, even with site-specific geotechnical investigation/design and advanced building practices. However, the seismic design standards of the California Building Code are intended to prevent catastrophic building failure in the most severe earthquakes currently anticipated. Therefore, compliance with current building codes would ensure that there would be no impact associated with ground shaking and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Seismic-Related Ground Failure and Liquefaction. The potential for different types of ground failure to occur during a seismic event is discussed below. As noted above, the ConnectMenlo Final EIR determined that compliance with existing regulations, including General Plan policies that have been prepared to minimize impacts related to strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landsliding, impacts related to seismic-related ground failure and liquefaction would be less than significant. Because geotechnical and soil conditions can vary by geographic location, a site-specific analysis is presented below.

> ***Liquefaction.*** Soil liquefaction is a phenomenon primarily associated with saturated soil layers located close to the ground surface. During ground shaking, these soils lose strength and acquire a "mobility" sufficient to permit both horizontal and vertical movements. Soils that are most susceptible to liquefaction are clean, loose, uniformly graded, saturated, fine-grained sands that lie relatively close to the ground surface. However, loose sands that contain a significant amount of fines (silt and clay) may also liquefy. Based on testing at the project site, some of the fine grained soils encountered with a low plasticity may be prone to liquefaction settlement. Total settlement that could occur at the ground surface as a result of liquefaction is estimated to range from approximately 0.25 to 0.75 inches.
>
> The Preliminary Geotechnical Investigation provided a preliminary recommendation that the proposed buildings be supported on a shallow foundation system bearing on a ground improvement system. Final grading, foundation, and building plans must be designed in accordance with the California Building Code, which requires preparation of and compliance with the recommendations of a site-specific geotechnical investigation. These designs would

include measures that would address the potential for differential settlement related to liquefaction. Therefore, compliance with the California Building Code would ensure that the potential impacts associated with liquefaction would not occur and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Lateral Spreading. Lateral spreading is a phenomenon in which surficial soil displaces along a shear zone that has formed within an underlying liquefied layer. Upon reaching mobilization, the surficial soils are transported downslope or in the direction of a free face by earthquake and gravitational forces. The project site is not susceptible to lateral spreading due to the lack of a nearby free slope face and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Surface Settlement. Settlement can occur when non-saturated, cohesionless soil is densified by earthquake vibrations. The fill and native soils above the ground water at the project site are typically composed of stiff to very stiff clays, and therefore the potential for settlement of these surface soils during a major earthquake is low. In addition, recompaction of any poorly-compacted or undocumented fills encountered during earthwork construction, as recommended by the Geotechnical Investigation, would further reduce the risk of differential compaction during a major earthquake. Therefore, the proposed project would have no impact related to surface settlement and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Landslides. Seismically-induced landslides occur as the rapid movement of large masses of soil on unstable slopes during an earthquake. The Seismic Hazard Zones mapped by the California Geological Survey (CGS) delineate areas susceptible to seismically-induced landslides that require additional investigation to determine the extent and magnitude of potential ground failure. According to CGS, the project site is not located within a Seismic Hazard Zone for seismically-induced landslides.[25] Therefore, the proposed project would have no impact related to landslides and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

b. Would the project result in substantial soil erosion or the loss of topsoil? ***(Less-Than-Significant Impact)***

The Geotechnical Investigation does not identify topsoil on the project site. The project site is developed and has been mapped as an "urban land" area by the Natural Resources Conservation Service.[26] Areas designated as "urban land" have essentially no exposed soil and are covered by streets, parking lots, buildings, and other structures. The redevelopment of the project site would involve demolition and construction activities, such as grading and excavation, which could result in temporary soil erosion when the disturbed soils are exposed to wind or rainfall. However, this would be temporary and limited to the period of grading. Upon completion of construction, the project site would be covered with structures, pavement, and landscaping and would not include areas of

[25] California Geological Survey, 2006. *Seismic Hazard Zones; Palo Alto Quadrangle.* October 18.
[26] Natural Resources Conservation Service. Web Soils Survey, USDA Mapping. Website: websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (accessed October 2019).

exposed soil. In addition, the ConnectMenlo Final EIR determined that compliance with the City's Engineering Division's Grading and Drainage Control Guidelines would reduce the impacts from erosion and the loss of topsoil to the extent practicable. Therefore, the proposed project would result in less-than-significant impacts related to soil erosion or loss of top soil and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final 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? ***(Less-Than-Significant Impact)***

As previously discussed in Section 3.7.a, above, the soils at the project site are susceptible to liquefaction and seismically-induced settlement, but they are not susceptible to lateral spreading or landslides. As noted in the ConnectMenlo Final EIR, the proposed project's required compliance with the California Building Code would reduce the potential risks to people and structures as a result of liquefaction and seismically-induced settlement to a less-than-significant level and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Subsidence. Subsidence or collapse can result from the removal of subsurface water resulting in either catastrophic or gradual depression of the surface elevation of the project site. Since the proposed project would connect to the Menlo Park Municipal Water (MPMW) water system, groundwater extraction that could potentially result in subsidence is not expected on the project site and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Consolidation. Consolidation of soils is a process by which the soil volume decreases as water is expelled from saturated soils under static loads. As the water moves out from the pore space of the soil, the solid particles realign into a denser configuration that results in settlement. Consolidation typically occurs as a result of new buildings or fill materials being placed over compressible soils.

Final grading, foundation, and building plans must be designed in accordance with the California Building Code. These designs would include foundation alternatives, such as conventional shallow spread footing foundations combined with ground improvement methods (e.g., Geopiers or drilled displacement columns) or deeper foundation options (e.g., auger-cast piles) to transfer structural building loads to deeper, dense supporting strata below the soft, compressible clay layers onsite. Therefore, compliance with the existing building codes would ensure that the potential impacts associated with consolidation would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final 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? ***(Less-Than-Significant Impact)***

Expansive soils are characterized by the potential for shrinking and swelling as the moisture content of the soil decreases and increases, respectively. Shrink-swell potential is influenced by the amount and type of clay minerals present and can be measured by the percent change of the soil volume.

The ConnectMenlo Final EIR determined that expansive soils are most prevalent in the neighborhoods that lie closest to the Bay. Testing at the project site determined that the near-surface soils encountered at the project site are highly expansive and subject to expansion and contraction during wetting/drying cycles.

As stated in the ConnectMenlo Final EIR, final grading, foundation, and building plans must be designed in accordance with the California Building Code. As noted in Section 3.7.a, the City has adopted the 2016 California Building Code, and the proposed project would be required to comply with the current code in effect, which includes the City's recently adopted reach code. Project designs would include measures to excavate the existing soils that are susceptible to expansion and either replace the materials with engineered fill or further evaluate the possible reuse of the materials as engineered fill.

Compliance with the existing building codes would ensure that the potential impacts associated with expansive soils would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final 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? ***(No Impact)***

The project site would be served by a wastewater conveyance system maintained by the West Bay Sanitary District (WBSD). Wastewater from the WBSD's collection system is conveyed to the Silicon Valley Clean Water (SVCW) Waste Water Treatment Plant (WWTP) in Redwood Shores. Development of the proposed project would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, the proposed project would have no impact related to septic tanks or alternative waste water disposal systems and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ***(Less-Than-Significant with Mitigation Incorporated)***

The ConnectMenlo Final EIR determined that no known fossils or unique paleontological resources or unique geologic features are present within the study area; however, geological formations underlying Menlo Park have the potential for containing paleontological resources (i.e., fossils).[27] Demolition, site preparation, and construction activities associated with the proposed project could reach significant depths below the ground surface where no such excavation has previously occurred and unrecorded fossils of potential scientific significance and other unique geologic features could exist. The ConnectMenlo Final EIR identified Mitigation Measure CULT-3,[28] which is presented below, to ensure this impact would be reduced to a less-than-significant level. This

[27] Menlo Park, City of, 2016a, op. cit.

[28] In December 2018, after certification of the ConnectMenlo Final EIR, the CEQA Guidelines were revised. As a part of this revision, the consideration of impacts to paleontological resources was moved from Cultural Resources to Geology and Soils. For ease of reference, this document identifies Mitigation Measures consistent with their labelling in the ConnectMenlo Final EIR.

mitigation measure would be applicable to the proposed project and would be required to ensure that potential impacts of the proposed project to paleontological resources would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

> **ConnectMenlo Final EIR Mitigation Measure CULT-3:** In the event that fossils or fossil bearing deposits are discovered during ground disturbing activities, excavations within a 50-foot radius of the find shall be temporarily halted or diverted. Ground disturbance work shall cease until a City-approved qualified paleontologist determines whether the resource requires further study. The paleontologist shall document the discovery as needed in accordance with Society of Vertebrate Paleontology standards [Society of Vertebrate Paleontology 1995]), evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The excavation plan shall be submitted to the City of Menlo Park for review and approval prior to implementation, and all construction activity shall adhere to the recommendations in the excavation plan.

3.8 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☒	☐	☐	☐

a. and b. ***(Potentially Significant Impact)***

The ConnectMenlo Final EIR identified two significant and unavoidable impacts related to GHG emissions as a result of implementation of ConnectMenlo (Impact GHG-1 and GHG-2). The ConnectMenlo Final EIR identified Mitigation Measure GHG-1, which requires the City to update its Climate Action Plan (CAP) prior to January 1, 2020. However, because there are no post-2020 federal and State measures that would assist the City in achieving the efficient target at the ConnectMenlo buildout year of 2040, these impacts remained significant and unavoidable.

Construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site operation of the proposed project (i.e., residential-based trips, including commuting) would generate GHG emissions from area and mobile sources as well as indirect emissions from sources associated with energy consumption. As noted in Section 3.17, Transportation, a transportation evaluation of the proposed project will be prepared, which could indicate more significant impacts related to transportation, and therefore GHGs, than were previously analyzed in the ConnectMenlo Final EIR. Mobile-source GHG emissions would also include project-generated vehicle trips associated with activities such as landscaping and maintenance on the project site, and other sources. Therefore, the proposed project could potentially conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. The criteria identified above for topics 3.8.a and 3.8.b will be evaluated in the EIR. Mitigation measures for project-specific impacts will be recommended if necessary.

3.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 which 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?	☐	☐	☒	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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? ***(Less-Than-Significant Impact)***

The proposed project includes the demolition of the existing structures and surface parking lots on the project site and the construction of new residential apartments, a commercial building, and associated site improvements. The ConnectMenlo Final EIR determined that these types of land uses typically do not involve transport, use, or disposal of significant quantities of hazardous materials. Generally, small quantities of hazardous materials, such as paints, cleaning chemicals, and fertilizers would be used for routine maintenance and landscaping. Therefore, a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials would not occur and potential impacts related to operational use of hazardous materials would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

During the construction period, hazardous materials such as fuel, lubricants, paint, sealants, and adhesives would be transported to and used at the project site. However, compliance with existing regulations that govern the transportation of hazardous materials and the use and disposal of such materials would ensure that the proposed project would not result in spills or leaks that could create a significant hazard to the public or the environment during and after construction by ensuring that these materials are properly handled, and if spills or leaks occur, they are properly and promptly cleaned up and the materials disposed of at an appropriate waste-handling facility. Therefore, potential impacts of the proposed project associated with routine transport, use, or disposal of hazardous materials would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final 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? ***(Less-Than-Significant with Mitigation Incorporated)***

The public and/or the environment could be affected by the release of hazardous materials from the project site into the environment by: 1) exposing workers and/or the public to potentially contaminated soil and groundwater during construction and/or operation of the project; or 2) exposing workers and/or the public to hazardous building materials (e.g., Polychlorinated Biphenyls [PCBs], lead paint, asbestos) during demolition of the existing commercial structure.

The ConnectMenlo Final EIR determined that future development associated with ConnectMenlo could occur on properties that possibly are contaminated. Future development would be required to comply with existing regulations, including General Plan policies that have been identified to minimize impacts related to accidents and spills of hazardous materials. In particular, Policy S-1.18, which requires developers to conduct an investigation of soils, groundwater and buildings affected by hazardous-material potentially released from prior land uses in areas historically used for commercial or industrial uses, and to identify and implement mitigation measures to avoid adversely affecting the environment or the health and safety of residents or new uses.

A Phase I Environmental Site Assessment (Phase I ESA) was prepared for the project site in October 2018.[29] The Phase I ESA reviewed past uses of the project site and surrounding vicinity to evaluate whether past uses or releases of hazardous materials may have impacted the project site. The Phase I ESA indicated that historical site operations included the use of chlorinated solvents. Limited subsurface investigations conducted at the site in the 1980s and 1990s indicated that volatile organic compounds (VOCs) were present above the San Francisco Regional Water Quality Control Board's (Regional Water Board) Environmental Screening Levels for residential and commercial/industrial land uses in soil, soil vapor, and groundwater. Detected VOCs include trichloroethene (TCE), dichloroethene (DCE), tricholoethane (TCA), Freon, and xylenes.

[29] Ramboll US Corporation, 2018. *Phase I Environmental Site Assessment, 104 and 110 Constitution Drive, 115 Independence Drive, Menlo Park, California.* October 22.

A Phase II ESA was prepared for the project site in October 2018.[30] The Phase II ESA found that soil samples on the project site contained concentrations of metals, organochlorine pesticides (OCPs), polychlorinated biphenyls (PCBs), total petroleum hydrocarbons (TPHs), VOCs, and polycyclic aromatic hydrocarbons (PAHs), though all levels were less than their respective ESLs for residential land use. Groundwater samples at the project site contained TCE, PCE and TPH above residential ESLs, however, these levels are lower than historical levels at and within the vicinity of the project site. No detections of VOCs in sub-slab vapor exceeded current residential ESLs. The ConnectMenlo Final EIR identified Mitigation Measures HAZ-4a and HAZ-4b, which are presented below, to ensure that impacts associated with potential exposure to hazardous soil vapor and groundwater conditions during project construction and operation would be reduced to a less-than-significant level. These mitigation measures would be applicable to the proposed project and would be required to ensure that potential impacts of the proposed project would be less than significant and that no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

> **ConnectMenlo Final EIR Mitigation Measure HAZ-4a:** Construction at the sites of any site in the City with known contamination, shall be conducted under a project-specific Environmental Site Management Plan (ESMP) that is prepared in consultation with the Regional Water Quality Control Board (RWQCB) or the Department of Toxic Substances Control (DTSC), as appropriate. The purpose of the ESMP is to protect construction workers, the general public, the environment, and future site occupants from subsurface hazardous materials previously identified at the site and to address the possibility of encountering unknown contamination or hazards in the subsurface. The ESMP shall summarize soil and groundwater analytical data collected on the project site during past investigations; identify management options for excavated soil and groundwater, if contaminated media are encountered during deep excavations; and identify monitoring, irrigation, or other wells requiring proper abandonment in compliance with local, State, and federal laws, policies, and regulations.
>
> The ESMP shall include measures for identifying, testing, and managing soil and groundwater suspected of or known to contain hazardous materials. The ESMP shall: 1) provide procedures for evaluating, handling, storing, testing, and disposing of soil and groundwater during project excavation and dewatering activities, respectively; 2) describe required worker health and safety provisions for all workers potentially exposed to hazardous materials in accordance with State and federal worker safety regulations; and 3) designate personnel responsible for implementation of the ESMP.
>
> **ConnectMenlo Final EIR Mitigation Measure HAZ-4b:** For those sites throughout the city with potential residual contamination in soil, gas, or groundwater that are planned for redevelopment with an overlying occupied building, a vapor intrusion assessment shall be performed by a licensed environmental professional. If the results of the vapor intrusion assessment indicate the potential for significant vapor intrusion into an occupied building, project design shall include vapor controls or source removal, as appropriate, in accordance with regulatory agency requirements. Soil vapor mitigations or controls could include vapor

[30] Ramboll US Corporation, 2018. *Phase II Investigation Report, 104-110 Constitution Drive and 115 Independence Drive, Menlo Park, California*. October 19.

barriers, passive venting, and/or active venting. The vapor intrusion assessment and associated vapor controls or source removal can be incorporated into the ESMP (Mitigation Measure HAZ-4a).

With implementation of the above mitigation measures, the proposed project would have a less-than-significant impact related to the release of hazardous materials into the environment and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final 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? ***(No Impact)***

The proposed project would not involve handling or emissions of acutely hazardous materials, substances, or wastes. The Tide Academy, a high school within the Sequoia Union High School District, began operation in Fall 2019 at 150 Jefferson Drive, and is located approximately 0.25-mile east of the project site. However, as noted in Sections 3.9.a and 3.9.b, the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste, and therefore no impact related to hazardous emissions within proximity to a school would occur and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

d. Would the project be located on a site which 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? ***(Less-Than-Significant Impact)***

The provisions of Government Code Section 65962.5 require the California Department of Toxic Substances Control (DTSC), the State Water Resources Control Board, the California Department of Health Services, and the California Department of Resources Recycling and Recovery (formerly the California Integrated Waste Management Board) to submit information pertaining to sites associated with solid waste disposal, hazardous waste disposal, leaking underground tank sites, and/or hazardous materials releases to the Secretary of the California Environmental Protection Agency (Cal/EPA). Based on a review of regulatory databases performed as part of the Phase I ESA prepared for the project site, including listed hazardous materials release sites compiled pursuant to Government Code Section 65962.5, the project site is listed as a hazardous materials release site related to the historical uses of the project site, including potential contaminants of concern for soil and groundwater. The Phase II ESA performed for the site confirmed these findings. However, the project site is not an active site included on the State's Hazardous Waste and Substances Site List (Cortese List), and as noted in Section 3.9.b. implementation of ConnectMenlo Final EIR Mitigation Measures HAZ-4a and HAZ-4b, would ensure the proposed would not result in the release of hazardous materials. Therefore, this impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

e. Would the project be located within an airport land use plan or, where such a plan has not been adopted, within 2 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? ***(No Impact)***

The ConnectMenlo Final EIR determined that the study area would not be subject to any airport safety hazards, and no impact would occur. The project site is located approximately 4 miles west of the Palo Alto Airport and approximately 4.5 miles east of the San Carlos Airport. The project site is not located within an airport land use plan, or within 2 miles of a public airport.[31,32] Therefore, no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? ***(Less-Than-Significant Impact)***

The ConnectMenlo Final EIR determined that implementation of ConnectMenlo does not include potential land use changes that would impair or physically interfere with the ability to implement the City's Emergency Operation Plan.

The proposed project would be consistent with the policies outlined in ConnectMenlo and would not obstruct emergency evacuation routes. The proposed project would not substantially alter the adjacent roadways and, therefore, would not be expected to impair the function of nearby evacuation routes. Therefore, the proposed project would have a less-than-significant impact on implementation of an adopted emergency response plan or emergency evacuation plan and new or more severe impacts would occur beyond those examined in the ConnectMenlo Final 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? ***(Less-Than-Significant Impact)***

As noted in the ConnectMenlo Final EIR, the City is located in a highly urbanized area, is not surrounded by woodlands or vegetation, and does not contain areas of moderate, high, or very high Fire Hazard Severity Zones for the Local Responsibility area, nor does it contain any areas of moderate, high, or very high Fire Hazard Severity for the State Responsibility area. Future development within the City, including the proposed project, would be required to comply with the existing regulations as described in Section 4.7.1.1 of the ConnectMenlo Final EIR. In particular, all development in the study area would be constructed pursuant to the California Building Code, California Fire Code, and the Menlo Park Fire Protection District Code. Therefore, because the project site is in an urban area, is not within or adjacent to a wildland fire hazard area, and would be required to comply with existing regulations, the proposed project would not expose people or structures to a significant loss, injury, or death involving wildland fires and new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

---

31 Santa Clara County Airport Land Use Commission, 2008. *Comprehensive Land Use Plan, Santa Clara County, Palo Alto Airport.* November 19.

32 City/County Association of Governments of San Mateo County, 2015. *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Carlos Airport.* October 2015.

3.10 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater 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 groundwater quality? **(Less-Than-Significant Impact)***

As noted in the ConnectMenlo Final EIR, water quality in stormwater runoff is regulated locally by the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), which includes the C.3 provisions set by the Regional Water Board. Adherence to these regulations requires new development or redevelopment projects to incorporate treatment measures, an agreement to maintain them, and other appropriate source control and site design features that reduce pollutants in runoff to the maximum extent practicable. As the project site would include more than 1 acre of ground disturbance, a SWPPP would also be required. Many of the requirements consider Low Impact Development (LID) practices such as the use of on-site infiltration through landscaping and vegetated swales that reduce pollutant loading. Incorporation of these measures can even improve existing conditions.

In addition, all projects must comply with the requirements of the City's Municipal Code Chapter 7.42, Stormwater Management Program. The City of Menlo Park Public Works Department also requires development or redevelopment projects that replace or introduce more than 10,000 square feet of impervious surfaces to prepare a Hydrology Report that requires site design measures to maximize pervious areas, source control measures to keep pollutants out of stormwater, use of construction Best Management Practices (BMPs), and post construction treatment measures. Additionally, as part of the Zoning Ordinance update, ConnectMenlo includes design standards for development in the Bayfront Area. These design standards require future development to provide on-site infiltration of stormwater runoff and implement sustainable stormwater features in open space areas.

Construction and demolition activities of the proposed project would involve disturbance, grading, and excavation of soil, which could result in temporary erosion and movement of sediments into the storm drain system, particularly during precipitation events. The potential for chemical releases is present at most construction sites due to the use of paints, solvents, fuels, lubricants, and other hazardous materials associated with heavy construction equipment. Once released, these hazardous materials could be transported to nearby surface waterways in stormwater runoff, wash water, and dust control water, potentially reducing the quality of the receiving waters. The release of sediments and other pollutants during construction and demolition could adversely affect water quality in receiving waters. In order to prevent pollution runoff during the construction period, BMPs from the SMCWPPP would be implemented. These BMPs include, but are not limited to, temporary erosion controls, performing clearing and earth moving activities only during dry weather, and storing, handling, and disposing of construction materials/wastes properly to prevent contact with stormwater.

As noted above, the proposed project would be required to comply with the City's Stormwater Management Program and would be required to prepare a Hydrology Report and a SWPPP. The proposed project would incorporate site design measures to reduce stormwater runoff during the operation period, including directing runoff onto vegetated areas, maximizing permeability by clustering development and preserving open space, and using micro-detention. In addition, the proposed project would also implement source controls to reduce pollution runoff during the operation period, including marking on-site inlets with the words "No Dumping! Flows to Bay," plumbing interior parking garage floor drains to the sanitary sewer and providing landscaping that is drought and/or disease resistant and minimizes runoff.

Compliance with existing stormwater control regulations, preparation of a SWPPP, and implementation of site design measures, source control measures, and BMPs would reduce potential construction and operation phase impacts on water quality to a less-than-significant level and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

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? ***(Less-Than-Significant Impact)***

As noted in the ConnectMenlo Final EIR, the San Mateo Subbasin of the Santa Clara Valley Groundwater Basin underlies the City. Development throughout the City associated with implementation of ConnectMenlo could result in an overall decrease in groundwater recharge through the increase in impervious surfaces or dewatering during the construction phase.

The proposed project would result in a decrease of impervious surfaces on the project site from 126,700 square feet of existing impervious surface coverage to 125,500 square feet of impervious surface coverage. Additionally, the proposed project would include stormwater control features, as described above, that would enhance infiltration of stormwater to the subsurface and would therefore increase the amount of groundwater recharge compared to existing conditions.

The proposed project would connect to the MPMW water system and would not use groundwater at the site. Although no use of groundwater is proposed as part of the project, dewatering would likely be required during construction due to the depth of excavations performed and the shallow water table within the Bayfront Area. This dewatering would be temporary and would focus on the uppermost shallow groundwater zone (a zone that contains a relatively small amount of groundwater that is generally not utilized for water supply). Therefore, potential impacts related to depletion of groundwater supplies would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

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; or iv. Impede or redirect flood flows? ***(Less-Than-Significant Impact)***

The proposed project would not result in the alteration of the course of a stream or river, but would slightly alter the existing drainage pattern on the site with the introduction of new building footprints and surface pavements. However, the completed project would result in a decrease in impervious surface coverage compared to existing conditions and the project would reflect pre-project drainage conditions by directing runoff to the existing 24-inch storm drain main within Constitution Drive. Potential impacts associated with alteration of the existing drainage pattern are discussed below.

Erosion. As described above, the proposed project would reflect pre-project drainage conditions by directing runoff towards the corresponding City drainage facilities that currently serve the project site. As described in the ConnectMenlo Final EIR, all stormwater runoff from the project site would be treated in accordance with the City's Storm Water Management Program, ensuring that storm water is treated for sediments prior to discharge from the site, particularly during construction activities.

Consequently, the potential of the proposed project to result in substantial erosion or siltation on- or off-site associated with altering the drainage pattern of the project site would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

On- or Off-Site Flooding. As noted above, the completed project would reflect pre-project drainage conditions and would result in no net increase in the rate or amount of stormwater runoff, and therefore would not result in on- or off-site flooding. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Stormwater Runoff. As described above and in the ConnectMenlo Final EIR, all stormwater runoff from the project site would be treated in accordance with the City's Storm Water Management Program, which also requires no net increase in the rate or amount of stormwater runoff. Therefore, the proposed project would not create or contribute runoff water exceeding the capacity of the storm drain system or provide an additional source of polluted runoff. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Flood Flows. As noted in Section 3.10.d, below, the project site is located within a flood zone. However, the ground floor of each building would be raised three to five feet above grade to accommodate flood plain design requirements and each building would generally occupy the same footprint as the existing structure on the site. Additionally, as discussed above in Section 3.10.a, although the proposed project would alter the existing drainage pattern on the site, the proposed project would be required to comply with SMCWPPP requirements and implement on-site infiltration of stormwater runoff and sustainable stormwater features in open space areas, which would reduce the potential for on-site flooding to occur. Although the proposed project would alter the existing drainage pattern on the site by raising the base flood elevation, the proposed project would not impede flood flows or redirect flood flows in a manner which would result in on- or off-site flooding. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

*d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation? **(Less-Than-Significant Impact)***

The ConnectMenlo Final EIR determined that compliance with the City's existing stormwater regulations, described above, implementation of LID design guidelines, and engineering review of drainage calculations and development plans by the City's Public Works Department would ensure that there are no significant increases in peak flow rates or stormwater runoff volume.

The project site is located within a special flood zone, as mapped by FEMA, with a base flood elevation of 11 feet.[33] As noted in Section 1.0, Project Information, the grade of the project site would be raised three to five feet to meet FEMA requirements.

[33] Federal Emergency Management Agency, 2019. *National Flood Insurance Program, Flood Rate Insurance Map, San Mateo County, California.* Map No. 06081C0306F. April 5.

Therefore, because the proposed project would be elevated out of the flood zone, comply with existing stormwater regulations, and implement site design measures, source control measures, and SMCWPPP's construction BMPs, the proposed project would not risk release of pollutants due to project inundation. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? ***(Less-Than-Significant Impact)***

As noted above, the proposed project would be required to comply with the City's existing stormwater regulations, and would include implementation of site design measures, source control measures, and SMCWPPP's construction BMPs. In addition, the proposed project would connect to the MPMW water system and would not use groundwater at the site, and would raise the grade of the site out of the flood zone. Therefore, the proposed project would not conflict or obstruct the implementation of a water quality control plan or sustainable groundwater management plan. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

3.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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? **(Less-Than-Significant Impact)***

The physical division of an established community typically refers to the construction of a physical feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying areas. The ConnectMenlo Final EIR concluded that implementation of ConnectMenlo would not include any new major roadways or other physical features through existing residential neighborhoods or other communities that would create new barriers in the City, but rather would implement measures to increase connectivity. Therefore, because the proposed project would be consistent with ConnectMenlo, as described below, and would not substantially alter any existing roadways or include any new barriers, this impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

*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? **(Less-Than-Significant Impact)***

The project site is located within the R-MU-B zoning district. The intent of the R-MU-B district is to: 1) provide high density housing to complement nearby employment; 2) encourage mixed use development with a quality living environment and neighborhood-serving retail and services on the ground floor that are oriented to the public, and promote a live/work/play environment with pedestrian activity; and 3) blend with and complement existing neighborhoods through site regulations and design standards that minimize impacts to adjacent uses. The R-MU-B district allows for bonus level development along Independence Drive and Constitution Drive to be a maximum of 85 feet in height. Additionally, because the project site is located within a special flood zone, as noted in Section 3.10.d, an additional 10-foot increase in maximum building height is allowed, for a total maximum building height of 95 feet. As noted in Section 1.0, Project Information, the proposed project would be a maximum of approximately 84 feet, 9 inches in height and an average of approximately 61.02 feet across the project site. The proposed project would be consistent with the mix and intensity of development contemplated by ConnectMenlo. The proposed project would be generally consistent with the applicable goals, policies, and programs included in ConnectMenlo, and therefore would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigation an environmental effect.

Because it is anticipated that the transportation analysis will be released while use of Level of Service (LOS) as the threshold of significance is still legally acceptable, it is anticipated that if any mitigation is necessary to achieve compliance with goals, policies or programs of the Circulation Element relative to LOS it would be done through the transportation analysis. However, if necessary, the focused EIR will consider compliance the Circulation Element and identify mitigation if appropriate. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

3.12 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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? ***(No Impact)***

The ConnectMenlo Final EIR determined that future development associated with ConnectMenlo would not have an impact on mineral resources as there are no mineral resource recovery operations within the City. Therefore, the proposed project would have no impact related to the availability of a known mineral resource and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

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? ***(No Impact)***

Refer to Section 3.12.a. The proposed project would have no impact related to locally-important mineral resource recovery sites and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

3.13 NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 2 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? ***(Potentially Significant Impact)***

Demolition, site preparation, and construction would require the use of heavy construction equipment including pile drivers, bulldozers, scrapers, loaders, excavators, cranes, and trucks could have a potentially significant noise impact. Demolition and site preparation phases are typically the loudest phases of construction due to the types of equipment used. There are sensitive receptors within 200 feet of the project site, which could be exposed to construction period noise. The ConnectMenlo Final EIR identified Mitigation Measure NOISE-1c, which is presented below, to ensure that construction-period noise impacts would be reduced to a less-than-significant level.

> **ConnectMenlo Final EIR Mitigation Measure NOISE-1c:** Project applicants for all development projects in the city shall minimize the exposure of nearby properties to excessive noise levels from construction-related activity through CEQA review, conditions of approval and/or enforcement of the City's Noise Ordinance. Prior to issuance of demolition, grading, and/or building permits for development projects, a note shall be provided on development plans indicating that during on-going grading, demolition, and construction, the property owner/developer shall be responsible for requiring contractors to implement the following measures to limit construction-related noise:
>
> - Construction activity is limited to the daytime hours between 8:00 a.m. to 6:00 p.m. on Monday through Friday, as prescribed in the City's municipal code.
> - All internal combustion engines on construction equipment and trucks are fitted with properly maintained mufflers, air intake silencers, and/or engine shrouds that are no less effective than as originally equipped by the manufacturer.

- Stationary equipment such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses.
- Stockpiling is located as far as feasible from nearby noise-sensitive receptors.
- Limit unnecessary engine idling to the extent feasible.
- Limit the use of public address systems.
- Construction traffic shall be limited to the haul routes established by the City of Menlo Park.

The proposed project would be required to comply with this mitigation measure to reduce any potential impacts to a less-than-significant level.

Mitigation Measure NOISE-1a requires the preparation of an acoustical study for development of new noise-sensitive uses, which include residential uses. The ConnectMenlo Final EIR determined that transportation-related noise, including an increase in traffic level, would be less than significant with compliance with General Plan Policies N-1.6 and N-1.9 and Programs N-1.B and N-1.C. However, as noted in Section 3.17, a transportation evaluation for the proposed project will be prepared, which could result in new or more severe impacts related to transportation, and therefore transportation-related noise, than was previously analyzed in the ConnectMenlo Final EIR. The proposed project could result in an increase in ambient noise levels generated by mobile sources within and around the site, and could expose proposed and existing sensitive land uses in the surrounding neighborhood to unacceptable noise levels. Therefore, impacts related to operation-period noise would be potentially significant, and this topic will be included in the EIR. Mitigation measures for potential project-specific impacts will be recommended, as necessary.

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels? ***(Less-Than-Significant with Mitigation Incorporated)***

The proposed project would generate vibration during the construction period. The ConnectMenlo Final EIR identified Mitigation Measure NOISE-2a, which is presented below, to ensure this impact would be reduced to a less-than-significant level. This mitigation measure would be applicable to the proposed project and would be required to ensure that potential impacts of the proposed project related to the generation of vibration would be less than significant.

> **ConnectMenlo Final EIR Mitigation Measure NOISE-2a:** To prevent architectural damage citywide as a result of construction-generated vibration:
>
> - Prior to issuance of a building permit for any development project requiring pile driving or blasting, the project applicant/developer shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. The maximum levels shall not exceed 0.2 inch/second, which is the level that can cause architectural damage for typical residential construction. If maximum levels would exceed these thresholds, alternative methods such static rollers, non-explosive blasting, and drilling piles as opposed to pile driving shall be used.

To prevent vibration-induced annoyance as a result of construction-generated vibration:

- Individual projects that involve vibration-intensive construction activities, such as blasting, pile drivers, jack hammers, and vibratory rollers, within 200 feet of sensitive receptors shall be evaluated for potential vibration impacts. A vibration study shall be conducted for individual projects where vibration-intensive impacts may occur. The study shall be prepared by an acoustical or vibration engineer holding a degree in engineering, physics, or allied discipline and who is able to demonstrate a minimum of two years of experience in preparing technical assessments in acoustics and/or groundborne vibrations. The study is subject to review and approval of the Community Development Department.

Vibration impacts to nearby receptors shall not exceed the vibration annoyance levels (in RMS inches/second) as follows:

- Workshop = 0.126
- Office = 0.063
- Residential Daytime (7:00 AM – 10:00 PM) = 0.032
- Residential Nighttime (10:00 PM – 7:00 AM) = 0.016

If construction-related vibration is determined to be perceptible at vibration-sensitive uses, additional requirements, such as use of less-vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., nonexplosive blasting methods, drilled piles as opposed to pile driving, preclusion for using vibratory rollers, use of small- or medium-sized bulldozers, etc.). Vibration reduction measures shall be incorporated into the site development plan as a component of the project and applicable building plans, subject to the review and approval of the Community Development Department.

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 2 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? ***(Less-Than-Significant Impact)***

Refer to Section 3.9.e. The project site is not located within the vicinity of a private airstrip or an airport land use plan, or within 2 miles of a public use airport. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

3.14 POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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. 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)? ***(Potentially Significant Impact)***

The proposed project would result in the removal of existing office and industrial uses and construction of new residential and commercial uses on the project site. Pursuant to a settlement agreement between the cities of East Palo Alto and Menlo Park, any project located in the City's R-MU zone that includes 250,000 net new square feet or that proposes to develop at the bonus level, both of which apply to the proposed project, shall prepare an EIR with an analysis of transportation and housing impacts, at a minimum.[34] Therefore, this topic will be included in the EIR, and mitigation measures will be recommended, if necessary.

b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? ***(Less-Than-Significant Impact)***

The proposed project is not anticipated to displace substantial numbers of people, as the project itself would provide additional housing opportunities within the City. Nevertheless, as discussed above under Section 3.14.a, pursuant to a settlement agreement between the cities of East Palo Alto and Menlo Park, this topic will be further discussed in the EIR.

[34] Menlo Park, City of, 2017. *Staff Report Number 17-305-CC*. December 5.

3.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. 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:				
i. Fire protection?	☐	☐	☒	☐
ii. Police protection?	☐	☐	☒	☐
iii. Schools?	☐	☐	☒	☐
iv. Parks?	☐	☐	☒	☐
v. Other public facilities?	☐	☐	☒	☐

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: i. Fire protection? ii. Police protection? iii. Schools? Iv. Parks? V. Other public facilities? ***(Less-Than-Significant Impact)***

The following section addresses the proposed project's potential effects on: fire service, police service, schools, parks, and other public facilities. Impacts to public services would occur if the propose project increases demand for services such that new or expanded facilities would be required, and these new facilities would themselves cause environmental impacts.

Fire Protection. The ConnectMenlo Final EIR states that future development throughout the City pursuant to ConnectMenlo would be required to comply with existing regulations, including General Plan policies and Zoning Ordinance regulations that have been prepared to minimize impacts related to fire protection services and the need for new facilities throughout the City. In particular, General Plan Policy S-1.30 requires coordination with the Menlo Park Fire Protection District (MPFPD), which provides fire protection services throughout the City, in the planning process and requires all development applications to be reviewed and approved by the MPFPD prior to approval.

Primary service to the project site would be provided by Station 77, which is located at 1467 Chilco Street. This station is located approximately 1.3 miles west of the project site. Station 77 houses one engine company and is continually staffed by three firefighting personnel.[35]

As noted in the ConnectMenlo Final EIR, ConnectMenlo does not in and of itself require the expansion of Station 77. The expansion of Station 77 was already planned and budgeted for prior to ConnectMenlo. Station 5 would also serve the project site and is located approximately 2 miles south of the project site. Station 5 also houses one engine company and is continually staffed by three firefighting personnel.

Consistent with the ConnectMenlo Final EIR ongoing compliance with State local laws, compliance with the MPFPD permitting process, and payment of applicable development fees would ensure that impacts of new development related to the need for remodeled or expanded MPFPD facilities would be less-than-significant. Because the proposed project would comply with all applicable laws and would also be required to pay all applicable fees, the proposed project would not result in the need for remodeled of expanded MPFPD facilities. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Police Protection. The ConnectMenlo Final EIR states that future development pursuant to ConnectMenlo would be required to comply with existing regulations, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to police protection services. The Menlo Park Police Department (MPPD) indicated that full buildout of ConnectMenlo would require an additional 17 police officers to maintain a staffing ratio of 1.29 officers per 1,000 residents. However, the MPPD confirmed that no expansion or addition of facilities would be required to accommodate the additional sworn officers or equipment.

In addition, as part of the Zoning update, ConnectMenlo includes TDM standards for development in the Bayfront Area. These TDM standards require future development to reduce associated vehicle trips to at least 20 percent below standard generation rates. Each individual project sponsor will be required to prepare a TDM and provide an impact analysis to the satisfaction of the City's Transportation Manager. The reduction in trips would help to alleviate roadway congestion that could interfere with MPPD access and response times.

The MPPD has indicated that it can address maintaining adequate response times through staffing, rather than facility expansion, and therefore it was determined that implementation of ConnectMenlo would result in a less-than-significant impact related to the need for remodeled or expanded MPPD facilities. Therefore, because the proposed project is consistent with the type and intensity of development anticipated in the ConnectMenlo Final EIR, the proposed project would not result in the need for remodeled or expanded MPPD facilities. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

[35] Menlo Park Fire Protection District, 2019. Stations (map). Website: www.menlofire.org/maps/stations (accessed October 2019).

Schools. The ConnectMenlo Final EIR determined that any development associated with ConnectMenlo would be subject to payment of development impact fees, which under Senate Bill 50 (SB 50) are deemed to be full and complete mitigation. In addition, future development would be required to comply with existing regulations, including General Plan policies and Zoning regulations that have been prepared to minimize impacts related to schools. Therefore, because the proposed project would comply with existing regulations prepared to minimize impacts related to schools and would be subject to the mandatory payment of developer impact fees pursuant to SB 50, the proposed project would have a less-than-significant impact related to the need for remodeled or expanded school facilities and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Parks. Refer to Section 3.16.a. The proposed project would be consistent with the type and intensity of development and population projections assumed for the project site in ConnectMenlo and would include private and public open space, and therefore the proposed project would not result in substantial or accelerated physical deterioration of recreational facilities. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Other Public Facilities. The ConnectMenlo Final EIR determined that future development, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies that have been prepared to minimize impacts related to public facilities. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the adoption of development impact fees to address infrastructure and service needs in the community. Therefore, because the proposed project would be required to pay development impact fees, impacts related to the need for remodeled or expanded public facilities would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

3.16 RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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? **(Less-Than-Significant Impact)***

The ConnectMenlo Final EIR determined that the increase in residents associated with future development under ConnectMenlo would lead to an increase in the demand for recreational opportunities and facilities within the City. However, the demand would be distributed throughout the City. The City has an adopted goal of maintaining a ratio of 5 acres of developed parkland per 1,000 residents. At full buildout, with an estimated population of approximately 14,150 new residents, the ratio of parkland per 1,000 residents would be approximately 5.2 acres.

In addition to the existing parkland within the City, the proposed project would include a total of 53,675 square feet of open space, which would include common courtyards, a roof terrace, a pool, landscaping, and a publicly-accessible plaza, which would make up approximately 9 percent of the project site. Therefore, because the proposed project would be consistent with the type and intensity of development and population projections assumed for the project site in ConnectMenlo and would include private and public open space, the proposed project would not result in substantial or accelerated physical deterioration of recreational facilities. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

*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? **(No Impact)***

The proposed project would include redevelopment of the project site with residential and commercial uses. The proposed project does not include or require the construction or expansion of existing public recreational facilities. Therefore, development of the proposed project and associated recreational opportunities for use by project residents and commercial tenants would not result in additional environmental effects beyond those described in this document and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

3.17 TRANSPORTATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 §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. through d. ***(Potentially Significant Impact)***

The ConnectMenlo Final EIR identified significant and unavoidable impacts related to increased delays of peak hour motor vehicle traffic at some study intersections and to routes of regional significance. Per Mitigation Measure TRANS-1b, new development would be required to contribute fair share contributions to the City's updated Transportation Impact Fee (TIF) program (once adopted) to guarantee funding for identified roadway and infrastructure improvements. Any project proposed prior to the adoption of an updated TIF is required to conduct a project-specific Transportation Impact Analysis (TIA) to determine the impacts and necessary transportation mitigations that are to be funded by that project. Regardless of whether the TIF has been updated, the settlement agreement, as noted in Section 1.0, Project Information, requires a transportation analysis to be completed.

A transportation evaluation will be prepared for the proposed project and will be included in the EIR. The EIR is currently anticipated to include an analysis of 15 intersections, as follows:

1. Marsh Road and Bayfront Expressway (State)
2. Marsh Road and US-101 NB Off-Ramp (State)
3. Marsh Road and US-101 SB Off-Ramp (State)
4. Marsh Road and Scott Drive (Menlo Park)
5. Marsh Road and Bay Road (Menlo Park)
6. Marsh Road and Middlefield Road (Atherton)
7. Marsh Road and Florence Street-Bohannon Drive (Menlo Park)

8. Chrysler Drive and Bayfront Expressway (State)
9. Chrysler Drive and Constitution Drive (Menlo Park)
10. Chrysler Drive and Jefferson Drive (Menlo Park)
11. Chrysler Drive and Independence Drive (Menlo Park)
12. Chilco Street and Bayfront Expressway (State)
13. Chilco Street and Constitution Drive (Menlo Park)
14. Willow Road and Bayfront Expressway (State)
15. University and Bayfront Expressway (State)

The analysis will also consider impacts related to vehicular, bicycle, pedestrian, and transit facilities and access. Mitigation measures will be recommended if necessary.

3.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. 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:				
i. 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	☒	☐	☐	☐
ii. 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. 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: i. 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 ii. 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. ***(Potentially Significant Impact)***

As noted in the ConnectMenlo Final EIR, no tribal cultural resources have been identified in the Bayfront Area. However, as noted in Section 3.5, Cultural Resources, impacts from future development in the study area could impact unknown archeological resources including Native American artifacts and human remains. Impacts would be reduced to less-than-significant levels with implementation of Mitigation Measures CULT-2a and CULT-4 from the ConnectMenlo Final EIR.

AB 52 provides for consultation between lead agencies and Native American tribal organizations during the CEQA process. Prior to the release of an Environmental Impact Report or Negative Declaration/Mitigated Negative Declaration for public review, a lead agency must provide the opportunity to consult with local tribes.

A request form describing the proposed project was sent to the NAHC in West Sacramento requesting a list of tribes eligible to consult with the City, pursuant to Public Resources Code section 21080.3.1. On May 24, 2019, the NAHC responded in a letter with a list of tribal contacts. The City sent a letter providing the opportunity for consultation pursuant to AB 52 for the project to these individuals. No requests for consultation have been received to date. The consultation process and its conclusion will be further discussed in the EIR. Mitigation measures will be recommended if necessary.

3.19 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater 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?	☐	☐	☒	☐
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 stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? **(Less-Than-Significant Impact)***

Domestic Water. As noted in the ConnectMenlo Final EIR, the MPMW receives 100 percent of its potable water from the San Francisco Public Utilities Commission (SFPUC). The City does not own or operate a water treatment plant (WTP). The water purchased from the SFPUC may be treated at one or more WTPs operated by SFPUC. SFPUC periodically makes improvements to its WTPs in order to improve system reliability and accommodate projected growth in its regional service areas. As noted above, the proposed project would be consistent with the type and intensity of development and population projections assumed for the project site in ConnectMenlo. In addition, the West Bay Sanitary District (WSB) plans to build a Recycled Water Facility that would provide the ConnectMenlo area with recycled water, which would further reduce demand for water from SFPUC.[36] Therefore, the proposed project would not prompt a need to expand treatment facilities or regional water system conveyance and storage facilities. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

[36] West Bay Sanitary District, 2019. *Bayfront Recycled Water Facilities Plan*. February.

The proposed project would connect to existing water delivery systems within the vicinity of the project site. It is anticipated that these pipelines would have sufficient capacity to support delivery of water to the proposed project. However, as noted in Table 1.A, the project sponsor would be required to coordinate with the City and the MPFPD to assess water flow requirements, and ensure the existing water delivery infrastructure is sufficient to serve the proposed project.

Wastewater. As noted in the ConnectMenlo Final EIR, the SVCW WWTP treats raw wastewater from the City and discharges to the deep water channel of the Bay. The SVCW WWTP has an average dry weather design flow of 29 million gallons per day (MGD) and a peak wet weather flow of 71 MGD. In general, conveyance systems and treatment plants are designed and constructed to accommodate future capacity expansion including additional base flows due to approved growth plus estimated wet weather flows. The ConnectMenlo Final EIR determined that the increase in wastewater flows from implementation of ConnectMenlo would add to the capacity demands on the WWTP and its conveyance system, however, the effect is not substantial and would be integrated into the ongoing planning and budgeting processes to improve the conveyance system, treatment processes and capacity. As noted above, the proposed project would be consistent with the type and intensity of development and population projections assumed for the project site in ConnectMenlo. Therefore, the proposed project would not prompt a need to expand the SVCW WWTP. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

The proposed project would connect to the existing sanitary sewer systems within the vicinity of the site. It is anticipated that these pipelines would have sufficient capacity to support the proposed project's wastewater flows. However, as noted in Table 1.A, the project applicant would be required to coordinate with the West Bay Sanitary to assess wastewater flow requirements, and ensure the existing wastewater infrastructure is sufficient to serve the proposed project.

Stormwater Drainage. Refer to Section 3.10. The proposed project would include new connections and upgrades to the existing stormwater infrastructure within the vicinity of the site. Development of the proposed project would result in a decrease of impervious surfaces on the site from 126,700 square feet of existing impervious surface coverage to 125,500 square feet of impervious surface coverage. In addition, the proposed project would include stormwater control features, as described previously, that would reduce the total stormwater runoff from the project site. Runoff would be treated in accordance with the SMCWPPP before flowing to the City's storm drain system.

The proposed project would include the following elements to reduce the demand for and impacts to stormwater infrastructure: a landscaped area providing stormwater treatment on the western edge of ground floor; stormwater treatment systems within the central plaza; drought-tolerant landscaping; flow-through planters; and energy-efficient appliances and efficient irrigation systems. Therefore, the proposed project would not require in the relocation or construction of new stormwater drainage facilities that are not already evaluated in this document. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Electricity, Natural Gas, and Telecommunications. As noted in the ConnectMenlo Final EIR, new development under ConnectMenlo would continue to be served by Pacific Gas & Electric (PG&E) or Peninsula Clean Energy (PCE) when it commences transmission of energy over PG&E facilities. Buildout of ConnectMenlo would not significantly increase energy demands within the service territory and would not require new energy supply facilities. The proposed project would also be all-electric and would not use natural gas, pursuant to the City's recently adopted REACH Code that would apply to the proposed project. As noted above, the proposed project would be consistent with the type and intensity of development and population projections assumed for the project site in ConnectMenlo and the proposed buildings would be all electric.

Therefore, the proposed project would not prompt a need to expand electrical or natural gas facilities. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

Similar to electrical power services, the project site is already served with telecommunications infrastructure. Telecommunication service would continue to be provided to the project site with implementation of the proposed project. In addition, the proposed project would include undergrounding of existing utilities, and would be required to coordinate with the applicable telecommunications provider. Therefore, the proposed project would not require the relocation or construction of new telecommunications infrastructure beyond that which is already analyzed. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final 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? ***(Less-Than-Significant Impact)***

The ConnectMenlo Final EIR determined that there would be an increase in water demand as a result of buildout of ConnectMenlo – average daily demand would be 343 million gallons per year (MGY), which represents 21 percent of the planning level water demand forecasted in the Urban Water Management Plan (UWMP). The ConnectMenlo Final EIR concluded that water supply is adequate to meet increased demands in normal years and would be sufficient to supply the additional demand generated by the increase in development associated with implementation of ConnectMenlo.

During single- and multiple-dry years by 2040, MPMW's total annual water demand, including development associated with ConnectMenlo, is estimated to exceed total annual supply by approximately 333 MGY and 506 MGY, respectively. However, with MPMW's Water Shortage Contingency Plan in place, the shortages in multiple dry years would be managed through demand reductions of up to 50 percent.

In addition, as part of the Zoning update, ConnectMenlo includes green and sustainable building standards in the Bayfront Area. These standards require all new buildings within the Bayfront Area to be maintained without the use of well water and include dual plumbing systems for the use of potential future recycled water. Under the Zoning update, no potable water shall be used for decorative features, unless the water recirculates, and single pass cooling systems are prohibited.

Also, future development with a gross floor area of 100,000 square feet or more must submit a proposed water budget for review by the City's Public Works Director prior to certification of occupancy. The ConnectMenlo Final EIR determined that implementation of MPMW's Water Shortage Contingency Plan and green and sustainable building standards would ensure this impact would be less than significant.

As noted above, the proposed project would be consistent with the type and intensity of development and population projections assumed for the project site in ConnectMenlo. Therefore, there would be sufficient water supplies available to serve the proposed project and reasonably foreseeable future development during normal, single- and multiple-dry years.

This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

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? ***(Less-Than-Significant Impact)***

As noted above, the SVCW WWTP has an average dry weather design flow of 29 MGD and a peak wet weather flow of 71 MGD. The SVCW WWTP has an average currently dry weather flow of 16 MGD. The ConnectMenlo Final EIR determined that full buildout of ConnectMenlo would result in an estimated net increased wastewater generation rate of 309 MGY, or 0.85 MGD, which would not be significant relative to currently available excess dry weather design capacity flow of 13 MGD.

The proposed project would be consistent with the type and intensity of development and population projections assumed for the project site in ConnectMenlo. Therefore, there would be sufficient wastewater treatment capacity available to serve the proposed project's projected demand in addition to the provider's existing commitments. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

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? ***(Less-Than-Significant Impact)***

As noted in the ConnectMenlo Final EIR, the majority (approximately 74.4 percent or 21,658 tons) of solid waste from the City is transported to the Corinda Los Trancos Landfill (Ox Mountain Landfill). The three other landfills that received the second, third, and fourth most waste accounted for 20.5 percent (or 5,966 tons) combined. The ConnectMenlo Final EIR determined that the estimated additional solid waste generated by development associated with implementation of ConnectMenlo would be approximately 58.3 tons per day, which represents less than 1.5 percent of the daily capacity of the Ox Mountain Landfill, and less than 2 percent of the permitted daily capacity of the landfill with the smallest daily capacity that could receive waste as a result of implementation.

The ConnectMenlo Final EIR determined that the Ox Mountain Landfill is likely to reach its permitted maximum capacity prior to 2040 (the anticipated buildout horizon for implementation of ConenctMenlo). However, the other three landfills that serve the City are not estimated to close until 2048, 2077, and 2107. In addition, there are 15 other landfills that received waste from Menlo Park in 2014. If one or more of the four landfills were unavailable in the future, it is likely the City's solid waste volume would be increased at one or more of the other landfills that already serve the City.

As a part of the Zoning Update, ConnectMenlo includes green and sustainable building standards in the Bayfront Area that require all applicants to submit a zero-waste management plan to the City. The zero-waste management plan must clearly outline the applicant's plan to reduce, recycle, and compost waste from demolition, construction and occupancy phases of the building. Zero waste is defined as 90 percent overall diversion of non-hazardous waste from landfill and incineration.

The proposed project would be consistent with the type and intensity of development and population projections assumed for the project site in ConnectMenlo and would be required to comply with existing regulations related to solid waste. Therefore, there would be solid waste capacity available to serve the proposed project. This impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste? ***(Less-Than-Significant Impact)***

Refer to Section 3.19.d. The proposed project would comply with all federal, State, and local solid waste statutes and/or regulations related to solid waste and this impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

3.20 WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan? ***(Less-Than-Significant Impact)***

The ConnectMenlo Final EIR determined that the Bayfront Area, which includes the project site, does not contain areas of moderate, high, or very high Fire Hazard Severity for the Local Responsibility area, nor does it contain any areas of moderate, high, or very high Fire Hazard Severity for the State Responsibility Area (SRA). In addition, as noted in Section 3.9.f, the proposed project would not impair the implementation of, or physically interfere with, and adopted emergency response plan. Therefore, this impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

b. Would the project, 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? ***(No Impact)***

Refer to Section 3.20.a. Additionally, as noted in Section 1.0, Project Information, the proposed project site is generally level, and is bound by existing development on all sides. Therefore, the proposed project would not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

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? ***(No Impact)***

Refer to Section 3.20.a. The proposed project is not located within an SRA for fire service and is not within a very high fire hazard severity zone. Therefore, the proposed project would not require the installation or maintenance of associated infrastructure and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

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? ***(No Impact)***

Refer to Section 3.20.a and 3.20.b. The project site is generally level and is not located within an SRA for fire service or a very high fire hazard severity zone. Therefore, the proposed project would not expose people or structures to significant risks as a result of post-fire slope instability or drainage and runoff changes and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final EIR.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
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? ***(Less-Than-Significant Impact)***

The project site consists of an infill site in an urban area. The site does not support habitat for special-status plant or animal species. With mitigation, development of the proposed project would not: 1) degrade the quality of the environment; 2) substantially reduce the habitat of a fish or wildlife species; 3) cause a fish or wildlife species population to drop below self-sustaining levels; 4) threaten to eliminate a plant or animal community; 5) reduce the number or restrict the range of a rare or endangered plant or animal; or 6) eliminate important examples of the major periods of California history or prehistory. Therefore, this impact would be less than significant and no new or more severe impacts would occur beyond those examined in the ConnectMenlo Final 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)? ***(Potentially Significant Impact)***

As discussed in this Initial Study, potentially significant impacts related to air quality, greenhouse gas emissions, noise, and transportation may result from the proposed project. These impacts, as well as any cumulatively considerable impacts that may result from the proposed project related to these

issues, will be evaluated in an EIR. In addition, the topic of population and housing will also be discussed.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? ***(Potentially Significant Impact)***

The proposed project's potential to result in environmental effects that could directly or indirectly impacts human beings have been evaluated in this Initial Study. With implementation of the recommended mitigation measures identified in the ConnectMenlo Final EIR, most environmental effects that could adversely affect human beings would be less than significant. The proposed project's potential to result in environmental effects related to transportation, air quality emissions, or noise that could directly or indirectly impact human beings will be evaluated in the EIR.

4.0 LIST OF PREPARERS

LSA Associates, Inc.
157 Park Place
Pt. Richmond, CA 94801

Theresa Wallace, AICP, Principal in Charge/Project Manager
Matthew Wiswell, Planner
Amy Fischer, Principal Air Quality/Noise Specialist
Cara Carlucci, Planner, Air Quality/GHG Specialist
Patty Linder, Graphics and Production
Charis Hanshaw, Document Management

This page intentionally left blank

5.0 REFERENCES

California Department of Conservation, 2012. San Mateo County Williamson Act FY 2006/2007 (map). Available online at: ftp.consrv.ca.gov/pub/dlrp/wa (accessed October 2019).

California Department of Conservation, 2016. California Important Farmland Finder (map). Website: maps.conservation.ca.gov/dlrp/ciff (accessed October 2019).

California Energy Commission. 2017. California Gasoline Data, Facts, and Statistics. Available online at: www.energy.ca.gov/almanac/transportation_data/gasoline/ (accessed October 2019).

California Energy Commission. 2017. Energy Consumption Data Management Service. Electricity Consumption by County. Available online at: www.ecdms.energy.ca.gov/elecbycounty.aspx. (accessed October 2019).

California Geological Survey, 2006. Seismic Hazard Zones; Palo Alto Quadrangle. October 18.

City/County Association of Governments of San Mateo County, 2015. Comprehensive Airport Land Use Compatibility Plan for the Environs of San Carlos Airport. October 2015.

Federal Emergency Management Agency, 2019. National Flood Insurance Program, Flood Rate Insurance Map, San Mateo County, California. Map No. 06081C0306F. April 5.

FirstCarbon Solutions, 2019. *Historic Resources Assessment, Menlo Portal Multi-family Housing and Office Project, City of Menlo Park, San Mateo County, California.* September 17.

Hort Science | Bartlett Consulting, 2019. Arborist Report, Menlo Portal, Menlo Park, CA. September 25.

Menlo Park, City of, 2016a. ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update, Public Review Draft Environmental Impact Report, SCH#2015062054. June 1.

Menlo Park, City of, 2016b. ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update, Response to Comments Document, SCH#2015062054. October 10.

Menlo Park, City of, 2016c. General Plan: ConnectMenlo, Menlo Park Land Use and Mobility Update. November 29.

Menlo Park, City of, 2017. Staff Report Number 17-305-CC. December 5.

Menlo Park, City of, 2019. City of Menlo Park GIS Viewer. Available online at: cmpweb2.menlopark.org/Html5Viewer/Index.html?configBase=https://cmpweb2/Geocortex/Essentials/REST/sites/Menlo_Park/viewers/MPGVH/virtualdirectory/Resources/Config/Default (accessed March 13, 2019).

Menlo Park, City of, 2019. Menlo Park Municipal Code. January 15.

Menlo Park Fire Protection District, 2019. Stations (map). Website: www.menlofire.org/maps/stations (accessed October 2019).

Menlo Park Portal Venture, LLC, 2019. City of Menlo Park Development Permit Application for the Menlo Portal Project. May 20.

Natural Resources Conservation Service. Web Soils Survey, USDA Mapping. Website: websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (accessed October 2019).

Ramboll US Corporation, 2018. *Phase I Environmental Site Assessment, 104 and 110 Constitution Drive, 115 Independence Drive, Menlo Park, California.* October 22.

Ramboll US Corporation, 2018. *Phase II Investigation Report, 104-110 Constitution Drive and 115 Independence Drive, Menlo Park, California*. October 19.

Rockridge Geotechnical, Inc., 2018. *Preliminary Geotechnical Investigation to Support Due Diligence Evaluation, Menlo Park III, 115 Independence Drive, 104 & 110 Constitution Drive, Menlo Park, California.* October 24.

Santa Clara County Airport Land Use Commission, 2008. Comprehensive Land Use Plan, Santa Clara County, Palo Alto Airport. November 19.

Stanford University, 2015. Stanford University Habitat Conservation Plan. December 22.

U.S. Department of Transportation. "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." Website: www.bts.gov/archive/publications/national_transportation_statistics/table_04_23/ (accessed October 2019).

West Bay Sanitary District, 2019. *Bayfront Recycled Water Facilities Plan*. February.

APPENDIX A

CONNECTMENLO FINAL EIR: MITIGATION MONITORING AND REPORTING PROGRAM

This page intentionally left blank

Mitigation Monitoring or Reporting Program

This Mitigation Monitoring or Reporting Program (MMRP) has been prepared for the proposed Menlo Park General Plan (Land Use & Circulation Elements) and M-2 Area Zoning Update (proposed project). The purpose of the MMRP is to ensure the implementation of mitigation measures identified as part of the environmental review for the proposed project. The MMRP includes the following information:

- The full text of the mitigation measures;
- The party responsible for implementing the mitigation measures;
- The timing for implementation of the mitigation measure;
- The agency responsible for monitoring the implementation; and
- The monitoring action and frequency.

The mitigation measures in this MMRP shall be applied to all future development anywhere in the city unless otherwise specified in the specific mitigation measure. The City of Menlo Park must adopt this MMRP, or an equally effective program, if it approves the proposed project with the mitigation measures that were adopted or made conditions of project approval.

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
Air Quality						
AQ-2a: Prior to issuance of a building permits, all development projects in the city that are subject to CEQA and exceed the screening sizes in the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines shall prepare and submit to the City's Planning Division a technical assessment evaluating potential project-related operational air quality impacts. The evaluation shall be prepared in conformance with the BAAQMD methodology for assessing air quality impacts. If operational-related criteria air pollutants are determined to have the potential to exceed the BAAQMD thresholds of significance, as identified in BAAQMD's CEQA Guidelines, the project applicant is required to incorporate mitigation measures into the development project to reduce air pollutant emissions during operation. The identified measures shall be incorporated into all appropriate construction documents, subject to the review and approval of the Planning Division prior to building permit issuance.	Project applicant	During the building permit and site development review process and prior to permit issuance	City of Menlo Park Planning Division	Plan review and approval	Once for the preparation of the technical assessment	Initials:_____ Date:_____
AQ-2b1: Prior to building permit issuance, the City shall require applicants for all development projects in the city to comply with the current Bay Area Air Quality Management District's (BAAQMD) basic control measures for reducing construction emissions of PM10 (Table 8-1, Basic Construction Mitigation Measures Recommended for All Proposed Projects, of the BAAQMD CEQA Guidelines).	Project applicant	During the building permit and site development review process and prior to permit issuance	City of Menlo Park Planning Division	Plan review and approval	Prior to approval and during scheduled site visits	Initials:_____ Date:_____
AQ-2b2: Prior to issuance of a building permit, development projects in the City that are subject to CEQA and exceed the screening sizes in the BAAQMD's CEQA Guidelines shall prepare and submit to the City of Menlo Park a technical assessment evaluating potential project construction-related air quality impacts. The evaluation shall be prepared in conformance with the BAAQMD methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the BAAQMD thresholds of significance, as	Project applicant	During the building permit and site development review process and prior to permit issuance	City of Menlo Park Planning Division	Plan review and approval	Once for the preparation of the technical assessment	Initials:_____ Date:_____

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
identified in the BAAQMD CEQA Guidelines, the project applicant is required to incorporate mitigation measures to reduce air pollutant emissions during construction activities to below these thresholds (e.g., Table 8-2, Additional Construction Mitigation Measures Recommended for projects with Construction Emissions Above the Threshold of the BAAQMD CEQA Guidelines, or applicable construction mitigation measures subsequently approved by BAAQMD). These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans), subject to the review and approval of the Planning Division prior to building permit issuance.						
AQ-3a: As part of the discretionary review process for development applications, applicants for all non-residential projects within the City that: 1) have the potential to generate 100 or more diesel truck trips per day or have 40 or more trucks with operating diesel-powered TRUs, and 2) are within 1,000 feet of a sensitive land use (e.g., residential, schools, hospitals, nursing homes), as measured from the property line of a proposed project to the property line of the nearest sensitive use, shall submit a health risk assessment (HRA) to the City's Planning Division. The HRA shall be prepared in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment and the Bay Area Air Quality Management District. If the HRA shows that the incremental cancer risk exceeds 10 in one million (10E-06), PM2.5 concentrations exceed 0.3 µg/m3, or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms. Mitigation measures may include but are not limited to: ▪ Restricting idling on-site beyond Air Toxic Control Measures idling restrictions, as feasible. ▪ Electrifying warehousing docks.	Project applicant	During the building permit and site development review process and prior to permit issuance	City of Menlo Park Planning Division	Plan review and approval	Once for the preparation of the HRA	Initials:_____ Date:_____

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
▪ Requiring use of newer equipment and/or vehicles. ▪ Restricting off-site truck travel through the creation of truck routes. Mitigation measures identified in the project-specific HRA shall be incorporated into the site development plan as a component of a proposed project, subject to the review and approval of the Community Development Department.						
AQ-3b: As part of the discretionary review process, applicants for all residential and other sensitive land use projects (e.g., hospitals, nursing homes, day care centers) anywhere in the City within 1,000 feet of a major sources of toxic air contaminants (TACs) (e.g., warehouses, industrial areas, freeways, and roadways with traffic volumes over 10,000 vehicle per day), as measured from the property line of the project to the property line of the source/edge of the nearest travel lane, shall submit a health risk assessment (HRA) to the City's Planning Division. The HRA shall be prepared in accordance with policies and procedures of the State Office of Environmental Health Hazard Assessment (OEHHA) and the Bay Area Air Quality Management District. The latest OEHHA guidelines shall be used for the analysis, including age sensitivity factors, breathing rates, and body weights appropriate for children ages 0 to 16 years. If the HRA shows that the incremental cancer risk exceeds ten in one million (10E-06), PM2.5 concentrations exceed 0.3 µg/m3, or the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that mitigation measures are capable of reducing potential cancer and non-cancer risks to an acceptable level (i.e., below ten in one million or a hazard index of 1.0), including appropriate enforcement mechanisms. Measures to reduce risk may include but are not limited to: ▪ Air intakes located away from high volume roadways and/or truck loading zones. ▪ Heating, ventilation, and air conditioning systems of the	Project applicant	During the building permit and site development review process and prior to permit issuance	City of Menlo Park Planning Division	Plan review and approval	Once for the preparation of the HRA	Initials:_____ Date:_____

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
buildings provided with appropriately sized maximum efficiency rating value (MERV) filters. Measures identified in the HRA shall be incorporated into the site development plan as a component of the proposed project subject to the review and approval of the Community Development Department. The air intake design and MERV filter requirements shall be noted and/or reflected on all building plans submitted to the City, subject to the review and approval of the Community Development Department.						
AQ-5: Implementation of Mitigation Measures AQ-2a through AQ-3b.						Initials:_____ Date:_____
Biological Resources						
BIO-1: As part of the discretionary review process for development projects, new construction and building additions regardless of size, in addition to appropriate CEQA review, the City shall require all project applicants to prepare and submit project-specific baseline biological resources assessments (BRA) if the project would occur on or adjacent to a parcel containing natural habitat with features such as mature and native trees, unused structures that could support special-status bat species, other sensitive biological resources, and/or active nests of common birds protected under the Migratory Bird Treaty Act (MBTA). Sensitive biological resources triggering the need for the baseline BRA shall include: wetlands, occurrences or suitable habitat for special-status species, sensitive natural communities, and important movement corridors for wildlife such as creek corridors and shorelines. The baseline BRA shall be prepared by a qualified biologist. The baseline BRA shall provide a determination on whether any sensitive biological resources are present on the site, including jurisdictional wetlands and waters, essential habitat for special-	Project applicant	During the building permit and site development review process and prior to permit issuance	A qualified biologist approved by the City of Menlo Park Planning Division	Plan review and approval	Once for the preparation of a biological assessment and again, if determined further assessment is required as specified in this mitigation measure	Initials:_____ Date:_____

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
status species, and sensitive natural communities. If jurisdictional wetlands and/or waters are suspected to be present on the site, a jurisdictional delineation confirmed by the U.S. Army Corps of Engineers (USACE) will be provided as part of the baseline BRA. The baseline BRA shall also include consideration of possible sensitive biological resources on any adjacent undeveloped lands that could be affected by the project, and lands of the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge). The baseline BRA shall incorporate guidance from relevant regional conservation plans, including, but not limited to, the then current Don Edwards San Francisco Bay National Wildlife Refuge Comprehensive Conservation Plan, South Bay Salt Pond Restoration Project, Tidal Marsh Recovery Plan and the United States Fish and Wildlife Service (USFWS) Recovery Plan for the Pacific Coast Population of the Western Snowy Plover, for determining the potential presence or absence of sensitive biological resources; however, the presence or absence of sensitive biological resources will be determined by on-site surveys. If the adjacent property is the Refuge, Refuge staff shall be contacted regarding the presence or absence of sensitive biological resources. If sensitive biological resources are determined to be present on the site or may be present on any adjacent parcel containing natural habitat, coordination with the appropriate regulatory and resource agencies must occur. Appropriate measures, such as preconstruction surveys, establishing no-disturbance zones and restrictive time periods during construction, protective development setbacks and restrictions, and applying bird-safe building design practices and materials, shall be developed by the qualified biologist in consultation with the regulatory and resource agencies to provide adequate avoidance, or provide						

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
compensatory mitigation if avoidance is infeasible. With respect to fully protected species, if the BRA for any development project determines that any of the following Fully Protected Species are present, then neither take of such species will be permitted nor will mitigation measures including species collection or relocation. The Fully Protected Species include American Peregrine Falcon (*Falco peregrinus anatum*), California Black Rail (*Laterallus jamaicensis coturniculus),* California Clapper Rail - Ridgway's Rail (*Rallus longirostris obsoletus*) , California Least Tern (*Sterna albifrons browni*), White-tailed Kite (*Elanus leucurus*), Salt-marsh harvest mouse (*Reithrodontomys raviventris*), and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*). The qualified biologist shall consult with the Refuge management and where appropriate, the Endangered Species Office of the USFWS, the National Marine Fisheries Service (NMFS), and California Department of Fish and Wildlife (CDFW) for determining the potential presence or absence of sensitive biological resources and appropriate avoidance or compensatory mitigation measures, if required. Where jurisdictional waters or federally and/or State-listed special-status species would be affected, appropriate authorizations (i.e., the USACE, San Francisco Bay Regional Water Quality Control Board (RWQCB), San Francisco Bay Conservation and Development Commission (BCDC), USFWS, NMFS, Refuge and CDFW), shall be obtained by the project applicant, and evidence of such authorization provided to the City prior to issuance of grading or other construction permits. For sites that are adjacent to undeveloped lands with federally and/or State-listed special status species, or sensitive habitats, or lands of the Refuge, the BRA shall include evaluation of the potential effects of:						

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
▪ additional light, ▪ glare, ▪ shading (i.e., shadow analysis), ▪ noise, ▪ urban runoff, ▪ water flow disruption, ▪ water quality degradation/sedimentation, ▪ attraction of nuisance species/predators (e.g., attraction to refuse) and their abatement (e.g., adverse impacts of rodenticides), ▪ and pesticides, generated by the project, as well as the possibility for increased activity from humans and/or domesticated pets and their effects on the nearby natural habitats. The BRA shall include proposed avoidance, minimization, and mitigation of these adverse impacts. The City of Menlo Park Planning Division may require an independent peer review of the adequacy of the baseline BRA as part of the review of the project to confirm its adequacy. Mitigation measures identified in the project-specific BRA shall be incorporated as a component of a proposed project and subsequent building permit, subject to the review and approval of the Community Development Department and the appropriate regulatory and resource agencies. The following zoning regulations enacted by ordinances (including but not limited to 16.43 O-Office District, 16.43.080 Corporate housing, 16.43.140 Green and sustainable building; 16.44 LS-Life Science District, 16.44.130 Green and sustainable building) to minimize impacts to biological resources are incorporated by reference into this mitigation measure and shall be a component of the project building permits:						

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
1. Setbacks (A) Minimum of two hundred (200) feet from the waterfront; waterfront is defined as the top of the levee.						
2. Waterfront and Environmental Considerations. The following provisions are applicable when the property is adjacent to the waterfront or other sensitive habitat.						
a. Non-emergency lighting shall be limited to the minimum necessary to meet safety requirements and shall provide shielding and reflectors to minimize light spill and glare and shall not directly illuminate sensitive habitat areas. Incorporate timing devices and sensors to ensure night lighting is used only when necessary.						
b. Landscaping and its maintenance shall not negatively impact the water quality, native habitats, or natural resources.						
c. Pets shall not be allowed within the corporate housing due to their impacts on water quality, native habitats, and natural resources.						
3. Bird-friendly design.						
a. No more than ten percent (10%) of façade surface area shall have non-bird- friendly glazing.						
b. Bird- friendly glazing includes, but is not limited to opaque glass, covering the outside surface of clear glass with patterns, paned glass with fenestration, frit or etching patterns, and external screens over nonreflective glass. Highly reflective glass is not permitted.						
c. Occupancy sensors or other switch control devices shall be installed on non-emergency lights and shall be programmed to shut off during non-work hours and between 10 PM and sunrise.						

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
d. Placement of buildings shall avoid the potential funneling of flight paths towards a building façade. e. Glass skyways or walkways, freestanding (see-through) glass walls and handrails, and transparent building corners shall not be allowed. f. Transparent glass shall not be allowed at the rooflines of buildings, including in conjunction with roof decks, patios and green roofs. g. Use of rodenticides shall not be allowed. If it is determined through the BRA or CEQA review that further assessment/monitoring/reporting is required by appropriate regulatory or resource agencies, it shall be the responsibility of the City to ensure all project requirements are implemented.						
Cultural Resources						
CULT-1: At the time that individual projects are proposed on any site citywide with a building more than 50 years old or any site adjoining a property with a building more than 50 years old, the City shall require the project applicant to prepare a site-specific evaluation to determine if the project is subject to completion of a site-specific historic resources study. If it is determined that a site-specific historic resources study is required, the study shall be prepared by a qualified architectural historian meeting the Secretary of the Interior's Standards for Architecture or Architectural History. At a minimum, the study shall consist of a records search of the California Historical Resources Information System, an intensive-level pedestrian field survey, an evaluation of significance using standard National Register Historic Preservation and California Register Historic Preservation evaluation criteria, and recordation of all identified historic buildings and structures on California Department of Parks and Recreation 523 Site Record forms. The study shall describe the historic context and setting, methods used in the investigation, results of the evaluation, and	Project applicant	During the building permit and site development review process and prior to permit issuance	Qualified archeologist approved by the City of Menlo Park Planning Division	Plan review and approval	Once at time of preliminary assessment and again, if determined further assessment is required as specified in this mitigation measure	Initials:_____ Date:_____

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
recommendations for management of identified resources. If applicable, the specific requirements for inventory areas and documentation format required by certain agencies, such as the Federal Highway Administration and California Department of Transportation (Caltrans), shall be adhered to. If the project site or adjacent properties are found to be eligible for listing on the California Register, the project shall be required to conform to the current *Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, and Restoring Historic Buildings,* which require the preservation of character defining features which convey a building's historical significance, and offers guidance about appropriate and compatible alterations to such structures.						
CULT-2a: If a potentially significant subsurface cultural resource is encountered during ground disturbing activities on any parcel in the city, all construction activities within a 100-foot radius of the find shall cease until a qualified archeologist determines whether the resource requires further study. All developers in the study area shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Any previously undiscovered resources found during construction activities shall be recorded on appropriate California Department of Parks and Recreation (DPR) forms and evaluated for significance in terms of the California Environmental Quality Act (CEQA) criteria by a qualified archeologist. If the resource is determined significant under CEQA, the qualified archaeologist shall prepare and implement a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant. The archaeologist shall also perform appropriate technical analyses; prepare a comprehensive report complete with methods, results, and recommendations; and provide for the permanent curation of the recovered resources. The report shall be submitted to the City of Menlo Park, Northwest Information Center (NWIC), and State Historic	Project applicant	During construction	Qualified archaeologist approved by the City of Menlo Park Planning Division	Initiated after a find is made during construction	During regularly scheduled site inspections that would be initiated after a find is made during construction	Initials:_____ Date:_____

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
Preservation Office (SHPO), if required.						
CULT-2b: As part of the City's application approval process and prior to project approval, the City shall consult with those Native American Tribes with ancestral ties to the Menlo Park city limits regarding General Plan Amendments in the city and land use policy changes. Upon receipt of an application for proposed project that requires a General Plan Amendment or a land use policy change, the City shall submit a request for a list of Native American Tribes to be contacted about the proposed project to the Native American Heritage Commission (NAHC). Upon receipt of the list of Native American Tribes from the NAHC, the City shall submit a letter to each Tribe on the provided list requesting consultation with the Native American Tribe about the proposed project via the via the City's preferred confirmation of receipt correspondence tracking method (e.g., Federal Express, United States Postal Service Certified Mail, etc.).	The City of Menlo Park	During the project approval process	The City of Menlo Park Planning Division in conjunction with Native American Tribes with ancestral ties to the Menlo Park city limits	Initiated once Native American Tribes request consultation	To be determined by consulting parties	Initials:_____ Date:_____
CULT-3: In the event that fossils or fossil bearing deposits are discovered during ground disturbing activities anywhere in the city, excavations within a 50-foot radius of the find shall be temporarily halted or diverted. Ground disturbance work shall cease until a City-approved qualified paleontologist determines whether the resource requires further study. The paleontologist shall document the discovery as needed (in accordance with Society of Vertebrate Paleontology standards [Society of Vertebrate Paleontology 1995]), evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The excavation plan shall be submitted to the City of Menlo Park for review and	Project applicant	During construction	Qualified paleontologist approved by the City of Menlo Park Planning Division	Initiated after a find is made during construction	During regularly scheduled site inspections initiated after a find is made during construction	Initials:_____ Date:_____

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
approval prior to implementation, and all construction activity shall adhere to the recommendations in the excavation plan.						
CULT-4: Procedures of conduct following the discovery of human remains citywide have been mandated by Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98 and the California Code of Regulations Section 15064.5(e) (CEQA). According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The San Mateo County Coroner shall be notified immediately. The Coroner shall then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner shall notify the NAHC within 24 hours, who will, in turn, notify the person the NAHC identifies as the Most Likely Descendant (MLD) of any human remains. Further actions shall be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.	Project applicant	During construction	The San Mateo County Coroner	Initiated after a find is made during construction	During regularly scheduled site inspections initiated after a find is made during construction	Initials:_____ Date:_____
Greenhouse Gas Emissions						
GHG-1: Prior to January 1, 2020, the City of Menlo Park shall update the Climate Action Plan (CAP) to address the GHG reduction goals of Executive Order B-30-15 and Executive Order S-03-05 for GHG sectors that the City has direct or indirect jurisdictional control over. The City shall identify a GHG emissions reduction target for year 2030 and 2040 that is consistent with the GHG reduction goals identified in Executive Order B-30-15 and	City of Menlo Park	Prior to January 1, 2020	City of Menlo Park Planning Division	Update the Climate Action Plan (CAP)	Once for update to the CAP	Initials:_____ Date:_____

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
Executive Order S-03-05. The CAP shall be updated to include measures to ensure that the City is on a trajectory that aligns with the state's 2030 GHG emissions reduction target.						
GHG-2: Implement of Mitigation Measure GHG-1.						
Hazards and Hazardous Materials						
HAZ-4a: Construction at the sites of any site in the City with known contamination, shall be conducted under a project-specific Environmental Site Management Plan (ESMP) that is prepared in consultation with the Regional Water Quality Control Board (RWQCB) or the Department of Toxic Substances Control (DTSC), as appropriate. The purpose of the ESMP is to protect construction workers, the general public, the environment, and future site occupants from subsurface hazardous materials previously identified at the site and to address the possibility of encountering unknown contamination or hazards in the subsurface. The ESMP shall summarize soil and groundwater analytical data collected on the project site during past investigations; identify management options for excavated soil and groundwater, if contaminated media are encountered during deep excavations; and identify monitoring, irrigation, or other wells requiring proper abandonment in compliance with local, State, and federal laws, policies, and regulations. The ESMP shall include measures for identifying, testing, and managing soil and groundwater suspected of or known to contain hazardous materials. The ESMP shall: 1) provide procedures for evaluating, handling, storing, testing, and disposing of soil and groundwater during project excavation and dewatering activities, respectively; 2) describe required worker health and safety provisions for all workers potentially exposed to hazardous materials in accordance with State and federal worker safety regulations; and 3) designate personnel responsible for implementation of the ESMP.	Project applicant	During the building permit and site development review process and prior to permit issuance	The appropriate "Oversight Agency" designated by the City of Menlo Park Planning Division	Plan review and approval	Prior to construction and during regularly scheduled site inspections	Initials:_____ Date:_____

MITIGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
HAZ-4b: For those sites throughout the city with potential residual contamination in soil, gas, or groundwater that are planned for redevelopment with an overlying occupied building, a vapor intrusion assessment shall be performed by a licensed environmental professional. If the results of the vapor intrusion assessment indicate the potential for significant vapor intrusion into an occupied building, project design shall include vapor controls or source removal, as appropriate, in accordance with regulatory agency requirements. Soil vapor mitigations or controls could include vapor barriers, passive venting, and/or active venting. The vapor intrusion assessment and associated vapor controls or source removal can be incorporated into the ESMP (Mitigation Measure HAZ-4a).	Project applicant	During the building permit and site development review process and prior to permit issuance	Licensed environmental professional in accordance with RWQCB, DTSC, and SMCEHD approved by the City of Menlo Park Planning Division	Plan review and approval	Prior to construction and during regularly scheduled site inspections	Initials:_____ Date:_____
Land Use Planning						
LU-2: As part of the discretionary review process for development projects, all proposed development anywhere in Menlo Park is required to demonstrate consistency with the applicable goals, policies, and programs in the General Plan and the supporting Zoning standards to the satisfaction of the City of Menlo Park's Community Development Department. A future project is consistent with the General Plan and Zoning standards if, considering all its aspects, it will further the goals, policies and programs of the General Plan and supporting Zoning standards and not obstruct their attainment.	Project applicant	During the building permit and site development review process and prior to permit issuance	City of Menlo Park Planning Division	Plan review and approval	Once prior to plan review and approval	Initials:_____ Date:_____
Noise						
NOISE-1a: To meet the requirements of Title 24 and General Plan Program N1.A, project applicants shall perform acoustical studies prior to issuance of building permits for citywide development of new noise-sensitive uses. New residential dwellings, hotels, motels, dormitories, and school classrooms must meet an interior noise limit of 45 dBA CNEL or L_{dn}. Developments in areas exposed to more than 60 dBA CNEL must demonstrate that the structure	Project applicant	Prior to the issuance of construction permits	City of Menlo Park Planning Division	Plan review and approval	Once for preparation of acoustical studies as outlined in the mitigation measure	Initials:_____ Date:_____

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
has been designed to limit interior noise in habitable rooms to acceptable noise levels. Where exterior noise levels are projected to exceed 60 dBA CNEL or L_{dn} at the façade of a building, a report must be submitted with the building plans describing the noise control measures that have been incorporated into the design of the project to meet the 45 dBA noise limit. Project applicants for all new multi-family residential projects subject to the review and approval of the Community Development Department, prior to building permit issuance, must perform acoustical studies within the projected Ldn 60 dB noise contours, so that noise mitigation measures can be incorporated into project design and site planning, subject to the review and approval of the Community Development Department.						
NOISE-1b: Stationary noise sources and landscaping and maintenance activities citywide shall comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code.	Project applicant	Prior to the issuance of construction permits	City of Menlo Park Planning Division	Plan review and approval	During construction	Initials:_____ Date:_____
NOISE-1c: Project applicants for all development projects in the city shall minimize the exposure of nearby properties to excessive noise levels from construction-related activity through CEQA review, conditions of approval and/or enforcement of the City's Noise Ordinance. Prior to issuance of demolition, grading, and/or building permits for development projects, a note shall be provided on development plans indicating that during on-going grading, demolition, and construction, the property owner/developer shall be responsible for requiring contractors to implement the following measures to limit construction-related noise: ▪ Construction activity is limited to the daytime hours between 8:00 a.m. to 6:00 p.m. on Monday through Friday, as prescribed in the City's municipal code. ▪ All internal combustion engines on construction equipment and trucks are fitted with properly maintained mufflers, air intake silencers, and/or engine shrouds that are no less	Project applicant	Prior to the issuance of construction permits	City of Menlo Park Planning Division	Plan review and approval	During construction	Initials:_____ Date:_____

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
effective than as originally equipped by the manufacturer. ▪ Stationary equipment such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses. ▪ Stockpiling is located as far as feasible from nearby noise-sensitive receptors. ▪ Limit unnecessary engine idling to the extent feasible. ▪ Limit the use of public address systems. ▪ Construction traffic shall be limited to the haul routes established by the City of Menlo Park.						
NOISE-2a: To prevent architectural damage citywide as a result of construction-generated vibration: ▪ Prior to issuance of a building permit for any development project requiring pile driving or blasting, the project applicant/developer shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. The maximum levels shall not exceed 0.2 inch/second, which is the level that can cause architectural damage for typical residential construction. If maximum levels would exceed these thresholds, alternative methods such static rollers, non-explosive blasting, and drilling piles as opposed to pile driving shall be used To prevent vibration-induced annoyance as a result of construction-generated vibration: ▪ Individual projects that involve vibration-intensive construction activities, such as blasting, pile drivers, jack hammers, and vibratory rollers, within 200 feet of sensitive receptors shall be evaluated for potential vibration impacts. A vibration study shall be conducted for individual projects where vibration-intensive impacts may occur. The study shall be prepared by an acoustical or vibration engineer holding a degree in engineering, physics, or allied discipline and who is able to demonstrate a minimum of two years of experience in	Project applicant	Prior to the issuance of construction permits	City of Menlo Park Planning Division	Plan review and approval	During construction	Initials:_____ Date:_____

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
preparing technical assessments in acoustics and/or groundborne vibrations. The study is subject to review and approval of the Community Development Department. Vibration impacts to nearby receptors shall not exceed the vibration annoyance levels (in RMS inches/second) as follows: ▪ Workshop = 0.126 ▪ Office = 0.063 ▪ Residential Daytime (7AM–10PM)= 0.032 ▪ Residential Nighttime (10PM to 7 AM) = 0.016 If construction-related vibration is determined to be perceptible at vibration-sensitive uses, additional requirements, such as use of less-vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., nonexplosive blasting methods, drilled piles as opposed to pile driving, preclusion for using vibratory rollers, use of small- or medium-sized bulldozers, etc.). Vibration reduction measures shall be incorporated into the site development plan as a component of the project and applicable building plans, subject to the review and approval of the Community Development Department.						
NOISE-2b: To reduce long-term vibration impacts of future development citywide on existing or potential future sensitive uses: ▪ Locate sensitive uses away from vibration sources. ▪ Design industrial development to minimize vibration impacts on nearby uses. Where vibration impacts may occur, reduce impacts on residences and businesses through the use of setbacks and/or structural design features that reduce vibration to levels at or below the guidelines of the Federal Transit Administration near rail lines and industrial uses. ▪ Work with the railroad operators (e.g., Caltrain, Union Pacific, etc.) to reduce, to the extent possible, the contribution of railroad train noise and vibration to Menlo Park's noise environment.	Project applicant	Prior to the issuance of construction permits	City of Menlo Park Planning Division	Plan review and approval	Once prior to plan review and approval	Initials:_____ Date:_____

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
Transportation and Circulation						
TRANS-1a: Widen impacted roadway segments at appropriate locations throughout the city to add travel lanes and capacity to accommodate the increase in net daily trips.	City of Menlo Park	Ongoing	City of Menlo Park Transportation Division	Ongoing	Ongoing	Initials:_____ Date:_____
TRANS-1b: The City of Menlo Park shall update the existing Transportation Impact Fee (TIF) program to guarantee funding for citywide roadway and infrastructure improvements that are necessary to mitigate impacts from future projects based on the then current City standards. The fees shall be assessed when there is new construction, an increase in square footage in an existing building, or the conversion of existing square footage to a more intensive use. The fees collected shall be applied toward circulation improvements. The fees shall be calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. Transportation Impact fees shall be included with any other applicable fees payable at the time the building permit is issued. The City shall use the Transportation Impact Fees to fund construction (or to recoup fees advanced to fund construction) of the transportation improvements identified below, among other things that at the time of potential future development may be warranted to mitigate traffic impacts. It should be noted that any project proposed prior to the adoption of an updated TIF will be required to conduct a project-specific Transportation Impact Assessment to determine the impacts and necessary transportation mitigations that are to be funded by that project. As part of the update to the TIF program, the City shall also prepare a "nexus" study that will serve as the basis for requiring development impact fees under Assembly Bill (AB) 1600 legislation, as codified by California Code Government Section 66000 et seq., to support implementation of the proposed	City of Menlo Park	Ongoing	City of Menlo Park Transportation Division	Ongoing	Ongoing	Initials:_____ Date:_____

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
project. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the improvements and facilities required to mitigate the impacts of new development pursuant to the proposed project. The following examples of improvements and facilities would reduce impacts to acceptable level of service standards and these, among other improvements, could be included in the TIF program impact fees nexus study: ▪ **Sand Hill Road (westbound) and I-280 Northbound On-ramp (#1)**: Modify the signal-timing plan during the PM peak hour to increase the maximum allocation of green time to the westbound approach during the PM peak hour. ▪ **Sand Hill Road (eastbound) and I-280 Northbound Off-ramp (#2)**: Add an additional northbound right-turn lane on the off-ramp to improve operations to acceptable LOS D during the AM peak hour. ▪ **El Camino Real and Ravenswood Avenue (#28):** One eastbound right-turn lane on Menlo Avenue to improve conditions. ▪ **Willow Road and Newbridge Street (#33):** Implement measures on Chilco Street south of Constitution Drive to reduce or prevent cut-through traffic through the Belle Haven neighborhood, such as peak-hour turn restrictions from Constitution Drive to southbound Chilco Street, and measures to enhance east/west circulation from Willow Road via O'Brien Drive and the proposed mixed-use collector street opposite Ivy Drive, extending east to University Avenue, to discourage use of Newbridge Street. ▪ **Willow Road and Hamilton Avenue (#36):** Provide primary access to potential future development sites east of Willow Road via O'Brien Drive and/or the proposed Mixed-Use Collector that would intersect Willow Road between Hamilton Avenue and O'Brien Drive. Implement measures on Chilco Street south of Constitution Drive to prevent cut-through						

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
traffic through the Belle Haven neighborhood, such as peak-hour turn restrictions from Constitution Drive to southbound Chilco Street. Although the provision of an eastbound left-turn lane on Hamilton Avenue where it approaches Willow Road would reduce the delay, this potential mitigation is not recommend because it would encourage cut-through traffic via Chilco Street and Hamilton Avenue, potentially affecting the Belle Haven neighborhood. Therefore, to avoid facilitating the use of Chilco Street and Hamilton Avenue as cut-through routes in the adjacent residential neighborhood, mitigating this traffic impact is not recommended at this time, consistent with City policies that discourage cut-through traffic in residential neighborhoods. The improvements should be incorporated into the updated fee program for ongoing consideration. ▪ **Bayfront Expressway and Willow Road (#37):** Evaluate the potential for grade separation to allow conflicting movements to occur simultaneously. The evaluation must consider traffic improvements, along with potential secondary impacts caused by potential right-of-way acquisition, impacts to adjacent wetlands and the Dumbarton Rail corridor, as well as potential impacts or benefits for multi-modal accommodation. If found feasible, the updated fee program should incorporate fair-share contributions from future development towards grade separation. ▪ **Bayfront Expressway and University Avenue (#38):** Evaluate the potential for grade separation to allow conflicting movements to occur simultaneously. The evaluation must consider traffic improvements, along with potential secondary impacts caused by potential right-of-way acquisition, impacts to adjacent wetlands and the Dumbarton Rail corridor, as well as potential impacts or benefits for multi-modal accommodation. If found feasible, the updated fee program should incorporate fair-share contributions from future development towards grade separation.						

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
▪ **Chilco Street and Constitution Drive (#45):** Install a traffic signal and signalized crosswalks at the intersection. Construct three southbound lanes on the one-block segment of Chilco Street, between Bayfront Expressway and Chilco Street, to include two southbound left-turn lanes to accommodate the volume of left-turning vehicles entering the project site. In addition, during the AM peak hour, provide a "split-phase" signal operation on Chilco Street. Construct a northbound left-turn lane on Chilco Street approaching Constitution Drive. Construct two outbound lanes on Chilco Street between Constitution Drive and Bayfront Expressway. If the Facebook Campus Expansion Project is approved, this mitigation measure would be required to be constructed as a requirement of that project.						
▪ **Chrysler Drive and Constitution Drive (#46):** Construct a southbound left-turn on Chrysler Drive, approaching Constitution Drive.						
▪ **University Avenue and Adams Drive (#47):** Install a traffic signal at this intersection.						
▪ **University Avenue and Bay Road (#51):** Realign the eastbound and westbound approaches to allow replacement of the east/west "split-phase" signal on Bay Street with standard protected signal phases in order to allow eastbound and westbound pedestrian crossings to occur simultaneously, which would allow for an increase in green time allocated to northbound/southbound movements on University Avenue and reduce peak-hour delay at this intersection. This intersection is located in the City of East Palo Alto and under the control of Caltrans. If this measure if found feasible by the City of East Palo Alto, the improvements should be incorporated into the City of Menlo Park's updated fee program to collect fair-share contributions from future development towards such improvements.						
▪ **University Avenue and Donohoe Street (#54):** Mitigating this						

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
impact would require providing additional westbound lane capacity on Donohoe Street, including an extended dual left-turn pocket, dedicated through lane, and dual right-turn lanes; providing a southbound right-turn lane on University Avenue and lengthening the northbound turn pockets. However, this mitigation is likely to be infeasible given right-of-way limitations, proximity to existing US 101 on- and off-ramps, and adjacent properties. In addition, this intersection is located in the City of East Palo Alto and under the control of Caltrans. If this measure if found feasible by the City of East Palo Alto, the improvements should be incorporated into the City of Menlo Park's updated fee program to collect fair-share contributions from future development towards such improvements. ▪ **University Avenue and US 101 Southbound Ramps (#56):** Mitigating this impact would require modifications to the US 101 Southbound On/Off Ramps and at this location This intersection is located in the City of East Palo Alto and under the control of Caltrans. If this measure if found feasible by the City of East Palo Alto, the improvements should be incorporated into the City of Menlo Park's updated fee program to collect fair-share contributions from future development towards such improvements. ▪ **Chilco Street and Hamilton Avenue (#60):** Installation of a traffic signal would mitigate this impact to less than significant levels, but would have the undesirable secondary effect of encouraging the use of Chilco Street as a cut-through route, which conflicts with City goals that aim to reduce cut-through traffic in residential neighborhoods. Therefore, to avoid facilitating cut-through traffic, mitigating this traffic impact by increasing capacity is not recommended at this time, but should be incorporated into the updated fee program for ongoing consideration.						
TRANS-6a: The City of Menlo Park shall update the Transportation Impact Fee (TIF) program to provide funding for citywide bicycle	City of Menlo Park	Ongoing	City of Menlo Park	Ongoing	Ongoing	Initials:_____ Date:_____

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
and pedestrian facilities that are necessary to mitigate impacts from future projects based on the then current City standards. The fees shall be assessed when there is new construction, an increase in square footage in an existing building, or the conversion of existing square footage to a more intensive use. The fees collected shall be applied toward improvements that will connect development sites within the area circulation system, including the elimination of gaps in the citywide pedestrian and bicycle network. The fees shall be calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. Transportation Impact fees shall be included with any other applicable fees payable at the time the building permit is issued. The City shall use the transportation Impact fees to fund construction (or to recoup fees advanced to fund construction) of the transportation improvements identified in this mitigation measure, among other things that at the time of potential future development may be warranted to mitigate traffic impacts. It should be noted that any project proposed prior to the adoption of an updated TIF will be required to conduct a project-specific Transportation Impact Assessment to determine the impacts and necessary pedestrian or bicycle facilities mitigations that are to be funded by that project. As part of the update to the TIF program, the City shall also prepare a "nexus" study that will serve as the basis for requiring development impact fees under Assembly Bill (AB) 1600 legislation, as codified by California Code Government Section 66000 et seq., to support implementation of the proposed project. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the bicycle and pedestrian improvements and facilities required to mitigate the traffic impacts of new development pursuant to the proposed project. The following examples of pedestrian and bicycle improvements would reduce impacts to acceptable standards,			Transportation Division			

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
and these, among others improvements, could be included in the updated TIF program, also described under TRANS-1: ▪ **US 101 Pedestrian & Bicycle Overcrossing at Marsh Road, and Marsh Road Corridor Pedestrian & Bicycle Improvements (Haven Avenue to Marsh Road/Bay Road):** Provide pedestrian and bicycle circulation between the Bayfront Area east of US 101 with the area circulation system west of US 101 along Marsh Road, including access to schools and commercial sites west of Marsh Road that are accessed via Bay Road and Florence Street. Improvements should facilitate pedestrian and bicycle circulation between Haven Avenue and across US 101 near Marsh Road. The recommended improvement would include a dedicated pedestrian and bicycle crossing adjacent to Marsh Road. Alternatively, the provision of continuous sidewalks with controlled pedestrian crossings and Class IV protected bicycle lanes on the Marsh Road overpass, if feasible, could mitigate this impact. ▪ **Ringwood Avenue Corridor Pedestrian & Bicycle Improvements (Belle Haven to Middlefield Road):** Eliminate pedestrian and bicycle facility gaps on primary access routes to the Ringwood Avenue bicycle/pedestrian overcrossing of US 101 (located near the terminus of Ringwood Avenue and Market Place). Improvements should include complete sidewalks on the north side of Pierce Road and bicycle facility improvements on the proposed Ringwood Avenue-Market Place-Hamilton Avenue bicycle boulevard (see Street Classification Map in Chapter 3, Project Description). These improvements would also enhance pedestrian and bicycle access to Menlo-Atherton High School. ▪ **University Avenue Pedestrian Improvements:** Eliminate gaps in the sidewalk network on those portions of University Avenue that are within the Menlo Park City limits. The TIF Program should also include a contribution towards elimination of sidewalk gaps outside the City limits (within the City of East Palo Alto) to ensure that continuous sidewalks are provided on						

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
the west University Avenue between Adams Drive and the Bay Trail, located north of Purdue Avenue. ▪ **Willow Road Bikeway Corridor (Bayfront Expressway to Alma Street):** Provide a continuous bikeway facility that eliminates bicycle lane gaps, provides Class IV bicycle lanes on the US 101 overpass and where Willow Road intersects US 101 northbound and southbound ramps, and upgrades existing Class II bicycle lanes to Class IV protected bicycle lanes where feasible, particularly where the speed limit exceeds 35 miles per hour (mph). ▪ **Willow Road Pedestrian Crossings (Bayfront Expressway to Newbridge Street):** Provide enhanced pedestrian crossings of Willow Road at Hamilton Avenue, Ivy Drive (including proposed new street connection opposite Ivy Drive), O'Brien Drive and Newbridge Street. Enhanced crossings should include straightened crosswalks provided on each leg, high visibility crosswalk striping, accessible pedestrian signals, and pedestrian head-start signal timing (leading pedestrian intervals) where feasible. These enhanced crossings would provide improved access between the Belle Haven neighborhood and potential future development between Willow Road and University Avenue. ▪ **Dumbarton Corridor Connections:** Through separate projects, Samtrans is currently considering the potential for a bicycle/pedestrian shared-use trail along the Dumbarton Corridor right-of-way between Redwood City and East Palo Alto, through Menlo Park. If found feasible, the City's TIF Program should incorporate walking and bicycling access and connections to the proposed trail, including a potential rail crossing between Kelly Park and Onetta Harris Community Center and Chilco Street and pedestrian and bicycle improvements on streets that connect to the Dumbarton Corridor: Marsh Road, Chilco Street, Willow Road, and University Avenue.						

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
TRANS-6b: The City of Menlo Park shall update the existing Shuttle Fee program to guarantee funding for citywide operations of City-sponsored shuttle service that is necessary to mitigate impacts from future projects based on the then current City standards. The fees shall be assessed when there is new construction, an increase in square footage in an existing building, or the conversion of existing square footage to a more intensive use. The fees collected shall be applied toward circulation improvements and right-of-way acquisition. The fees shall be calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. Shuttle fees shall be included with any other applicable fees payable at the time the building permit is issued. The City shall use the Shuttle fees to fund operations of City-sponsored shuttle service to meet the increased demand. As part of the update to the Shuttle Fee program, the City shall also prepare a "nexus" study that will serve as the basis for requiring development impact fees under Assembly Bill (AB) 1600 legislation, as codified by California Code Government Section 66000 et seq., to support implementation of the proposed project. The established procedures under AB 1600 require that a "reasonable relationship" or nexus exist between the transit improvements and facilities required to mitigate the transit impacts of new development pursuant to the proposed project. The types of transit-related improvements and facilities that would reduce impacts to acceptable standards including increasing the fleet of City-sponsored Shuttles and adding additional transit stop facilities within one-quarter mile from residential and employment centers These, among other improvements, could be included in the Shuttle Fee program impact fees nexus study.	City of Menlo Park	Ongoing	City of Menlo Park Transportation Division	Ongoing	Ongoing	Initials:_____ Date:_____
TRANS-6c: The City should continue to support the Dumbarton Corridor Study, evaluating the feasibility of providing transit service to the existing rail corridor and/or operational	City of Menlo Park	Ongoing	City of Menlo Park Transportation	Ongoing	Ongoing	Initials:_____ Date:_____

MITGATION MONITORING OR REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measures	Party Responsible for Implementation	Implementation Trigger/Timing	Agency Responsible for Monitoring	Monitoring Action	Monitoring Frequency	Verified Implementation
improvements to Bayfront Expressway, Marsh Road and Willow Road, such as a dedicated high-occupancy vehicle (HOV) lane, bus queue-jump lanes, or transit-signal priority that could reduce travel time for current bus operations.			Division			
Utilities and Service Systems						
UTIL-10: The City shall continue its reduction programs and diversion requirements in an effort to further reduce solid waste that is diverted to the landfill and lower its per capita disposal rate citywide. In addition, the City shall monitor solid waste generation volumes in relation to capacities at receiving landfill sites to ensure that sufficient capacity exists to accommodate future growth. The City shall ensure any waste management firm it contracts with has access to a new landfill site(s) to replace the Ox Mountain landfills, at such time that this landfill is closed.	City of Menlo Park	Ongoing	City of Menlo Park Planning Division	Ongoing	Ongoing	Initials:_____ Date:_____

APPENDIX B

CALEEMOD OUTPUT SHEETS

This page intentionally left blank

115 Independence Drive Project - Energy Analysis

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	34.71	1000sqft	0.80	34,708.00	0
Unenclosed Parking with Elevator	420.00	Space	0.00	134,339.00	0
City Park	1.21	Acre	1.21	52,767.54	0
Apartments Mid Rise	335.00	Dwelling Unit	1.19	324,881.00	958

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity based on 5-year average (PG&E, 2015)

Land Use - The propsed project would develop the project site with an approximately 134,339-gross-square-foot (gsf), seven-story multi-family apartment building with approximately 335 dwelling units, an approximately 34,708 gsf commercial office building, as well as associated open space, circulation and parking, and infrastructure improvements.

Construction Phase - Construction of the proposed project is anticipated to begin in September 2020 and is anticipated to last approximately 37 months.

Grading - A total of 5,000 cubic yards of soils would be imported.

Demolition - The proposed project would result in the demolition of existing office and industrial square footage.

Vehicle Trips - Defaults

Mobile Land Use Mitigation -

Area Mitigation - Assuming only natural gas hearth.

115 Independence Drive Project - Energy Analysis - Bay Area AQMD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	230.00	680.00
tblConstructionPhase	NumDays	8.00	20.00
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblGrading	AcresOfGrading	10.00	4.00
tblGrading	MaterialImported	0.00	500.00
tblLandUse	LandUseSquareFeet	34,710.00	34,708.00
tblLandUse	LandUseSquareFeet	168,000.00	134,339.00
tblLandUse	LandUseSquareFeet	52,707.60	52,767.54
tblLandUse	LandUseSquareFeet	335,000.00	324,881.00
tblLandUse	LotAcreage	3.78	0.00
tblLandUse	LotAcreage	8.82	1.19
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblTripsAndVMT	HaulingTripNumber	63.00	62.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	WD_TR	1.89	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	2.6563	1.5496	1.1025	2.3900e-003	0.3256	0.0733	0.3989	0.1511	0.0680	0.2191	0.0000	213.2814	213.2814	0.0437	0.0000	214.3744
2021	0.4105	3.3478	3.3769	9.2400e-003	0.4029	0.1295	0.5324	0.1086	0.1217	0.2303	0.0000	834.5079	834.5079	0.0914	0.0000	836.7923
2022	0.3726	3.0376	3.2436	9.0600e-003	0.4014	0.1092	0.5106	0.1082	0.1027	0.2109	0.0000	818.5068	818.5068	0.0894	0.0000	820.7406
2023	0.1767	1.3798	1.6267	4.6100e-003	0.2084	0.0488	0.2572	0.0562	0.0459	0.1021	0.0000	416.0436	416.0436	0.0450	0.0000	417.1676
Maximum	**2.6563**	**3.3478**	**3.3769**	**9.2400e-003**	**0.4029**	**0.1295**	**0.5324**	**0.1511**	**0.1217**	**0.2303**	**0.0000**	**834.5079**	**834.5079**	**0.0914**	**0.0000**	**836.7923**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	2.6563	1.5496	1.1025	2.3900e-003	0.3256	0.0733	0.3989	0.1511	0.0680	0.2191	0.0000	213.2813	213.2813	0.0437	0.0000	214.3743
2021	0.4105	3.3478	3.3768	9.2400e-003	0.4029	0.1295	0.5324	0.1086	0.1217	0.2303	0.0000	834.5075	834.5075	0.0914	0.0000	836.7919
2022	0.3726	3.0376	3.2436	9.0600e-003	0.4014	0.1092	0.5106	0.1082	0.1027	0.2109	0.0000	818.5064	818.5064	0.0894	0.0000	820.7403
2023	0.1767	1.3798	1.6267	4.6100e-003	0.2084	0.0488	0.2572	0.0562	0.0459	0.1021	0.0000	416.0435	416.0435	0.0450	0.0000	417.1674
Maximum	**2.6563**	**3.3478**	**3.3768**	**9.2400e-003**	**0.4029**	**0.1295**	**0.5324**	**0.1511**	**0.1217**	**0.2303**	**0.0000**	**834.5075**	**834.5075**	**0.0914**	**0.0000**	**836.7919**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-7-2020**	**12-6-2020**	1.1701	1.1701
2	**12-7-2020**	**3-6-2021**	0.9579	0.9579
3	**3-7-2021**	**6-6-2021**	0.9450	0.9450
4	**6-7-2021**	**9-6-2021**	0.9424	0.9424
5	**9-7-2021**	**12-6-2021**	0.9391	0.9391
6	**12-7-2021**	**3-6-2022**	0.8712	0.8712
7	**3-7-2022**	**6-6-2022**	0.8609	0.8609
8	**6-7-2022**	**9-6-2022**	0.8586	0.8586

9	**9-7-2022**	**12-6-2022**	0.8554	0.8554
10	**12-7-2022**	**3-6-2023**	0.7743	0.7743
11	**3-7-2023**	**6-6-2023**	0.7573	0.7573
12	**6-7-2023**	**9-6-2023**	0.2545	0.2545
		Highest	1.1701	1.1701

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5114	0.0465	3.5565	2.2500e-003		0.1660	0.1660		0.1660	0.1660	15.2726	10.3445	25.6170	0.0285	1.0000e-003	26.6273
Energy	0.0194	0.1677	0.0850	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	506.2854	506.2854	0.0314	9.2600e-003	509.8286
Mobile	0.5623	2.4910	6.3964	0.0238	2.1303	0.0195	2.1498	0.5717	0.0182	0.5899	0.0000	2,187.4954	2,187.4954	0.0759	0.0000	2,189.3928
Waste						0.0000	0.0000		0.0000	0.0000	37.8538	0.0000	37.8538	2.2371	0.0000	93.7811
Water						0.0000	0.0000		0.0000	0.0000	8.8818	32.5017	41.3834	0.9151	0.0221	70.8568
Total	**3.0931**	**2.7052**	**10.0378**	**0.0271**	**2.1303**	**0.1989**	**2.3291**	**0.5717**	**0.1976**	**0.7693**	**62.0081**	**2,736.6269**	**2,798.6349**	**3.2880**	**0.0324**	**2,890.4866**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7399	0.0403	2.4971	2.1000e-004		0.0147	0.0147		0.0147	0.0147	0.0000	17.4541	17.4541	4.1900e-003	2.5000e-004	17.6318
Energy	0.0194	0.1677	0.0850	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	506.2854	506.2854	0.0314	9.2600e-003	509.8286
Mobile	0.5387	2.3476	5.8428	0.0212	1.8789	0.0175	1.8964	0.5043	0.0163	0.5206	0.0000	1,948.7183	1,948.7183	0.0694	0.0000	1,950.4533
Waste						0.0000	0.0000		0.0000	0.0000	37.8538	0.0000	37.8538	2.2371	0.0000	93.7811
Water						0.0000	0.0000		0.0000	0.0000	8.8818	32.5017	41.3834	0.9151	0.0221	70.8568
Total	**2.2979**	**2.5555**	**8.4249**	**0.0225**	**1.8789**	**0.0456**	**1.9245**	**0.5043**	**0.0444**	**0.5487**	**46.7355**	**2,504.9594**	**2,551.6949**	**3.2572**	**0.0316**	**2,642.5516**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**25.71**	**5.53**	**16.07**	**17.11**	**11.80**	**77.07**	**17.37**	**11.80**	**77.51**	**28.67**	**24.63**	**8.47**	**8.82**	**0.94**	**2.32**	**8.58**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/7/2020	10/2/2020	5	20	
2	Site Preparation	Site Preparation	10/5/2020	10/30/2020	5	20	
3	Grading	Grading	11/2/2020	11/27/2020	5	20	
4	Building Construction	Building Construction	11/30/2020	7/7/2023	5	680	
5	Paving	Paving	7/13/2020	8/7/2020	5	20	
6	Architectural Coating	Architectural Coating	7/13/2020	8/7/2020	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 657,884; Residential Outdoor: 219,295; Non-Residential Indoor: 52,062; Non-Residential Outdoor: 17,354; Striped Parking Area: 8,060 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	295.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	62.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	331.00	72.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	66.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0319	0.0000	0.0319	4.8300e-003	0.0000	4.8300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2386
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**	**0.0319**	**0.0166**	**0.0485**	**4.8300e-003**	**0.0154**	**0.0203**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2386**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2300e-003	0.0431	8.6700e-003	1.2000e-004	2.4900e-003	1.4000e-004	2.6300e-003	6.9000e-004	1.3000e-004	8.2000e-004	0.0000	11.3040	11.3040	5.8000e-004	0.0000	11.3186
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.6800e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0384	1.0384	3.0000e-005	0.0000	1.0391
Total	**1.7300e-003**	**0.0435**	**0.0124**	**1.3000e-004**	**3.6800e-003**	**1.5000e-004**	**3.8200e-003**	**1.0100e-003**	**1.4000e-004**	**1.1400e-003**	**0.0000**	**12.3424**	**12.3424**	**6.1000e-004**	**0.0000**	**12.3576**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0319	0.0000	0.0319	4.8300e-003	0.0000	4.8300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0331	0.3320	0.2175	3.9000e-004		0.0166	0.0166		0.0154	0.0154	0.0000	33.9986	33.9986	9.6000e-003	0.0000	34.2385
Total	**0.0331**	**0.3320**	**0.2175**	**3.9000e-004**	**0.0319**	**0.0166**	**0.0485**	**4.8300e-003**	**0.0154**	**0.0203**	**0.0000**	**33.9986**	**33.9986**	**9.6000e-003**	**0.0000**	**34.2385**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2300e-003	0.0431	8.6700e-003	1.2000e-004	2.4900e-003	1.4000e-004	2.6300e-003	6.9000e-004	1.3000e-004	8.2000e-004	0.0000	11.3040	11.3040	5.8000e-004	0.0000	11.3186
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.6800e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0384	1.0384	3.0000e-005	0.0000	1.0391
Total	**1.7300e-003**	**0.0435**	**0.0124**	**1.3000e-004**	**3.6800e-003**	**1.5000e-004**	**3.8200e-003**	**1.0100e-003**	**1.4000e-004**	**1.1400e-003**	**0.0000**	**12.3424**	**12.3424**	**6.1000e-004**	**0.0000**	**12.3576**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0408	0.4242	0.2151	3.8000e-004		0.0220	0.0220		0.0202	0.0202	0.0000	33.4307	33.4307	0.0108	0.0000	33.7010
Total	**0.0408**	**0.4242**	**0.2151**	**3.8000e-004**	**0.1807**	**0.0220**	**0.2026**	**0.0993**	**0.0202**	**0.1195**	**0.0000**	**33.4307**	**33.4307**	**0.0108**	**0.0000**	**33.7010**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.3000e-004	4.4200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2461	1.2461	3.0000e-005	0.0000	1.2469
Total	**6.0000e-004**	**4.3000e-004**	**4.4200e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4300e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2461**	**1.2461**	**3.0000e-005**	**0.0000**	**1.2469**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0408	0.4242	0.2151	3.8000e-004		0.0220	0.0220		0.0202	0.0202	0.0000	33.4306	33.4306	0.0108	0.0000	33.7009
Total	**0.0408**	**0.4242**	**0.2151**	**3.8000e-004**	**0.1807**	**0.0220**	**0.2026**	**0.0993**	**0.0202**	**0.1195**	**0.0000**	**33.4306**	**33.4306**	**0.0108**	**0.0000**	**33.7009**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.3000e-004	4.4200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2461	1.2461	3.0000e-005	0.0000	1.2469
Total	**6.0000e-004**	**4.3000e-004**	**4.4200e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4300e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2461**	**1.2461**	**3.0000e-005**	**0.0000**	**1.2469**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0624	0.0000	0.0624	0.0333	0.0000	0.0333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0588	26.0588	8.4300e-003	0.0000	26.2694
Total	**0.0243**	**0.2639**	**0.1605**	**3.0000e-004**	**0.0624**	**0.0127**	**0.0751**	**0.0333**	**0.0117**	**0.0451**	**0.0000**	**26.0588**	**26.0588**	**8.4300e-003**	**0.0000**	**26.2694**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6000e-004	9.0600e-003	1.8200e-003	2.0000e-005	5.2000e-004	3.0000e-005	5.5000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.3758	2.3758	1.2000e-004	0.0000	2.3788
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.6800e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0384	1.0384	3.0000e-005	0.0000	1.0391
Total	**7.6000e-004**	**9.4200e-003**	**5.5000e-003**	**3.0000e-005**	**1.7100e-003**	**4.0000e-005**	**1.7400e-003**	**4.6000e-004**	**4.0000e-005**	**4.9000e-004**	**0.0000**	**3.4142**	**3.4142**	**1.5000e-004**	**0.0000**	**3.4179**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0624	0.0000	0.0624	0.0333	0.0000	0.0333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0587	26.0587	8.4300e-003	0.0000	26.2694
Total	**0.0243**	**0.2639**	**0.1605**	**3.0000e-004**	**0.0624**	**0.0127**	**0.0751**	**0.0333**	**0.0117**	**0.0451**	**0.0000**	**26.0587**	**26.0587**	**8.4300e-003**	**0.0000**	**26.2694**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6000e-004	9.0600e-003	1.8200e-003	2.0000e-005	5.2000e-004	3.0000e-005	5.5000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.3758	2.3758	1.2000e-004	0.0000	2.3788
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.6800e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0384	1.0384	3.0000e-005	0.0000	1.0391
Total	**7.6000e-004**	**9.4200e-003**	**5.5000e-003**	**3.0000e-005**	**1.7100e-003**	**4.0000e-005**	**1.7400e-003**	**4.6000e-004**	**4.0000e-005**	**4.9000e-004**	**0.0000**	**3.4142**	**3.4142**	**1.5000e-004**	**0.0000**	**3.4179**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2302	0.2022	3.2000e-004		0.0134	0.0134		0.0126	0.0126	0.0000	27.7932	27.7932	6.7800e-003	0.0000	27.9627
Total	**0.0254**	**0.2302**	**0.2022**	**3.2000e-004**		**0.0134**	**0.0134**		**0.0126**	**0.0126**	**0.0000**	**27.7932**	**27.7932**	**6.7800e-003**	**0.0000**	**27.9627**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3400e-003	0.0997	0.0251	2.4000e-004	5.6700e-003	4.9000e-004	6.1500e-003	1.6400e-003	4.7000e-004	2.1000e-003	0.0000	22.6212	22.6212	1.1700e-003	0.0000	22.6504
Worker	0.0132	9.4200e-003	0.0976	3.0000e-004	0.0314	2.1000e-004	0.0316	8.3500e-003	1.9000e-004	8.5400e-003	0.0000	27.4974	27.4974	6.7000e-004	0.0000	27.5140
Total	**0.0165**	**0.1091**	**0.1226**	**5.4000e-004**	**0.0371**	**7.0000e-004**	**0.0378**	**9.9900e-003**	**6.6000e-004**	**0.0106**	**0.0000**	**50.1186**	**50.1186**	**1.8400e-003**	**0.0000**	**50.1644**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2302	0.2022	3.2000e-004		0.0134	0.0134		0.0126	0.0126	0.0000	27.7932	27.7932	6.7800e-003	0.0000	27.9627
Total	**0.0254**	**0.2302**	**0.2022**	**3.2000e-004**		**0.0134**	**0.0134**		**0.0126**	**0.0126**	**0.0000**	**27.7932**	**27.7932**	**6.7800e-003**	**0.0000**	**27.9627**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3400e-003	0.0997	0.0251	2.4000e-004	5.6700e-003	4.9000e-004	6.1500e-003	1.6400e-003	4.7000e-004	2.1000e-003	0.0000	22.6212	22.6212	1.1700e-003	0.0000	22.6504
Worker	0.0132	9.4200e-003	0.0976	3.0000e-004	0.0314	2.1000e-004	0.0316	8.3500e-003	1.9000e-004	8.5400e-003	0.0000	27.4974	27.4974	6.7000e-004	0.0000	27.5140
Total	**0.0165**	**0.1091**	**0.1226**	**5.4000e-004**	**0.0371**	**7.0000e-004**	**0.0378**	**9.9900e-003**	**6.6000e-004**	**0.0106**	**0.0000**	**50.1186**	**50.1186**	**1.8400e-003**	**0.0000**	**50.1644**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2867	302.2867	0.0729	0.0000	304.1099
Total	**0.2481**	**2.2749**	**2.1631**	**3.5100e-003**		**0.1251**	**0.1251**		**0.1176**	**0.1176**	**0.0000**	**302.2867**	**302.2867**	**0.0729**	**0.0000**	**304.1099**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0298	0.9814	0.2450	2.5400e-003	0.0616	2.1300e-003	0.0638	0.0178	2.0400e-003	0.0199	0.0000	243.6796	243.6796	0.0120	0.0000	243.9791
Worker	0.1326	0.0915	0.9688	3.1900e-003	0.3413	2.2300e-003	0.3436	0.0908	2.0600e-003	0.0929	0.0000	288.5416	288.5416	6.4700e-003	0.0000	288.7034
Total	**0.1624**	**1.0729**	**1.2138**	**5.7300e-003**	**0.4029**	**4.3600e-003**	**0.4073**	**0.1086**	**4.1000e-003**	**0.1127**	**0.0000**	**532.2212**	**532.2212**	**0.0185**	**0.0000**	**532.6824**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2863	302.2863	0.0729	0.0000	304.1095
Total	**0.2481**	**2.2749**	**2.1631**	**3.5100e-003**		**0.1251**	**0.1251**		**0.1176**	**0.1176**	**0.0000**	**302.2863**	**302.2863**	**0.0729**	**0.0000**	**304.1095**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0298	0.9814	0.2450	2.5400e-003	0.0616	2.1300e-003	0.0638	0.0178	2.0400e-003	0.0199	0.0000	243.6796	243.6796	0.0120	0.0000	243.9791
Worker	0.1326	0.0915	0.9688	3.1900e-003	0.3413	2.2300e-003	0.3436	0.0908	2.0600e-003	0.0929	0.0000	288.5416	288.5416	6.4700e-003	0.0000	288.7034
Total	**0.1624**	**1.0729**	**1.2138**	**5.7300e-003**	**0.4029**	**4.3600e-003**	**0.4073**	**0.1086**	**4.1000e-003**	**0.1127**	**0.0000**	**532.2212**	**532.2212**	**0.0185**	**0.0000**	**532.6824**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2428**	**301.2428**	**0.0722**	**0.0000**	**303.0471**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0277	0.9259	0.2294	2.5000e-003	0.0614	1.8400e-003	0.0632	0.0178	1.7600e-003	0.0195	0.0000	240.3657	240.3657	0.0114	0.0000	240.6508
Worker	0.1231	0.0817	0.8869	3.0600e-003	0.3400	2.1700e-003	0.3422	0.0905	2.0000e-003	0.0925	0.0000	276.8983	276.8983	5.7800e-003	0.0000	277.0428
Total	**0.1508**	**1.0076**	**1.1164**	**5.5600e-003**	**0.4014**	**4.0100e-003**	**0.4054**	**0.1082**	**3.7600e-003**	**0.1120**	**0.0000**	**517.2640**	**517.2640**	**0.0172**	**0.0000**	**517.6936**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2425**	**301.2425**	**0.0722**	**0.0000**	**303.0467**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0277	0.9259	0.2294	2.5000e-003	0.0614	1.8400e-003	0.0632	0.0178	1.7600e-003	0.0195	0.0000	240.3657	240.3657	0.0114	0.0000	240.6508
Worker	0.1231	0.0817	0.8869	3.0600e-003	0.3400	2.1700e-003	0.3422	0.0905	2.0000e-003	0.0925	0.0000	276.8983	276.8983	5.7800e-003	0.0000	277.0428
Total	**0.1508**	**1.0076**	**1.1164**	**5.5600e-003**	**0.4014**	**4.0100e-003**	**0.4054**	**0.1082**	**3.7600e-003**	**0.1120**	**0.0000**	**517.2640**	**517.2640**	**0.0172**	**0.0000**	**517.6936**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1062	0.9710	1.0965	1.8200e-003		0.0472	0.0472		0.0444	0.0444	0.0000	156.4682	156.4682	0.0372	0.0000	157.3987
Total	**0.1062**	**0.9710**	**1.0965**	**1.8200e-003**		**0.0472**	**0.0472**		**0.0444**	**0.0444**	**0.0000**	**156.4682**	**156.4682**	**0.0372**	**0.0000**	**157.3987**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0108	0.3707	0.1066	1.2600e-003	0.0319	4.3000e-004	0.0323	9.2200e-003	4.1000e-004	9.6300e-003	0.0000	121.3075	121.3075	5.0500e-003	0.0000	121.4337
Worker	0.0598	0.0381	0.4236	1.5300e-003	0.1766	1.1000e-003	0.1777	0.0470	1.0200e-003	0.0480	0.0000	138.2679	138.2679	2.6900e-003	0.0000	138.3352
Total	**0.0706**	**0.4088**	**0.5303**	**2.7900e-003**	**0.2084**	**1.5300e-003**	**0.2100**	**0.0562**	**1.4300e-003**	**0.0576**	**0.0000**	**259.5754**	**259.5754**	**7.7400e-003**	**0.0000**	**259.7689**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1062	0.9710	1.0965	1.8200e-003		0.0472	0.0472		0.0444	0.0444	0.0000	156.4680	156.4680	0.0372	0.0000	157.3986
Total	**0.1062**	**0.9710**	**1.0965**	**1.8200e-003**		**0.0472**	**0.0472**		**0.0444**	**0.0444**	**0.0000**	**156.4680**	**156.4680**	**0.0372**	**0.0000**	**157.3986**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0108	0.3707	0.1066	1.2600e-003	0.0319	4.3000e-004	0.0323	9.2200e-003	4.1000e-004	9.6300e-003	0.0000	121.3075	121.3075	5.0500e-003	0.0000	121.4337
Worker	0.0598	0.0381	0.4236	1.5300e-003	0.1766	1.1000e-003	0.1777	0.0470	1.0200e-003	0.0480	0.0000	138.2679	138.2679	2.6900e-003	0.0000	138.3352
Total	**0.0706**	**0.4088**	**0.5303**	**2.7900e-003**	**0.2084**	**1.5300e-003**	**0.2100**	**0.0562**	**1.4300e-003**	**0.0576**	**0.0000**	**259.5754**	**259.5754**	**7.7400e-003**	**0.0000**	**259.7689**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1180	0.1228	1.9000e-004		6.5100e-003	6.5100e-003		6.0100e-003	6.0100e-003	0.0000	16.3720	16.3720	5.1400e-003	0.0000	16.5006
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0118**	**0.1180**	**0.1228**	**1.9000e-004**		**6.5100e-003**	**6.5100e-003**		**6.0100e-003**	**6.0100e-003**	**0.0000**	**16.3720**	**16.3720**	**5.1400e-003**	**0.0000**	**16.5006**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.7000e-004	4.9100e-003	2.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3846	1.3846	3.0000e-005	0.0000	1.3854
Total	**6.6000e-004**	**4.7000e-004**	**4.9100e-003**	**2.0000e-005**	**1.5800e-003**	**1.0000e-005**	**1.5900e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.3846**	**1.3846**	**3.0000e-005**	**0.0000**	**1.3854**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0118	0.1180	0.1228	1.9000e-004		6.5100e-003	6.5100e-003		6.0100e-003	6.0100e-003	0.0000	16.3720	16.3720	5.1400e-003	0.0000	16.5006
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0118**	**0.1180**	**0.1228**	**1.9000e-004**		**6.5100e-003**	**6.5100e-003**		**6.0100e-003**	**6.0100e-003**	**0.0000**	**16.3720**	**16.3720**	**5.1400e-003**	**0.0000**	**16.5006**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.6000e-004	4.7000e-004	4.9100e-003	2.0000e-005	1.5800e-003	1.0000e-005	1.5900e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3846	1.3846	3.0000e-005	0.0000	1.3854
Total	**6.6000e-004**	**4.7000e-004**	**4.9100e-003**	**2.0000e-005**	**1.5800e-003**	**1.0000e-005**	**1.5900e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.3846**	**1.3846**	**3.0000e-005**	**0.0000**	**1.3854**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.4960					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4200e-003	0.0168	0.0183	3.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5582
Total	**2.4984**	**0.0168**	**0.0183**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5582**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1900e-003	1.5700e-003	0.0162	5.0000e-005	5.2200e-003	4.0000e-005	5.2500e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.5691	4.5691	1.1000e-004	0.0000	4.5718
Total	**2.1900e-003**	**1.5700e-003**	**0.0162**	**5.0000e-005**	**5.2200e-003**	**4.0000e-005**	**5.2500e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.5691**	**4.5691**	**1.1000e-004**	**0.0000**	**4.5718**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.4960					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4200e-003	0.0168	0.0183	3.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5582
Total	**2.4984**	**0.0168**	**0.0183**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5582**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1900e-003	1.5700e-003	0.0162	5.0000e-005	5.2200e-003	4.0000e-005	5.2500e-003	1.3900e-003	3.0000e-005	1.4200e-003	0.0000	4.5691	4.5691	1.1000e-004	0.0000	4.5718
Total	**2.1900e-003**	**1.5700e-003**	**0.0162**	**5.0000e-005**	**5.2200e-003**	**4.0000e-005**	**5.2500e-003**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**0.0000**	**4.5691**	**4.5691**	**1.1000e-004**	**0.0000**	**4.5718**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5387	2.3476	5.8428	0.0212	1.8789	0.0175	1.8964	0.5043	0.0163	0.5206	0.0000	1,948.7183	1,948.7183	0.0694	0.0000	1,950.4533
Unmitigated	0.5623	2.4910	6.3964	0.0238	2.1303	0.0195	2.1498	0.5717	0.0182	0.5899	0.0000	2,187.4954	2,187.4954	0.0759	0.0000	2,189.3928

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	2,227.75	2,140.65	1963.10	5,029,170	4,435,728
City Park	0.00	0.00	0.00		
General Office Building	382.85	85.39	36.45	695,107	613,084
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	2,610.60	2,226.04	1,999.55	5,724,277	5,048,812

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
City Park	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
General Office Building	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Unenclosed Parking with Elevator	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	314.4105	314.4105	0.0277	5.7400e-003	316.8135
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	314.4105	314.4105	0.0277	5.7400e-003	316.8135
NaturalGas Mitigated	0.0194	0.1677	0.0850	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	191.8749	191.8749	3.6800e-003	3.5200e-003	193.0151
NaturalGas Unmitigated	0.0194	0.1677	0.0850	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	191.8749	191.8749	3.6800e-003	3.5200e-003	193.0151

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.92469e+006	0.0158	0.1348	0.0574	8.6000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	156.0728	156.0728	2.9900e-003	2.8600e-003	157.0003
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	670906	3.6200e-003	0.0329	0.0276	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003	0.0000	35.8021	35.8021	6.9000e-004	6.6000e-004	36.0148
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0194**	**0.1677**	**0.0850**	**1.0600e-003**		**0.0134**	**0.0134**		**0.0134**	**0.0134**	**0.0000**	**191.8749**	**191.8749**	**3.6800e-003**	**3.5200e-003**	**193.0151**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.92469e+006	0.0158	0.1348	0.0574	8.6000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	156.0728	156.0728	2.9900e-003	2.8600e-003	157.0003
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	670906	3.6200e-003	0.0329	0.0276	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003	0.0000	35.8021	35.8021	6.9000e-004	6.6000e-004	36.0148
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0194**	**0.1677**	**0.0850**	**1.0600e-003**		**0.0134**	**0.0134**		**0.0134**	**0.0134**	**0.0000**	**191.8749**	**191.8749**	**3.6800e-003**	**3.5200e-003**	**193.0151**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.41437e+006	210.9403	0.0186	3.8500e-003	212.5525
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	433156	64.6014	5.7000e-003	1.1800e-003	65.0951
Unenclosed Parking with Elevator	260618	38.8688	3.4300e-003	7.1000e-004	39.1659
Total		**314.4105**	**0.0277**	**5.7400e-003**	**316.8135**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.41437e+006	210.9403	0.0186	3.8500e-003	212.5525
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	433156	64.6014	5.7000e-003	1.1800e-003	65.0951
Unenclosed Parking with Elevator	260618	38.8688	3.4300e-003	7.1000e-004	39.1659
Total		**314.4105**	**0.0277**	**5.7400e-003**	**316.8135**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7399	0.0403	2.4971	2.1000e-004		0.0147	0.0147		0.0147	0.0147	0.0000	17.4541	17.4541	4.1900e-003	2.5000e-004	17.6318
Unmitigated	2.5114	0.0465	3.5565	2.2500e-003		0.1660	0.1660		0.1660	0.1660	15.2726	10.3445	25.6170	0.0285	1.0000e-003	26.6273

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2496					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4136					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.7730	0.0178	1.0644	2.1200e-003		0.1522	0.1522		0.1522	0.1522	15.2726	6.2732	21.5457	0.0246	1.0000e-003	22.4578
Landscaping	0.0753	0.0287	2.4922	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0713	4.0713	3.9300e-003	0.0000	4.1695
Total	**2.5114**	**0.0465**	**3.5565**	**2.2500e-003**		**0.1660**	**0.1660**		**0.1660**	**0.1660**	**15.2726**	**10.3445**	**25.6170**	**0.0285**	**1.0000e-003**	**26.6273**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2496					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4136					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.3500e-003	0.0116	4.9200e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	13.3828	13.3828	2.6000e-004	2.5000e-004	13.4623
Landscaping	0.0753	0.0287	2.4922	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0713	4.0713	3.9300e-003	0.0000	4.1695
Total	**1.7398**	**0.0403**	**2.4971**	**2.0000e-004**		**0.0147**	**0.0147**		**0.0147**	**0.0147**	**0.0000**	**17.4541**	**17.4541**	**4.1900e-003**	**2.5000e-004**	**17.6318**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	41.3834	0.9151	0.0221	70.8568
Unmitigated	41.3834	0.9151	0.0221	70.8568

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	21.8266 / 13.7602	31.7215	0.7134	0.0173	54.6959
City Park	0 / 1.44169	0.7526	7.0000e-005	1.0000e-005	0.7583
General Office Building	6.16914 / 3.78108	8.9094	0.2016	4.8700e-003	15.4025
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**41.3834**	**0.9151**	**0.0221**	**70.8568**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	21.8266 / 13.7602	31.7215	0.7134	0.0173	54.6959
City Park	0 / 1.44169	0.7526	7.0000e-005	1.0000e-005	0.7583
General Office Building	6.16914 / 3.78108	8.9094	0.2016	4.8700e-003	15.4025
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**41.3834**	**0.9151**	**0.0221**	**70.8568**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	37.8538	2.2371	0.0000	93.7811
Unmitigated	37.8538	2.2371	0.0000	93.7811

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	154.1	31.2809	1.8487	0.0000	77.4971
City Park	0.1	0.0203	1.2000e-003	0.0000	0.0503
General Office Building	32.28	6.5526	0.3872	0.0000	16.2337
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**37.8538**	**2.2371**	**0.0000**	**93.7811**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	154.1	31.2809	1.8487	0.0000	77.4971
City Park	0.1	0.0203	1.2000e-003	0.0000	0.0503
General Office Building	32.28	6.5526	0.3872	0.0000	16.2337
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**37.8538**	**2.2371**	**0.0000**	**93.7811**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C

INITIAL STUDY ADDENDUM

This page intentionally left blank

INITIAL STUDY ADDENDUM

Since publication of the Initial Study, which was circulated with the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) on January 7, 2020, staff have identified the following minor clarifications and revisions to the description of the project and analysis provided in the Initial Study. In no case do these revisions result in a change to the impact conclusions presented in the Initial Study. These updates are reflected in Chapter 3.0, Project Description of the EIR and are reflected in the EIR analysis, as appropriate.

- The proposed square footages, residential unit mix, and other elements of the project have been refined since publication of the NOP and preparation of the Initial Study, and the EIR reflects these refinements. Project plans may be subject to continued refinement prior to consideration of project approval. The analysis in the Initial Study and EIR evaluates the maximum development potential for the proposed project.

- A 250kW generator (approximately 335 horsepower) would be installed within the proposed residential building, which was not considered in the Initial Study. The generator would be located indoors on the ground level of the parking garage, and would only be used in the event of an emergency to provide electrical service to project residents. The generators would not be used under normal conditions, and therefore would not substantially change the proposed project's estimated energy use, as described in Section 3.6, Energy, of the Initial Study. In addition, installation and operation of each generator would occur in compliance with manufacturer and regulatory requirements, and would not pose a hazard to people living or working in the area, and impacts described in Section 3.9 of the Initial Study would continue to be less than significant.

- The residential electricity use estimates provided in Table 3.A were incorrectly reported as 141,370 kWh per year, and the correct residential energy usage was 1,414,370 kWh. However, the total electricity use was correctly reported as 2,108,144 kWh per year. In any case, energy estimates have been updated based on minor revisions to the project description and additional project-specific information. Based on the updated analysis, the estimated potential increased electricity demand associated with the proposed project is 1,994,851 kilowatt-hours (kWh) per year. In addition, the proposed project would result in approximately 3,255,587 vehicle miles traveled (VMT) per year, resulting in the consumption of approximately 147,981 gallons of gasoline per year. Impacts related to consumption of energy resources as discussed in Section 3.6, Energy would remain less than significant.

- The initiation of project construction and the project opening year have been revised to reflect the current project status throughout the EIR.

This page intentionally left blank

APPENDIX D

HOUSING NEEDS ASSESSMENT

This page intentionally left blank

KEYSER MARSTON ASSOCIATES

HOUSING NEEDS ASSESSMENT

MENLO PORTAL PROJECT

Prepared for:
City of Menlo Park

Prepared by:
Keyser Marston Associates, Inc.

October 2020

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 1
- 1.1 Housing Availability 2
- 1.2 Net Impact on Housing Availability 2
- 1.3 Net Impact on Housing Availability by Income Category 4
- 1.4 Menlo Park Share of Net Impact on Housing Availability 6
- 1.5 Displacement Analysis 8

2.0 INTRODUCTION 10
- 2.1 Project Description 11
- 2.2 Income Definitions 11
- 2.3 Report Organization 12
- 2.4 Data Sources and Qualifications 13

3.0 HOUSING UNITS ADDED BY THE PROJECT BY INCOME CATEGORY 14
- 3.1 Below Market Rate Housing Units Required 14
- 3.2 Affordability Level of Market Rate Units 14
- 3.3 New Residential Units by Income Level 18

4.0 CHANGE IN WORKER HOUSING NEEDS FROM REMOVAL OF EXISTING ON-SITE JOBS AND REPLACEMENT WITH NEW ON-SITE JOBS 19
- 4.1 Methodology 19
- 4.2 Summary by Income Level 30

5.0 HOUSING DEMAND of OFF-SITE WORKERS IN SERVICES TO NEW RESIDENTS 31
- 5.1 Estimated Household Incomes of New Residents 31
- 5.2 The IMPLAN Model 33
- 5.3 Analysis of Housing Need by Income 38
- 5.4 Summary of Housing Need by Income, Off-site Workers 41

6.0 NET IMPACT ON HOUSING AVAILABILITY 43
- 6.1 Net Impact on Housing Availability Regionally 43
- 6.2 Menlo Park Share of Impact on Housing Supply and Housing Demand 44
- 6.3 Additional Discussion of Commute Share 48

7.0 DISPLACEMENT ANALYSIS 50
- 7.1 Displacement and Risk of Displacement in East Palo Alto and Belle Haven 50
- 7.2 Potential for Proposed Project to Contribute to Displacement 52

APPENDIX A – WORKER OCCUPATIONS AND COMPENSATION LEVELS 53

List of Tables

Table 1-1. Project Summary 1
Table 1-2. Estimated Net Impact of Project on Housing Availability 3
Table 1-3. Net Impacts on Housing Availability by Income Category 5
Table 1-4. Estimated Menlo Park Share of Net Impacts on Housing Availability 7
Table 2-1. Project Summary 11
Table 2-2. 2020 Household Income Limits 12
Table 3-1. Market Rate and BMR Units 14
Table 3-2. Rents for Comparable Apartments and Estimate for Proposed Project 17
Table 3-3. Estimated Affordability Level Applicable to Market Rate Units 18
Table 3-4. Estimated Affordability Level of New Residential Units 18
Table 4-1. Estimated Net Reduction in On-Site Employment 21
Table 4-2. Estimated Change in On-Site Employee Households 22
Table 4-3. Summary of Tenants in Existing Office and Industrial Space and Applicable Industry Category 23
Table 4-4. On-Site Employee Households - Occupation Categories 24
Table 4-5. Percent of Households by Size and No. of Workers 25
Table 4-6. Ratio of Household Income to Individual Worker Income 26
Table 4-7. Employee Households by Occupation and Income (Steps 4, 5, and 6) 27
Table 4-8. Estimated Changes in On-Site Employee Households by Income 30
Table 5-1. Aggregate Household Income of New Residents 31
Table 5-2. Percent of Income Available for Expenditures (1) 32
Table 5-3. Income Available for Expenditures 33
Table 5-4. Jobs Generated from Household Spending of 335 Residential Units 35
Table 5-5. Jobs Generated by Industry from Housing Spending [IMPLAN Output] 36
Table 5-6. Comparison to Existing City and County Relationships Between Number of Residential Units and Number of Jobs in Key Resident Serving Sectors. 38
Table 5-7. Estimated Net Change in On-Site Employee Households 39
Table 5-8. Worker Households by Occupation – Jobs in Off-Site Services to New Residential Units 39
Table 5-9. Employee Households by Occupation and Income (Steps 3, 4, and 5) for Workers in Off-Site Services To New Residents 41
Table 5-10. Estimated Off-Site Employee Households by Income 42
Table 6-1. Estimated Net Impact of Project on Housing Availability 44
Table 6-2. Net Impacts on Housing Availability by Income Category 44
Table 6-3. Estimated Menlo Park Share of Net Housing Availability Impacts with Current Commute Share 46
Table 6-4. Estimated Menlo Park Share of Net Housing Availability Impacts with Increased Commute Share 48

1.0 EXECUTIVE SUMMARY

This Housing Needs Assessment (HNA) provides an analysis of housing supply and housing demand impacts of the proposed Menlo Portal Project (Project) in the City of Menlo Park (City) and evaluates the potential that the proposed Project could contribute to displacement of existing residents within the City of East Palo Alto and the Belle Haven neighborhood of Menlo Park, two proximate communities identified as having risk factors for displacement. The HNA is part of a range of analyses provided to assist in the decision-making and entitlement process for the proposed Project and accompanies the Environmental Impact Report (EIR). An HNA is, however, not a requirement of the California Environmental Quality Act (CEQA). Preparation of this HNA is required under the terms of a 2017 settlement agreement between the cities of Menlo Park and East Palo Alto[1].

The proposed Project is located on an approximately 3.2 acre site at 104 Constitution Drive, 110 Constitution Drive, and 115 Independence Drive in Menlo Park. The proposed Project includes 335 new multifamily rental units, 33,211 square feet of new office space and approximately 1,608 square feet of ground floor retail/commercial space. The proposed Project replaces three existing office and industrial buildings encompassing a combined 64,832 square feet of building area. A summary of the proposed Project is provided in Table 1-1, below.

Table 1-1. Project Summary

	Residential Units	Building Area(1)
Proposed		
Apartments	335 Units	327,970 SF
Office		33,211 SF
Retail / Commercial		1,608 SF
		362,789 SF
Existing Office and Industrial Buildings [To Be Demolished]		(64,832 SF)
Net Change With Project	335 Units	297,957 SF

(1) Parking structure is not included in building area totals.

[1] In 2016, the City updated its General Plan, specifically the land use and circulation elements, commonly referred to as ConnectMenlo. The City completed and certified a program level EIR for ConnectMenlo, which determined that there would be a less than significant impact on population and housing, except cumulative impacts projected to be reduced to less than significant following an update of ABAG regional forecasts. However, pursuant to the terms of the 2017 City of East Palo Alto v. City of Menlo Park Settlement Agreement, which settled the lawsuit regarding the ConnectMenlo EIR, preparation of this HNA is required.

1.1 Housing Availability

The term "housing availability" is used to refer to the combined net housing supply and housing demand impacts of the proposed Project taking into consideration:

a) Construction of new housing units, which adds to housing availability through additions to the housing supply;

b) Removal of existing jobs, which adds to housing availability by reducing demand for housing by employees; and

c) Addition of new jobs, which reduces housing availability by increasing demand for housing by employees.

Prior HNAs prepared for non-residential projects in Menlo Park have not used the term "housing availability" because these projects impact only the demand or need for housing. For purposes of a residential project, a new term is introduced to describe combined effects on supply and demand for housing.

1.2 Net Impact on Housing Availability

The proposed Project is estimated to increase the number of available housing units by 275 units as shown in Table 1-2 and Chart 1. This estimate reflects the combined effect of:

1. The 335 new residential units added to the housing supply by the proposed Project.

2. A 68-unit increase in housing availability from removal of existing on-site jobs, which reduces worker housing demand. Removal of the existing buildings removes an estimated 130 on-site jobs. Removal of 130 jobs translates to a net reduction in employee[2] housing demand of 68 units based on 1.90 workers per housing unit[3]. See Section 4 for supporting analysis.

3. A 65-unit decrease in housing availability due to added housing demand from new on-site workers within the new office and ground floor retail/commercial space and on-site property management and maintenance for the residential units. A combined 122 jobs are estimated to be added on-site, which translates into an estimated employee housing demand of 65 units based on 1.90 workers per housing unit. See Section 4 for supporting analysis.

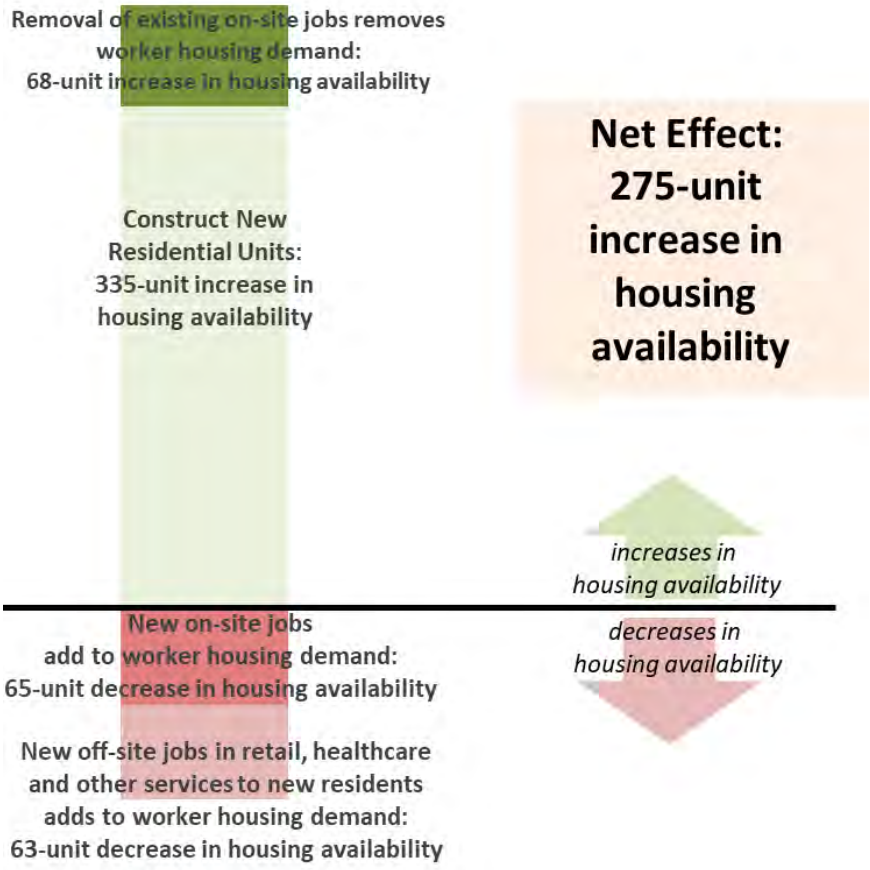
[2] The terms "worker" and "employee" are used interchangeably.

[3] This factor reflects the average number of workers per working household and is derived from U.S. Census data. See additional discussion under Step 2 on page 22.

4. A 63-unit decrease in housing availability due to added housing demand by workers in off-site services to new residents such as restaurants, retail, education, medical care and others. This estimate reflects consideration of "multiplier effects" of household spending by residents of the new units consistent with the 2017 settlement agreement. Analysis supporting this estimate is provided in Section 5.

Table 1-2. Estimated Net Impact of Project on Housing Availability	
New Residential Units	335 Units
Reduced Housing Demand from Removal of On-site Jobs	68 Units
Less: Added Housing Demand from New On-site Jobs	(65 Units)
Less: Added Housing Demand from Off-site Workers in Services to New Residents	(63 Units)
Net Increase in Available Housing	**275 Units**

Chart 1 - Net Impact on Housing Availability from Proposed Project



1.3 Net Impact on Housing Availability by Income Category

The net impact on housing availability is estimated for each of the following six affordability categories, each expressed in relation to local Area Median Income (AMI):

- Extremely Low Income – households up to 30% of AMI;
- Very Low Income – households over 30% up to 50% of AMI;
- Low Income – households over 50% up to 80% of AMI;
- Moderate Income – households over 80% up to 120% of AMI;
- Above Moderate Income – households over 120% up to 150% of AMI; and
- Over 150% of AMI – households above 150% of AMI.

According to the California Department of Housing and Community Development (HCD), the AMI for a family of four in San Mateo County, is $143,100 as of 2020. Section 2 provides income limits applicable to each of the identified income categories. The affordability categories from 0% through 120% AMI reflect those addressed by statewide housing programs such as the Regional Housing Needs Allocation (RHNA) process. In addition, the Above Moderate Income tier is included in the analysis for consistency with HNAs prepared for prior projects in Menlo Park and to provide decision makers with information regarding a broad spectrum of housing affordability levels. Above Moderate Income households also face affordable housing challenges in Menlo Park as well as in the broader Bay Area. In fact, due to the high cost of housing, housing affordability challenges also extend to households earning over 150% of AMI[4], particularly in the for-sale housing market. The Over 150% of AMI category captures households with incomes that exceed 150% AMI and includes all households not included within one of the other income categories.

Net Impact on Housing Availability by Income Level

The estimated net impacts on housing availability by income category are presented in Table 1-3. Findings represent the net result of:

1) 335 new housing units added to the housing supply including 48 Below Market Rate (BMR) units affordable to Low Income, 274 market rate studio, one and two-bedroom units affordable to Above Moderate Income, and 13 market rate three-bedroom units affordable to the Over 150% AMI category;

[4] An income of approximately 231% of AMI, is estimated to be needed to afford the median priced home in Menlo Park. The median priced home in Menlo Park is $2.2 million based on home sales from January 2019 through February 2020 from real estate data service provider CoreLogic. To afford a $2.2 million home, an income of 231% of AMI is estimated to be needed. Estimates assume a down payment of 26% based on the median down payment for home purchases with a mortgage in Menlo Park estimated from CoreLogic data, 35% of income spent on housing, and a mortgage interest rate of 3.7% based on the average 30-year fixed mortgage rate from April 2019 through April 2020 from Freddie Mac Primary Mortgage Market Survey.

2) 68 units of increased housing availability across a range of income levels from removal of existing on-site jobs and related worker housing demand;

3) A 65-unit decrease in housing availability across a range of income levels from addition of new on-site jobs and related worker housing demand; and

4) A 63-unit decrease in housing availability due to new housing demand by workers in services to new residents.

The analysis reflects the Project applicant's proposal for compliance with the City's BMR affordable housing requirement by providing Low Income on-site BMR units.

The net result is a 275-unit increase in available housing comprised of 33 Low and 268 Above Moderate units, partially offset by decreases in housing availability for Extremely Low, Very Low and Moderate Income households of six, 13 and seven units, respectively. The calculations are shown in Table 1-3.

Table 1-3. Net Impacts on Housing Availability by Income Category

	Extremely Low	Very Low	Low	Moderate	Above Moderate	Over 150% AMI	Total
1. Increase in available housing from construction of new units	0	0	48	0	274	13	335
2. Increase in available housing from removal of existing on-site jobs, which reduces worker housing demand	2	13	23	13	10	7	68
3. Decrease in available housing from increase in housing demand by new on-site workers	0	(8)	(17)	(12)	(12)	(16)	(65)
4. Decrease in available housing from increase in housing demand by off-site workers in services to new residents	(8)	(18)	(21)	(8)	(4)	(4)	(63)
Net Increase in Housing Availability [(1)]	**(6)**	**(13)**	**33**	**(7)**	**268**	**0**	**275**

(1) Negative figures represent an increase in housing demand that is not offset by added housing supply.

Findings represent the total estimated housing availability impacts throughout the region and include impacts both within Menlo Park as well as in other jurisdictions where workers who hold on-site or off-site jobs live. See Section 1.4 for an estimate of impacts within Menlo Park.

Following is a brief description of the approach used for each component of the analysis.

(1) *Residential units* – the affordability level of new residential units reflects the Project applicant's proposal for compliance with the City's BMR Program guidelines. For the

market rate units, affordability level is based on estimated market rate rents and the household income necessary to afford these rents. See Section 3 for additional description.

(2) *Increase in available housing from removal of on-site jobs* – The decrease in worker housing demand starts with an estimate of the decrease in employment with removal of existing office and industrial space. Ratios derived from the U.S. Census are used to translate the decrease in employment to a decrease in worker housing demand. The decrease in worker housing demand by income category is identified by comparing estimated household incomes of workers to household income limits for the six affordability categories addressed in the analysis. Household income estimates use publicly available data on worker compensations and reflect the mix of design, publishing, and contractor tenants in the existing buildings. See Section 4 for additional description.

(3) *Decrease in available housing from addition of on-site jobs* – The increase in worker housing demand from addition of new on-site jobs starts with an estimate of the increase in employment in the new office and ground floor retail/commercial space and on-site property management of the residential units. Ratios derived from the U.S. Census are used to translate the number of jobs into total worker housing demand. Worker housing demand by income category is estimated using publicly available data on worker compensations and reflect an assumed tech-oriented tenant mix. See Section 4 for additional description.

(4) *Decrease in available housing due to added off-site jobs in services to new residents* – The analysis estimates the income of households renting the new residential units, their demand for goods and services such as groceries, restaurants, and healthcare, the off-site jobs created by the additional demand, and the housing needs by income level of workers who will hold these new jobs. See Section 5 for additional description.

1.4 Menlo Park Share of Net Impact on Housing Availability

This section provides an estimate of the share of the proposed Project's impacts on housing availability that occur in the City of Menlo Park. Findings of the prior section represent total estimated impacts regardless of the jurisdiction in which impacts occur. The portion of total housing availability impacts that occur in Menlo Park are estimated using the following approach:

(1) All 335 residential units added by the proposed Project are in the City of Menlo Park; therefore, all 335 units are identified as additional housing supply in Menlo Park.

(2) Seven of 68 total units of increased housing availability from removal of on-site jobs is estimated to be in Menlo Park based on the existing 10.9% share of workers who live in Menlo Park based on tenant-specific commute data provided by the applicant.

(3) Four of 65 units of added regional housing demand from new on-site jobs is estimated to be in Menlo Park based on the existing 6.3% share of Menlo Park workers who live in the City[5]. The City Council has expressed an interest in improving the jobs housing balance and obtaining data to inform the goal of increasing the number of workers who live and work in Menlo Park. Therefore, for informational purposes, the report provides an upper estimate of housing units in Menlo Park based on a 20% commute share, which was a goal identified in the City's 2000 Commercial Linkage Fee Nexus Study. Using this upper estimate, 13 of the 65-unit increase in housing availability from removal of new on-site jobs would be estimated to be within Menlo Park.

(4) Four of 63 total units of added regional housing demand from new off-site jobs is estimated to be within Menlo Park based on the existing 6.3% share of Menlo Park workers who live in the City. The upper estimate using a 20% commute share would be 13 units of regional housing demand within Menlo Park.

The above approach results in a net increase of 334 units of housing availability in Menlo Park, assuming the current commute share is maintained (334 units = 335 new units, plus seven units of added housing availability from removal of on-site jobs, minus four units of new on-site employee housing demand and four units of new off-site employee housing demand in Menlo park). The upper estimate provided for informational purposes with an increased commute share goal of 20% would result in a net increase in housing availability in Menlo Park of 316 units (316 units = 335 new units plus seven units of added housing availability from removal of on-site jobs minus 13 units of new on-site employee housing demand and 13 units of new off-site employee housing demand in Menlo park). The difference between the current commute share and the increased commute share is a total of 18 units.

Table 1-4 identifies the breakout of the net impact on housing availability in Menlo Park by income category for the two commute share alternatives.

Table 1-4. Estimated Menlo Park Share of Net Impacts on Housing Availability

	Extremely Low	Very Low	Low	Moderate	Above Moderate	Over 150% AMI	Total
Current Commute Share (6.3%) [(1)]	(1)	(1)	49	(1)	275	13	334
Increased Commute Share (20%) [(1)]	(2)	(5)	44	(2)	271	10	316

[(1)] Except for existing on-site jobs for which the existing tenant-specific 10.9% commute share is applied under both alternatives.

[5] The 10.9% commute share for existing jobs is not applied to new jobs as it is specific to existing tenants and may not be representative for tenants in the new office space.

Assuming the current 6.3% commute share, the estimated 334-unit net increase in housing availability in Menlo Park consists of 49 Low, 275 Above Moderate, and 13 Over 150% AMI units, offset by a one unit net decrease in housing availability in each of the Extremely Low, Very Low and Moderate-Income categories.

With the upper estimate using a 20% commute share assumption, the estimated 316-unit net increase in housing availability in Menlo Park consists of 44 Low, 271 Above Moderate, and ten Over 150% AMI units, offset by a net decrease in housing availability in the Extremely Low, Very Low and Moderate Income categories of two, five, and two units, respectively. Differences from the current commute share scenario are driven by the greater share of new on- and off-site workers assumed to live in Menlo Park with a 20% commute share.

See Section 6.2 for the supporting analysis.

1.5 Displacement Analysis

Displacement occurs when housing or neighborhood conditions force existing residents to move or households feel like their move is involuntary. Displacement can be caused by a range of physical, economic and social factors including but not limited to foreclosure, condominium conversion, building deterioration or condemnation, increased taxes, natural disasters, eminent domain and increases in housing costs[6, 7, 8]. The HNA is focused on economic drivers of displacement, specifically the potential for the proposed Project to affect the local housing market and contribute to increasing housing costs.

While displacement is not an impact for the purposes of the California Environmental Quality Act (CEQA), displacement has become an increasing regional concern in the Bay Area. A map produced by the Urban Displacement Project, a research and action initiative of UC Berkeley that aims to understand and describe the nature of gentrification and displacement, identifies numerous communities as undergoing displacement or at risk of displacement that extend from San Francisco down the Peninsula to many neighborhoods in San Jose and the East Bay.

[6] Zuk, M. et. al. 2017. Gentrification, Displacement, and the Role of Public Investment. Journal of Planning Literature. Journal of Planning Literature 1-14.

[7] Center for Community Innovation (2020). Investment and Disinvestment as Neighbors, A Study of Baseline Housing Conditions in the Bay Area Peninsula.

[8] Bradshaw, K. (2019). Uneven Ground: How unequal land use harms communities in southern San Mateo County. Palo Alto Online. https://paloaltoonline.atavist.com/uneven-ground.

The displacement analysis addresses the potential for the proposed Project to contribute to displacement of existing residents in two nearby communities, the City of East Palo Alto (East Palo Alto) and Menlo Park's Belle Haven neighborhood (Belle Haven). These communities have risk factors for displacement based on their relatively lower-income existing population that includes a high percentage of households who spend 35% or more of their income on housing. They are identified by the Urban Displacement Project[9] as experiencing on-going gentrification and/or displacement or being at risk of displacement. Another recent study of baseline housing conditions in the Belle Haven neighborhood, City of East Palo Alto, and North Fair Oaks neighborhood, prepared by the UC Berkeley Center for Community Innovation and its Y-PLAN initiative, identified similar conclusions[10].

Because the proposed Project adds to the supply of market rate and affordable housing and results in a net increase in available housing overall, the proposed Project is not anticipated to contribute to displacement in East Palo Alto or Belle Haven. Increasing the availability of market rate and affordable housing will tend to moderate or counteract displacement pressures to some degree by relieving market pressures on existing housing stock.

[9]Zuk, M., & Chapple, K. (2019). Urban Displacement Project. http://www.urbandisplacement.org/

[10] Center for Community Innovation (2020). Investment and Disinvestment as Neighbors, A Study of Baseline Housing Conditions in the Bay Area Peninsula.

2.0 INTRODUCTION

This Housing Needs Assessment (HNA) provides an analysis of the proposed Project's impact on housing supply and housing demand and evaluates its potential to contribute to displacement of existing residents of the City of East Palo Alto (East Palo Alto) and the Belle Haven neighborhood of Menlo Park (Belle Haven), two proximate communities identified as having risk factors for displacement. The report has been prepared by Keyser Marston Associates (KMA) for the City of Menlo Park under a subcontract agreement with LSA Associates, prime consultant responsible for preparation of the Environmental Impact Report (EIR).

In 2016, the City updated its General Plan, specifically the land use and circulation elements, and its Zoning Ordinance (commonly referred to as ConnectMenlo). The City completed and certified a program level EIR for ConnectMenlo, which determined that there would be a less than significant impact on population and housing, except cumulative impacts projected to be reduced to less than significant following an update of ABAG regional forecasts. However, pursuant to the terms of the 2017 City of East Palo Alto v. City of Menlo Park Settlement Agreement, which settled the lawsuit regarding the ConnectMenlo EIR, preparation of this HNA is required. This HNA has been prepared consistent with the terms of that settlement agreement.

The following housing-related topics are addressed in this HNA:

1) Net impact on housing availability from the proposed Project, by income level, based on the combined effects of:
   a. Added residential units;
   b. Reduced worker housing need with removal of existing office and industrial buildings;
   c. Added housing needs for workers in new office and ground floor retail/commercial space; and
   d. Added housing needs for workers in off-site retail and other services to residents of the new residential units.

2) Share of housing availability impacts estimated to occur within the City of Menlo Park; and

3) Potential for the proposed Project to contribute to rising housing costs and displacement of existing residents in East Palo Alto and Belle Haven.

These housing-related impacts are not required to be analyzed under the California Environmental Quality Act (CEQA) since economic or social changes are not considered significant effects on the environment. Nevertheless, this information is required by the settlement agreement and may be of interest to decision-makers and/or the public in evaluating the merits of the proposed Project.

2.1 Project Description

Menlo Park Portal Venture, LLC (Project Sponsor) is proposing construction of 335 new multifamily rental units, a 33,211 square foot office building with approximately 1,608 square feet of ground floor retail / commercial space. The proposed Project is located on an approximately 3.2 acre site at 104 Constitution Drive, 110 Constitution Drive, and 115 Independence Drive in Menlo Park. The proposed Project replaces three existing office and industrial buildings on the Project site encompassing a combined 64,832 square feet of building area. Table 2-1 provides a summary of the proposed Project.

Table 2-1. Project Summary

	Residential Units	Building Area
Proposed		
Apartments	335 Units	327,970 SF
Office		33,211 SF
Retail / Commercial		1,608 SF
		362,789 SF
Existing Office and Industrial Buildings [To Be Demolished]		
104 Constitution		(23,212 SF)
110 Constitution		(25,091 SF)
115 Independence		(16,529 SF)
Total		(64,832 SF)
Net Change With Project	335 Units	297,957 SF

(1) Parking structure is not included in building area totals.

2.2 Income Definitions

The income levels or tiers used in the analysis are expressed in relation to local Area Median Income (AMI). For example, Extremely Low Income is defined as households earning up to 30% of AMI. The AMI for each county or group of counties is issued annually by the U.S. Department of Housing and Urban Development (HUD), and released by the California Department of Housing and Community Development. Most housing programs and policies in California and its jurisdictions utilize these income definitions. The City of Menlo Park is covered by and utilizes the AMI information provided for San Mateo County.

Per HCD and statewide programs, the analysis includes households earning less than 120% AMI. In addition, an Above Moderate Income tier covering 120% to 150% AMI is presented in this analysis because this income tier also faces affordable housing challenges in Menlo Park and the greater Bay Area. In fact, due to the high cost of housing in Menlo Park, housing

affordability challenges even extend to households earning more than 150% of AMI[11], especially in the for-sale housing market. As with HNAs prepared for prior projects in Menlo Park, the Above Moderate Income tier was included to provide decision makers more information on the housing needs of a broad spectrum of housing affordability levels.

In summary, the income tiers used in the analysis are:

- Extremely Low Income – households up to 30% of AMI;
- Very Low Income – households over 30% up to 50% of AMI;
- Low Income – households over 50% up to 80% of AMI;
- Moderate Income – households over 80% up to 120% of AMI;
- Above Moderate Income – households over 120% up to 150% of AMI; and
- Over 150% of AMI – households above 150% of AMI.

The 2020 income limits by household size are presented below in Table 2-2.

Table 2-2. 2020 Household Income Limits

		Income Limit by Household Size					
Income Category	**Percent of AMI**	1-person	2-person	3-person	4-person	5-person	6-person
Extremely Low	30% of AMI	$36,550	$41,800	$47,000	$52,200	$56,400	$60,600
Very Low Income	50% of AMI	$60,900	$69,600	$78,300	$87,000	$94,000	$100,950
Low Income	80% of AMI	$97,600	$111,550	$125,500	$139,400	$150,600	$161,750
Moderate Income	120% of AMI	$120,200	$137,350	$154,550	$171,700	$185,450	$199,150
Above Moderate	150% of AMI	$150,250	$171,750	$193,200	$214,650	$231,850	$249,000
Median Income	100% of AMI	$100,150	$114,500	$128,800	$143,100	$154,550	$166,000

AMI = Area Median Income, San Mateo County 2020
Source: California Department of Housing and Community Development

2.3 Report Organization

This report is organized into seven sections and one appendix:

- Section 1.0 provides an Executive Summary;
- Section 2.0 provides an Introduction;
- Section 3.0 identifies the income categories applicable to the new residential units;

[11] An income of approximately 231% of AMI, is estimated to be needed to afford the median priced home in Menlo Park. The median priced home in Menlo Park is $2.2 million based on home sales from January 2019 through February 2020 from real estate data service provider CoreLogic. To afford a $2.2 million home, an income of 231% of AMI is estimated to be needed. Estimates assume a down payment of 26% based on the median down payment for home purchases with a mortgage in Menlo Park estimated from CoreLogic data, 35% of income spent on housing, and a mortgage interest rate of 3.7% based on the average 30-year fixed mortgage rate from April 2019 through April 2020 from Freddie Mac Primary Mortgage Market Survey.

- Section 4.0 provides an analysis of worker housing needs from removal of existing on-site jobs and addition of new on-site jobs;
- Section 5.0 estimates housing demand by income for off-site workers in services to new residents such as restaurants, retail and health care;
- Section 6.0 combines the findings of Sections 3, 4 and 5 to estimate the net impact on housing availability and the share of net impacts occurring within the City of Menlo Park;
- Section 7.0 provides a discussion of the potential for the proposed Project to contribute to displacement of existing residents in East Palo Alto and Belle Haven; and
- Appendix A provides supporting tables on worker occupation and incomes.

2.4 Data Sources and Qualifications

The analysis in this report has been prepared using the best and most recent data available. Local data was used wherever possible. Other sources, such as the U.S. Census Bureau and U.S. Bureau of Labor Statistics were used extensively. While KMA believes all sources utilized are sufficiently accurate for the purposes of the analysis, KMA cannot guarantee their accuracy. Keyser Marston Associates, Inc. assumes no liability for information from these or other sources.

3.0 HOUSING UNITS ADDED BY THE PROJECT BY INCOME CATEGORY

This section estimates how the 335 new residential units added by the proposed Project will be distributed by income or affordability category.

3.1 Below Market Rate Housing Units Required

The proposed Project would include 48 Below Market Rate (BMR) affordable units. The City's Below Market Rate Housing Program codified in Chapter 16.96 of the City's Zoning Code requires residential development projects with twenty or more units to provide 15% BMR affordable units. The 48 required BMR units is determined based on applying the 15% requirement to the 320-unit "base project" before consideration of additional units permitted under density bonus provisions of the City's BMR Program (15% X 320 = 48 BMR units required). Therefore, within the 320-unit base project, there are 272 market rate units and 48 BMR units. The density bonus provisions of the BMR ordinance allow one additional market rate unit for each required BMR unit, resulting in up to 48 bonus market rate units allowed, of which the applicant has proposed 15 bonus market rate units. Therefore, in total, there are 287 market rate units (272 base project + 15 bonus market rate units) and 48 BMR units for a total of 335 units in the proposed Project. Table 3-1 provides a summary.

Table 3-1. Market Rate and BMR Units

	Market Rate Units	BMR Units	Total Units
Zoning Ordinance	272	48 (15% of base project)	320
BMR Density Bonus	15 proposed (of 48 allowed - one for each BMR unit)	0	15
Total	287	48	335

BMR rental units are required by the City's BMR ordinance and guidelines to be affordable to Low Income households. Alternative affordability levels are permitted under the City's BMR guidelines if determined to be roughly equivalent to providing all BMR units at Low Income. The Project applicant is proposing to provide all BMR units at Low Income.

3.2 Affordability Level of Market Rate Units

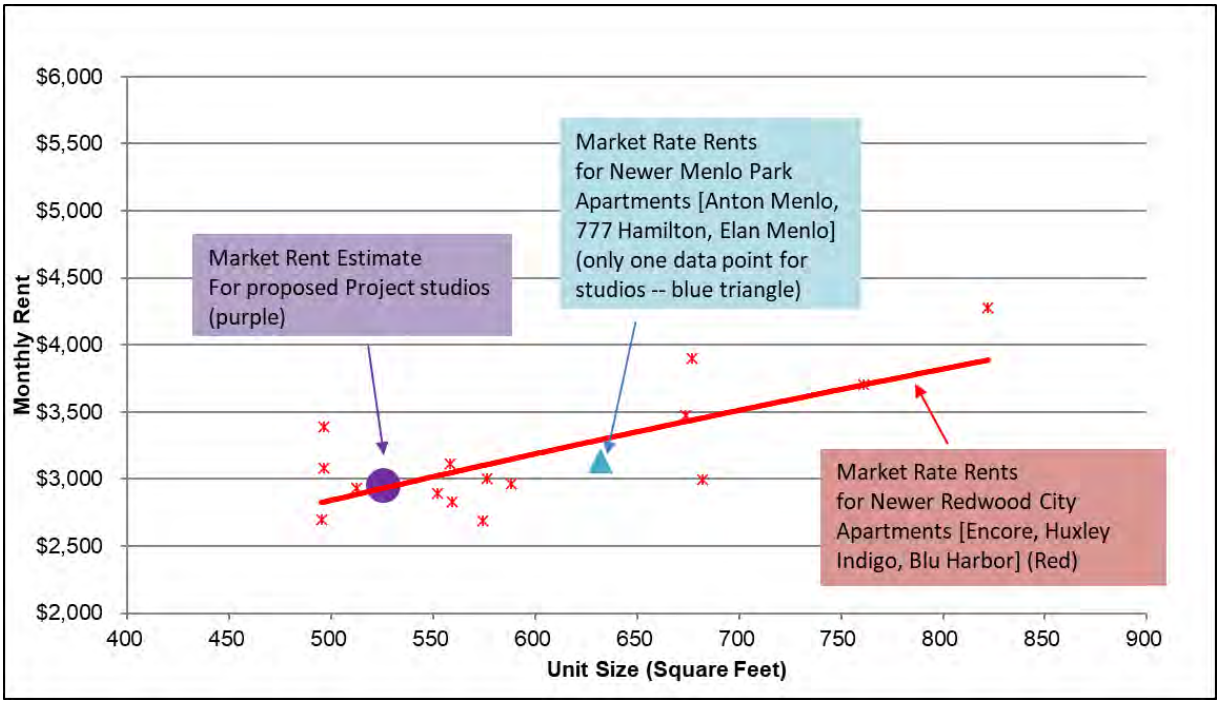
The proposed Project will include 287 market rate rental units. Market rate rental units are estimated to be affordable to households in the Above Moderate Income category, except for market rate three-bedroom units, estimated to be affordable to Over 150% AMI. Estimated affordability levels are based on estimated market rate rents for the units. Market rate units will not be deed restricted; therefore, the affordability level could change over time as market conditions and the income criteria used to determine affordability level change.

Market rents were estimated by KMA based on three newer rental properties in Menlo Park located on the north side of U.S. 101, the Anton Menlo at 3639 Haven (built 2017), the Elan

Menlo at 3645 Haven (built 2017) and 777 Hamilton (built 2016). Data on rents for newer apartment properties in Menlo Park was supplemented with data for newly built apartments in Redwood City including the Encore at 849 Veterans Blvd (built 2019), Huxley at 1355 El Camino Real (built 2018), Indigo at 675 Bradford (built 2016) and Blu Harbor at 1 Blu Harbor Boulevard (built 2017).

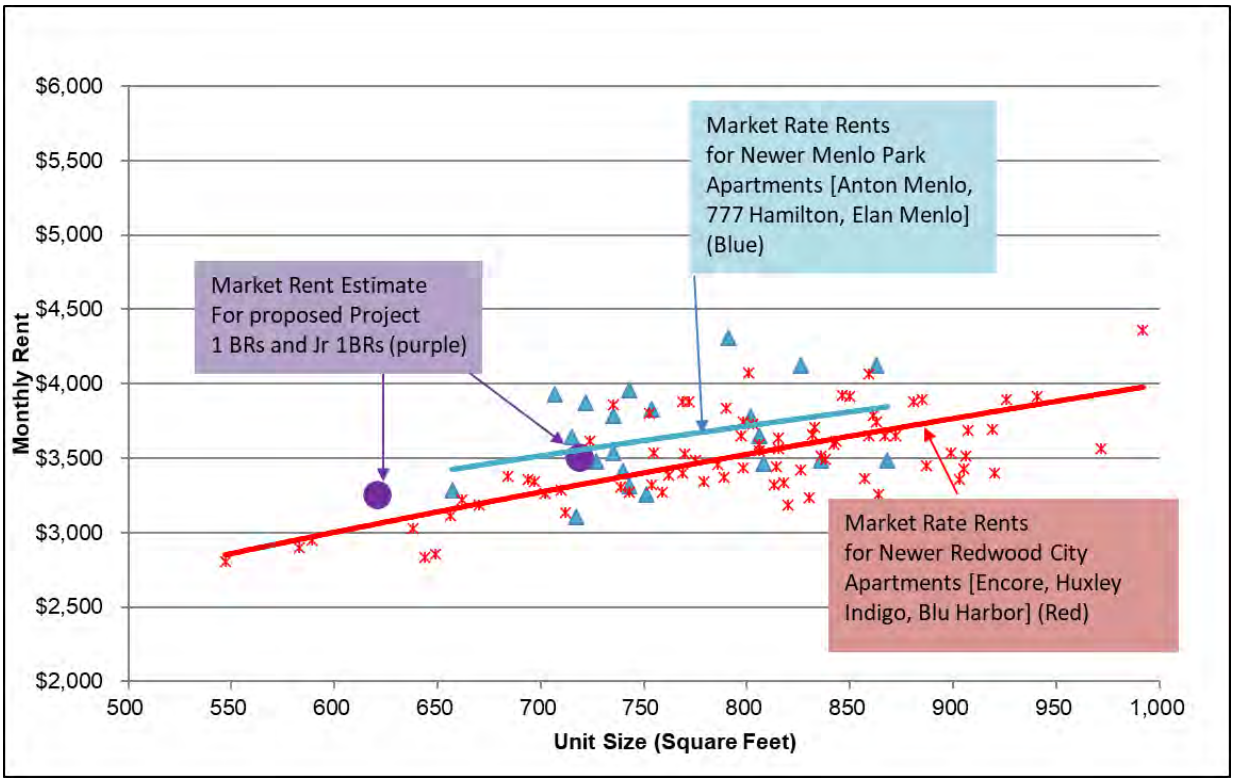
Average rental rates for the comparison properties by bedroom size are shown in Table 3-2 and Charts 1 through 4. Each data point in Charts 1 through 4 represents the average effective market rate rent for units of a specific square footage size. Separate trend lines are fit to actual rents for the Menlo Park comparison properties (blue) and the Redwood City comparison properties (red). Estimated rents for the proposed Project are identified by purple circles. Based on the market data and the unit sizes for the proposed Project, studios are estimated to rent for approximately $2,950 per month, junior one-bedrooms for $3,250 per month, standard one bedrooms for $3,500 per month, two bedrooms for $4,300 per month and three bedrooms for $5,750 per month.

Chart 1 – Newer Studio Apartment Market Rate Rents and Estimated Rents for proposed Project



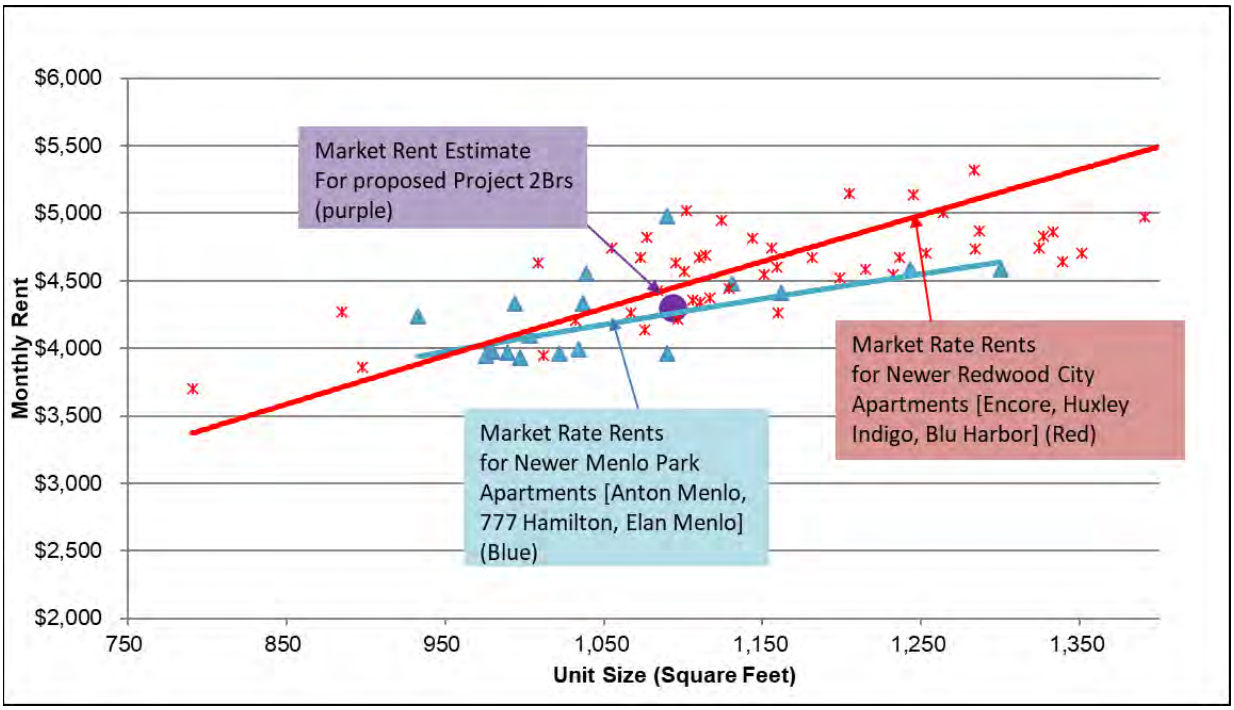
Source: CoStar and KMA

Chart 2 – Newer One-Bedroom Market Rate Rents and Estimated Rents for proposed Project



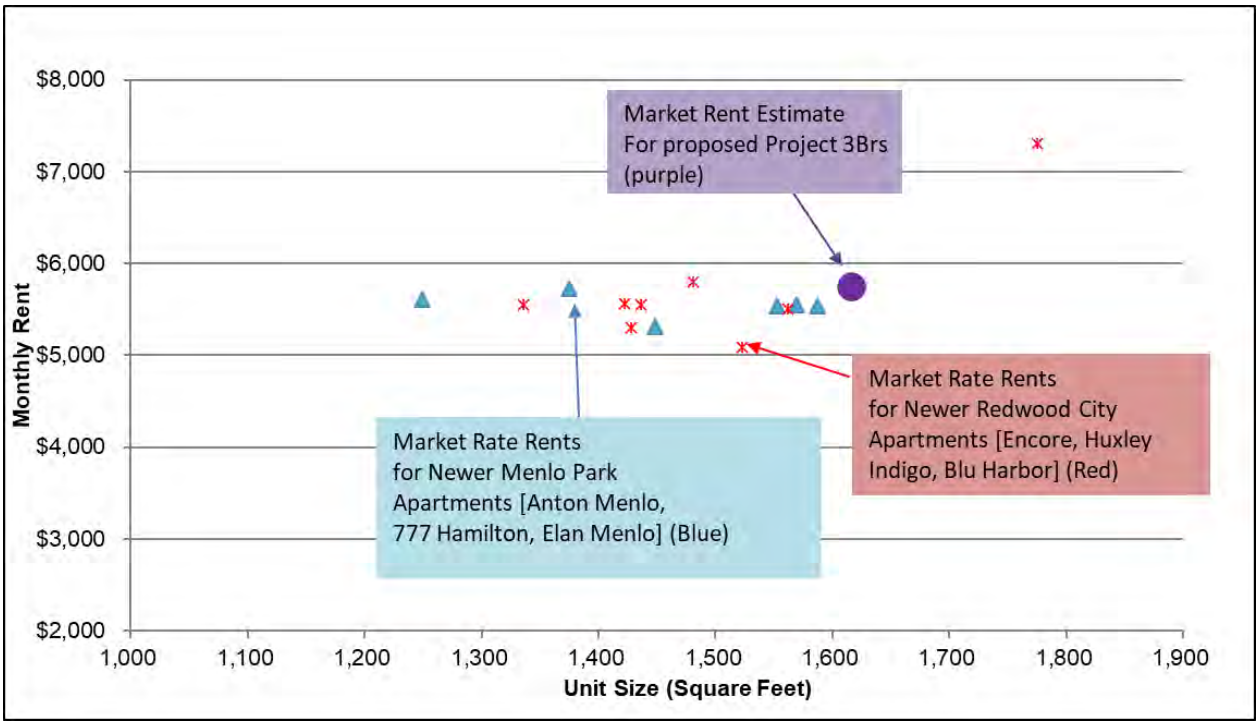
Source: CoStar and KMA

Chart 3 – Newer Two-Bedroom Market Rate Rents and Estimated Rents for proposed Project



Source: CoStar and KMA

Chart 4 – Newer Three-Bedroom Market Rate Rents and Estimated Rents for proposed Project



Source: CoStar and KMA. Note: trendlines not shown due to limited data for three-bedrooms.

Table 3-2. Rents for Comparable Apartments and Estimate for Proposed Project

	Studios			1-Bedroom				2-Bedrooms			3-Bedrooms		
	Avg Size	Avg Rent	Avg Rent PSF		Avg Size	Avg Rent	Avg Rent PSF	Avg Size	Avg Rent	Avg Rent PSF	Avg Size	Avg Rent	Avg Rent PSF
Estimate for Project	526	$2,950	$5.61	1-br	719	$3,500	$4.87	1,094	$4,300	$3.93	1,616	$5,750	$3.56
				jr1-br	621	$3,250	$5.23						
Comparable Apartments													
Menlo Park North of US101													
Anton Menlo	632	$3,139	$4.97		757	$3,546	$4.69	1,096	$4,413	$4.03	1,554	$5,536	$3.56
777 Hamilton					741	$3,834	$5.17	1,051	$4,590	$4.37	1,391	$5,672	$4.08
Elan Menlo Park					763	$3,550	$4.65	1,017	$3,966	$3.90	1,249	$5,606	$4.49
Redwood City													
Encore	674	$3,478	$5.16		823	$3,769	$4.58	1,128	$4,747	$4.21	1,399	$5,561	$3.97
Huxley	646	$3,561	$5.51		782	$3,436	$4.39	1,159	$4,735	$4.09			
Indigo	547	$2,912	$5.32		759	$3,428	$4.52	1,174	$4,923	$4.19	1,481	$5,799	$3.92
Blu Harbor	588	$2,968	$5.05		836	$3,367	$4.03	1,265	$4,629	$3.66	1,547	$5,653	$3.65

Source: Effective rents per CoStar, Estimate for proposed Project per KMA.

Market rate rents were then used to estimate the affordability level of the units. As shown in Table 3-3, the market rate units are estimated to be affordable to Above Moderate Income households, except three-bedroom units, estimated to be affordable to Over 150% AMI households.

Table 3-3. Estimated Affordability Level Applicable to Market Rate Units

	Studio	Junior 1-BR	1-BR	2-BR	3-BR
Estimated Market Rate Monthly Rent (1)	$2,950	$3,250	$3,500	$4,300	$5,750
Utilities (2)	$108	$119	$119	$156	$199
Total Monthly Housing Cost (Rent + Utilities)	$3,058	$3,369	$3,619	$4,456	$5,949
Annual Housing Cost	$36,696	$40,428	$43,428	$53,472	$71,388
Percent of Income for Housing (3)	30%	30%	30%	30%	30%
Annual Household Income Required	$122,320	$134,760	$144,760	$178,240	$237,960
2020 Median Income (4)	$100,150	$100,150	$114,500	$128,800	$143,100
Household Income Required as % of AMI	122%	135%	126%	138%	166%
Affordability Level of Market Units	Above Moderate	Above Moderate	Above Moderate	Above Moderate	Over 150% AMI

(1) KMA estimate based on market rents for newer apartment properties in Menlo Park and Redwood City.

(2) Tenant paid utilities estimated based on 2019 County Housing Authority utility allowance schedule.

(3) Per California Health and Safety Code Section 50053.

(4) HCD Income Limits for applicable household size for 2020. The City has determined that the junior one-bedroom will technically be considered studios as they likely cannot have traditional enclosed bedrooms.

3.3 New Residential Units by Income Level

Table 3-4 provides a summary of the income level applicable to the new residential units, combining the findings of Section 3.1 and 3.2. As shown, the proposed Project includes 48 Low Income BMR units, 274 market rate units affordable to Above Moderate Income, and 13 market rate three-bedroom units in the Over 150% AMI category.

Table 3-4. Estimated Affordability Level of New Residential Units

	Low	Above Moderate	Over 150% AMI	Total New Residential Units
	BMR units	*Market Rate*	*Market Rate*	
Studio	7	56	0	63
Junior 1-Bedroom	11	45	0	56
1-Bedroom	21	130	0	151
2-Bedroom	8	43	0	51
3-Bedroom	1	0	13	14
Total	48	274	13	335

4.0 CHANGE IN WORKER HOUSING NEEDS FROM REMOVAL OF EXISTING ON-SITE JOBS AND REPLACEMENT WITH NEW ON-SITE JOBS

This section provides an analysis of the change in worker housing need by income level from:

- Removal of existing on-site jobs in the existing office and industrial space; and
- Addition of new on-site jobs within the new office, ground floor retail/commercial, and on-site property management and maintenance for the new apartments.

The analysis begins by quantifying the number of on-site jobs removed and added by the proposed Project. Then, the analysis proceeds through a series of steps to estimate how the changes in on-site jobs translate into a change worker housing need by income level.

4.1 Methodology

The analysis estimates the changes in on-site employment from removal of the existing office and industrial buildings and construction of the new office, retail/commercial space and residential units. The estimated changes in employment are then translated into an estimated impact on worker housing demand based on relationships between jobs and housing demand derived from the U.S. Census. Finally, the income level associated with the housing demand is estimated using a combination of data sources including the U.S. Bureau of Labor Statistics occupation and wage data and U.S. Census data on households.

Following is a description of each step in the analysis.

Analysis Step 1 –On-Site Employment

The proposed Project results in removal of an estimated 130 existing jobs and an addition of an estimated 122 new jobs, for a net reduction of 8 jobs as summarized in Table 4-1.

Existing Employment to be Removed

Demolition of the existing office and industrial space removes an estimated 130 on-site jobs including an estimated 126 jobs with tenants and an estimated four jobs in building services like janitorial and maintenance. The number of on-site jobs is estimated based on an average employment density factor of 500 square feet per employee, which is reflective of the mix of existing uses and is consistent with the existing parking ratio for the site of approximately two spaces per 1,000 square feet of building area[12]. The number of building services staff included

[12] Data on the number of existing employees was requested from the applicant; however, the applicant indicated that this information is not available.

within this total is estimated using staffing ratios derived from data reported by the International Facility Management Association (IFMA). Building services workers are evaluated separately because these services are typically provided by separate contract service providers.

New Employment Added by Proposed Project

The proposed Project is estimated to add 122 new on-site jobs. This includes an estimated 108 jobs with tenant(s) in the new office space, three jobs in building services such as janitorial and maintenance for the office space, four jobs in the ground floor retail / commercial space, and seven jobs in on-site property management and maintenance for the new residential units. The number of office jobs is estimated based on a representative office employment density factor of 300 square feet per employee. This office employment density factor generally aligns with the proposed number of parking spaces. Based on the 93 parking spaces proposed for the office space and the estimated 108 employees, at least 14% of employees would need to walk, bike, or use transit. This is similar to the overall average of 18% for Menlo Park's workplace population that uses one of these three transportation modes to get to work per the 2014-2018 ACS, not including those who worked out of their homes. The number of building services staff is estimated using staffing ratios derived from data reported by the International Facility Management Association (IFMA). The number of residential property management and maintenance staff are estimated based on a ratio of 45 apartment units per employee derived from the National Apartment Association 2018 Survey of Operating Income and Expenses. The ground floor retail/commercial space is estimated to include four additional workers for a total of 122 new on-site workers.

Table 4-1. Estimated Net Reduction in On-Site Employment				
	Development	Basis for On-Site Employment Estimate	Estimated Net Change in On-Site Employment [1]	
Existing				
Existing Office / Industrial	64,832 SF		(126)	Employees
Building Services		1 per 16,670 SF[1]	(4)	Employees
Subtotal Existing		1 per 500 SF [3]	(130)	Employees
Proposed				
Office	33,211 SF	1 per 300 SF [4]	108	Employees
Building Services		1 per 10,000 SF[1]	3	Employees
Rental Units	335 Units	1 per 45 units[2]	7	Employees
Retail / Commercial	1,608 SF	1 per 400 SF [4]	4	Employees
Subtotal Proposed			122	Employees
Net Change in On-Site Employment			**(8)**	**Employees**

[1] Building services staff, which includes maintenance, janitorial, and security not expected to be directly employed by the tenant, was estimated by KMA based on a ratio of 1 employee per 16,670 square feet for the existing buildings and 1 per 10,000 square feet for new buildings. Estimate was derived from International Facility Management Association (IFMA), Operations and Maintenance Benchmarks Research Report #33 and adjusted by KMA as a reflection of employment density.

[2] Based on National Apartment Association 2018 Survey of Operating Income and Expenses in Rental Apartment Communities, average number of units per employee for projects that are 300 to 399 units in size.

[3] Reflects representative employment density for office / R&D / industrial use and is consistent with the existing parking available for the site of approximately two spaces per 1,000 square feet. Applicant indicated that employment data for existing tenants is not available.

[4] KMA estimate. Will vary depending on tenant and retail / commercial use type. Office employment density generally consist with proposed 93 parking spaces and would require at a minimum of 14% of estimated employees to arrive by alternatives to single occupancy vehicle. Building services employment, accounted for separately, is subtracted from office total.

Step 2 – Adjustment from Employees to Employee Households

Step 2 converts the number of employees to the number of employee households. This step recognizes that there is, on average, more than one worker per household, and thus the number of housing units in demand must be reduced. The workers per worker household ratio eliminates from the equation all non-working households, such as households comprised of retired persons or students. The calculation is shown in Table 4-2.

KMA derived the worker per worker household figure from ACS data for 2014 to 2018. The ACS data provide estimates of the total number of workers in San Mateo County, and the total number of households with at least one working household member. The ratio of the two figures for San Mateo County is 1.90 workers per worker household. The San Mateo County figure is used in the analysis because workers will be more similar to the County as a whole than the smaller City of Menlo Park profile, which has an average of 1.71 workers per worker household. The workers per worker household ratio is used to translate the existing and new on-site employment to a change in employee households as shown in Table 4-2. The 130 existing jobs is divided by the 1.90 workers per worker household ratio to estimate the decrease of 68

existing employee households. Using the same approach, the 122 new jobs translates into an estimated 65 employee households.

Table 4-2. Estimated Change in On-Site Employee Households

	Existing (to be removed)			New				
	Existing Office / Industrial	Building Services	Total Existing	Office	Building Services	Residential Property Management	Retail / Commercial	Total New
Employment	(126)	(4)	(130)	108	3	7	4	122
Employee Households (at 1.90 workers per household) (1)	(66)	(2)	(68)	57	2	4	2	65

(1) Derived from 2014-2018 U.S. Census American Community Survey data for San Mateo County

Step 3 – Occupational Distribution

Occupational distribution for employees is based on data from a national survey by the Bureau of Labor Statistics (BLS). Occupation refers to job description, such as management, sales clerk, cashier, etc. The survey provides the occupational distribution for various employment "industries." National statistics are used because local data are not generally available, and for many industries, national data are a good reflection of the occupational distribution that can be expected locally.

KMA selected industry categories that reflect current and recent occupants of the existing office and industrial space as summarized in Table 4-3. Industry categories were weighted based upon the percentage of leasable area. Building and grounds cleaning and maintenance occupations were removed from the occupation profile of the tenants because these workers are separately accounted for.

Table 4-3. Summary of Tenants in Existing Office and Industrial Space and Applicable Industry Category

Tenant	Business type	Leasable Area SF	%	Applicable Industry Category and NAICS Code (2)	
Alternative Heating and Cooling Solutions	HVAC, Mechanical	4,400	8%	**238220**	Plumbing, Heating, and Air-Conditioning Contractors
Woodside Bakery	Food/beverage service	4,320	7%	**311800**	Bakeries and Tortilla Manufacturing
Rosendin Electric	Electrical contractor	4,250	7%	**238210**	Electrical and Other Wiring Installation Contractors
Del Rio Stone	Building materials	4,000	7%	**238140**	Masonry Contractors
Communication Arts	Publishing, Design, Illustration, Photography	25,091	43%	**511100**	Newspaper, Periodical, Book Publishers
Studio Red	Industrial design	16,529	28%	**541400**	Specialized Design Services
Subtotal		**58,590**	100%		
Not included for purposes of employee industry mix (1)		6,242			
Total		**64,832**			

(1) Two tenant spaces with unknown business type are not reflected for purposes of estimating the industry mix applicable to existing on-site employees.
(2) NAICS stands for North American Industrial Classification System.

For the new office space, KMA selected industry categories reflective of tech-oriented office tenants including software publishers (NAICS 511200), computer systems design and related services (NAICS 541500), data processing, hosting and related services (NAICS 518200), and other information services (NAICS 519100).

For building services workers, residential on-site property management and maintenance, and ground floor retail/commercial workers, KMA selected representative occupations from the BLS data as shown in Appendix A Tables 7, 8 and 9. While the specific tenant for the ground floor retail / commercial space is not known at this time, a small counter-service food establishment is assumed for purposes of estimating employee occupations.

Table 4-4 provides a summary of worker occupations by major category. Appendix A, Tables 4 to 9 provide a further breakdown of worker occupations by Standard Occupational Classification (SOC) System categories.

Table 4-4. On-Site Employee Households - Occupation Categories										
	Existing Office/Industrial to be Demolished				New Office and Residential					
Occupation Category	Tenants	Building Services	Total Existing	% of Total	Office	Building Services	Resid. Prop Mgmt	Retail / Coml	Total New	% of Total
Management Occupations	(4.8)	0.0	(4.8)	7%	7.3	0.0	0.7	0.0	8.0	12%
Business and Financial	(4.0)	0.0	(4.0)	6%	7.0	0.0	0.0	0.0	7.0	11%
Computer and Mathematical	(2.2)	0.0	(2.2)	3%	21.6	0.0	0.0	0.0	21.6	33%
Architecture and Engineering	(1.0)	0.0	(1.0)	1%	0.5	0.0	0.0	0.0	0.5	1%
Life, Physical, and Social Science	(0.1)	0.0	(0.1)	0%	0.0	0.0	0.0	0.0	0.0	0%
Community and Social Services	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0%
Legal	(0.1)	0.0	(0.1)	0%	0.3	0.0	0.0	0.0	0.3	1%
Education, Training, and Library	(0.1)	0.0	(0.1)	0%	2.0	0.0	0.0	0.0	2.0	3%
Arts, Design, Entertainment,	(16.8)	0.0	(16.8)	25%	3.5	0.0	0.0	0.0	3.5	5%
Healthcare Practitioners	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0%
Healthcare Support	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0%
Protective Service	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0%
Food Preparation and Serving	(0.4)	0.0	(0.4)	1%	0.0	0.0	0.0	2.1	2.1	3%
Building and Grounds	0.0	(1.6)	(1.6)	2%	0.0	1.2	1.5	0.0	2.7	4%
Personal Care and Service	0.0	0.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0%
Sales and Related	(6.2)	0.0	(6.2)	9%	6.5	0.0	0.0	0.0	6.5	10%
Office and Administrative Support	(10.0)	0.0	(10.0)	15%	7.4	0.0	0.0	0.0	7.4	11%
Farming, Fishing, and Forestry	(0.0)	0.0	(0.0)	0%	0.0	0.0	0.0	0.0	0.0	0%
Construction and Extraction	(9.5)	0.0	(9.5)	14%	0.0	0.0	0.0	0.0	0.0	0%
Installation, Maint., and Repair	(2.5)	(0.5)	(3.0)	4%	0.3	0.4	1.5	0.0	2.2	3%
Production	(5.7)	0.0	(5.7)	8%	0.1	0.0	0.0	0.0	0.1	0%
Transportation & Material Moving	(3.1)	0.0	(3.1)	4%	0.1	0.0	0.0	0.0	0.1	0%
Totals	(66)	(2)	(68)	100%	57	2	4	2	65	100%

Notes: See Appendix A Tables 4, 6, 7, 8 and 9 for more detailed breakdown of occupation categories.

Step 4 – Estimate of Employee Wage and Salary Distribution

The employee wage and salary distribution is based on the occupational distribution from Step 3 in combination with 2019 wage and salary information for each occupation for the San Francisco-Oakland-Hayward metropolitan statistical area, which includes San Mateo County from the BLS Occupational Employment Survey (OES). In addition to the average compensation levels, the analysis also utilizes BLS data regarding the percentile distribution of wages within individual occupation categories in estimating the distribution of worker compensation levels. The data on employee wages and salaries utilized in the analysis is presented in Appendix A Tables 4, 6, 7, 8, and 9.

Step 5 – Household Size Distribution

In this step, the household size distribution of workers is estimated using U.S. Census 2014-2018 ACS data for San Mateo County. Data for the County is used since workers are more representative of the larger area in which workers live (the County) than the City of Menlo Park. In addition to the distribution in household sizes, the data also accounts for a range in the

number of workers in households of various sizes. Table 4-5 indicates the percentage distribution utilized in the analysis.

Table 4-5. Percent of Households by Size and No. of Workers

No. of Persons in Household	No. of Workers in Household	Percent of Total Households
1	1	15.1%
2	1	13.5%
	2	16.8%
3	1	7.2%
	2	9.9%
	3+	3.8%
4	1	4.7%
	2	7.9%
	3+	5.7%
5	1	2.1%
	2	3.5%
	3+	2.5%
6	1	1.9%
	2	3.2%
	3+	2.3%
Total		100%

Source: 2014-2018 American Community Survey data for San Mateo County.

Step 6 – Estimate of Households that meet HCD Size and Income Criteria

This step in the analysis calculates the number of employee households that fall into each income category for each size household. This calculation is based on the employee wage and salary distribution (Step 4), the worker household distribution (Step 5) and the 2020 HCD income limits for San Mateo County, as described above.

Household incomes are estimated based upon ratios between individual employee income and household income derived from U.S. Census data shown in Table 4-6. The ratios adjust employee incomes upward even for households with only one worker in consideration of non-wage/salary income sources such as child support, disability, social security, investment income and others.

Table 4-6. Ratio of Household Income to Individual Worker Income

Individual Worker Income	One Worker Households	Two Worker Households	Three or More Workers
$25,000 to $50,000	1.30	2.74	3.32
$50,000 to $75,000	1.14	2.16	2.42
$75,000 to $100,000	1.08	1.89	2.04
$100,000 to $150,000	1.05	1.71	1.78
$150,000 to $200,000	1.04	1.56	1.57
$200,000 to $250,000	1.04	1.49	1.49
$250,000 to $300,000	1.02	1.44	1.44
$300,000 to $500,000	1.04	1.28	1.28
$500,000 and above	1.02	1.23	1.23

Source: KMA analysis of 2014 to 2018 American Community Survey PUMS data for San Francisco Bay Area.

Estimated household incomes are compared to HCD income criteria to determine the percentage that qualify within each income category. The comparison is made for each potential household size/number of workers combination. The result is multiplied by the percentage distribution of household sizes and number of workers per household from Step 5 to calculate the distribution of worker households by income.

Table 4-7 presents the estimated number of households in each income tier by worker occupation category. It represents the output of the analysis, after completing Step 4 (employee compensation levels), Step 5 (household size distribution of worker households), and Step 6 which uses this information to calculate the number of households that fall into each income category.

TABLE 4-7
EMPLOYEE HOUSEHOLDS BY OCCUPATION
AND INCOME (STEPS 4, 5, AND 6)
MENLO PORTAL PROJECT
HOUSING NEEDS ASSESSMENT
MENLO PARK, CA

	Existing Office / Industrial Space							Building Services / Existing						
	Extremely Low	Very Low	Low	Moderate	Above Moderate	Over 150% AMI	Total	Extremely Low	Very Low	Low	Moderate	Above Moderate	Over 150% AMI	Total
Step 4, 5, & 6 - Employee Households within Major Occupation Categories[1]														
Management	-	(0.07)	(0.54)	(0.56)	(0.86)	(2.80)	(4.83)	-	-	-	-	-	-	-
Business and Financial Operations	(0.00)	(0.35)	(1.18)	(1.02)	(0.94)	(0.51)	(4.00)	-	-	-	-	-	-	-
Computer and Mathematical	(0.00)	(0.08)	(0.43)	(0.42)	(0.55)	(0.74)	(2.22)	-	-	-	-	-	-	-
Architecture and Engineering	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Life, Physical and Social Science	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Community and Social Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Legal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Education Training and Library	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arts, Design, Entertainment, Sports, & Media	(0.12)	(2.46)	(5.99)	(4.00)	(3.05)	(1.17)	(16.78)	-	-	-	-	-	-	-
Healthcare Practitioners and Technical	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Healthcare Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Protective Service	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food Preparation and Serving Related	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Building Grounds and Maintenance	-	-	-	-	-	-	-	(0.27)	(0.53)	(0.57)	(0.18)	(0.04)	-	(1.58)
Personal Care and Service	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sales and Related	(0.28)	(1.19)	(2.03)	(1.36)	(1.06)	(0.26)	(6.19)	-	-	-	-	-	-	-
Office and Admin	(0.52)	(2.99)	(4.02)	(2.09)	(0.37)	(0.03)	(10.02)	-	-	-	-	-	-	-
Farm, Fishing, and Forestry	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Construction and Extraction	(0.12)	(1.36)	(3.01)	(2.09)	(1.87)	(1.06)	(9.51)	-	-	-	-	-	-	-
Installation Maintenance and Repair	(0.05)	(0.46)	(0.96)	(0.48)	(0.37)	(0.14)	(2.46)	(0.02)	(0.14)	(0.24)	(0.07)	(0.05)	-	(0.53)
Production	(0.62)	(1.97)	(2.27)	(0.66)	(0.11)	(0.03)	(5.67)	-	-	-	-	-	-	-
Transportation and Material Moving	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Households: Major Occupations	(1.71)	(10.93)	(20.44)	(12.68)	(9.17)	(6.73)	(61.68)	(0.29)	(0.67)	(0.81)	(0.25)	(0.09)	-	(2.11)
Households: all other occupations[2]	(0.13)	(0.84)	(1.56)	(0.97)	(0.70)	(0.51)	(4.72)	-	-	-	-	-	-	-
Total Households	**(1.85)**	**(11.76)**	**(22.01)**	**(13.65)**	**(9.88)**	**(7.25)**	**(66.39)**	**(0.29)**	**(0.67)**	**(0.81)**	**(0.25)**	**(0.09)**	**-**	**(2.11)**
Total Households - Rounded	(2)	(12)	(22)	(13)	(10)	(7)	(66)	-	(1)	(1)	-	-	-	(2)

Notes:

[1] See Appendix A Tables 3 and 5 for additional information on Major Occupation Categories.

[2] Represents occupation categories which have a minor amount of employment and for which detailed compensation analysis was not completed. These worker households are assumed to have a similar income distribution to other employees in the same industry. See Appendix A Tables 3 to 9 for information on major and detailed occupation categories identified for detailed compensation analysis.

TABLE 4-7
EMPLOYEE HOUSEHOLDS BY OCCUPATION
AND INCOME (STEPS 4, 5, AND 6)
MENLO PORTAL PROJECT
HOUSING NEEDS ASSESSMENT
MENLO PARK, CA

	New Office Space							Building Services / New Office						
	Extremely Low	Very Low	Low	Moderate	Above Moderate	Over 150% AMI	Total	Extremely Low	Very Low	Low	Moderate	Above Moderate	Over 150% AMI	Total
Step 4, 5, & 6 - Employee Households within Major Occupation Categories[1]														
Management	-	0.05	0.50	0.66	1.24	4.84	7.29	-	-	-	-	-	-	-
Business and Financial Operations	0.00	0.58	2.01	1.77	1.64	0.99	6.99	-	-	-	-	-	-	-
Computer and Mathematical	0.00	0.51	3.48	3.73	5.45	8.46	21.64	-	-	-	-	-	-	-
Architecture and Engineering	0.00	0.02	0.12	0.10	0.14	0.16	0.55	-	-	-	-	-	-	-
Life, Physical and Social Science	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Community and Social Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Legal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Education Training and Library	-	0.27	0.68	0.45	0.54	0.05	2.00	-	-	-	-	-	-	-
Arts, Design, Entertainment, Sports, & Media	0.02	0.40	1.16	0.88	0.74	0.33	3.54	-	-	-	-	-	-	-
Healthcare Practitioners and Technical	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Healthcare Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Protective Service	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food Preparation and Serving Related	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Building Grounds and Maintenance	-	-	-	-	-	-	-	0.20	0.40	0.42	0.14	0.03	-	1.19
Personal Care and Service	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sales and Related	0.10	0.99	1.88	1.64	1.37	0.50	6.49	-	-	-	-	-	-	-
Office and Admin	0.37	2.18	3.08	1.41	0.30	0.03	7.37	-	-	-	-	-	-	-
Farm, Fishing, and Forestry	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Construction and Extraction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Installation Maintenance and Repair	-	-	-	-	-	-	-	0.02	0.10	0.18	0.06	0.04	-	0.40
Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportation and Material Moving	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Households: Major Occupations	0.50	5.01	12.92	10.65	11.43	15.36	55.87	0.22	0.50	0.61	0.19	0.07	-	1.58
Households: all other occupations[2]	0.01	0.09	0.24	0.20	0.21	0.29	0.75	-	-	-	-	(0.00)	-	(0.00)
Total Households	**0.51**	**5.10**	**13.16**	**10.85**	**11.65**	**15.64**	**56.91**	**0.22**	**0.50**	**0.61**	**0.19**	**0.07**	**-**	**1.58**
Total Households - Rounded	-	5	13	11	12	16	57	-	1	1	-	-	-	2

Notes:

(1) See Appendix A Tables 3 and 5 for additional information on Major Occupation Categories.

(2) Represents occupation categories which have a minor amount of employment and for which detailed compensation analysis was not completed. These worker households are assumed to have a similar income distribution to other employees in the same industry. See Appendix A Tables 3 to 9 for information on major and detailed occupation categories identified for detailed compensation analysis.

TABLE 4-7
EMPLOYEE HOUSEHOLDS BY OCCUPATION
AND INCOME (STEPS 4, 5, AND 6)
MENLO PORTAL PROJECT
HOUSING NEEDS ASSESSMENT
MENLO PARK, CA

	Residential Property Management							Ground Floor Retail / Commercial						
	Extremely Low	Very Low	Low	Moderate	Above Moderate	Over 150% AMI	Total	Extremely Low	Very Low	Low	Moderate	Above Moderate	Over 150% AMI	Total
Step 4, 5, & 6 - Employee Households within Major Occupation Categories[1]														
Management	0.00	0.11	0.24	0.17	0.13	0.09	0.74	-	-	-	-	-	-	-
Business and Financial Operations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Computer and Mathematical	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Architecture and Engineering	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Life, Physical and Social Science	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Community and Social Services	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Legal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Education Training and Library	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arts, Design, Entertainment, Sports, & Media	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Healthcare Practitioners and Technical	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Healthcare Support	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Protective Service	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Food Preparation and Serving Related	-	-	-	-	-	-	-	0.46	0.73	0.81	0.11	0.00	-	2.11
Building Grounds and Maintenance	0.05	0.39	0.65	0.27	0.12	-	1.48	-	-	-	-	-	-	-
Personal Care and Service	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sales and Related	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Office and Admin	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Farm, Fishing, and Forestry	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Construction and Extraction	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Installation Maintenance and Repair	0.06	0.39	0.68	0.21	0.14	-	1.48	-	-	-	-	-	-	-
Production	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportation and Material Moving	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Households: Major Occupations	0.11	0.89	1.56	0.65	0.39	0.09	3.69	0.46	0.73	0.81	0.11	0.00	-	2.11
Households: all other occupations[2]	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Households	**0.11**	**0.89**	**1.56**	**0.65**	**0.39**	**0.09**	**3.69**	**0.46**	**0.73**	**0.81**	**0.11**	**0.00**	**-**	**2.11**
Total Households - Rounded	-	1	2	1	-	-	4	-	1	1	-	-	-	2

Notes:

(1) See Appendix A Tables 3 and 5 for additional information on Major Occupation Categories.

(2) Represents occupation categories which have a minor amount of employment and for which detailed compensation analysis was not completed. These worker households are assumed to have a similar income distribution to other employees in the same industry. See Appendix A Tables 3 to 9 for information on major and detailed occupation categories identified for detailed compensation analysis.

4.2 Summary by Income Level

Table 4-8 presents a summary of the changes in on-site worker housing demand within commuting distance of Menlo Park by affordability level as a result of removal of existing on-site jobs and addition of new on-site jobs.

Table 4-8. Estimated Changes in On-Site Employee Households by Income

	Extremely Low	Very Low	Low	Moderate	Above Moderate	Over 150% AMI	Total
Remove Existing Office/Industrial							
Tenants	(2)	(12)	(22)	(13)	(10)	(7)	(66)
Building Services	0	(1)	(1)	0	0	0	(2)
Total Existing	**(2)**	**(13)**	**(23)**	**(13)**	**(10)**	**(7)**	**(68)**
New Office and Residential							
Office	0	5	13	11	12	16	57
Building Services	0	1	1	0	0	0	2
Residential Property Mgmt	0	1	2	1	0	0	4
Retail / Commercial	0	1	1	0	0	0	2
Total New	**0**	**8**	**17**	**12**	**12**	**16**	**65**

The removal of existing on-site employment is estimated to result in a reduction in housing demand for 68 housing units. This 68-unit reduction in housing demand consists of an estimated 2 Extremely Low, 13 Very Low Income, 23 Low Income, 13 Moderate Income, 10 Above Moderate Income and 7 Over 150% AMI units.

The addition of new on-site employment in the proposed Project is estimated to result in a demand for 65 housing units consisting of an estimated 8 Very Low Income, 17 Low Income, 12 Moderate Income, 12 Above Moderate Income and 16 Over 150% AMI units.

5.0 HOUSING DEMAND OF OFF-SITE WORKERS IN SERVICES TO NEW RESIDENTS

The following section provides an analysis of the linkages between development of the new residential units on the Project site, jobs generated in off-site services such as retail and restaurants, and the housing needs of the workers who hold these off-site jobs. Off-site jobs addressed in this section are incorporated into the analysis consistent with the terms of the 2017 settlement agreement which requires, to the extent possible, consideration of multiplier effects.

The analysis of housing demands for off-site workers starts with the estimated rental rate for the new units and moves through a series of linkages from the estimated income of the household that rents the unit, the portion of income available for expenditures on goods and services, jobs associated with the purchase and delivery of those services, the income of the workers doing those jobs and, ultimately, the affordability level of the housing needed by the workers.

The number of jobs by industry that are generated from the household spending of residents living in the proposed Project is estimated using the IMPLAN (IMpact Analysis for PLANning) model, a model widely used for the past 35 years to quantify the impacts of changes in a local economy. The number of jobs by industry is then used to estimate worker housing need by income level using the same approach as in Section 4.

5.1 Estimated Household Incomes of New Residents

The estimated household incomes of residents in the new market rate residential units are drawn from the analysis provided in Section 3.2. For BMR units, household income is estimated based on the mid-point of the income range that would qualify for a BMR unit. Household income figures are then multiplied by the number of units to estimate the aggregate household income for all residents of the proposed Project as shown in Table 5-1. Aggregate household income is used to estimate household spending, the input to the IMPLAN model that is used to quantify the number of off-site jobs associated with household spending of new residents.

Table 5-1. Aggregate Household Income of New Residents

	Estimated Household Income (1)		Number of Units		Aggregate Income
	BMR	Market Rate	BMR	Market Rate	
Studios	$79,250	$122,320	7	56	$7,404,670
Jr 1-Bedrooms	$79,250	$134,760	11	45	$6,935,950
1-Bedrooms	$90,575	$144,760	21	130	$20,720,875
2-Bedrooms	$101,900	$178,240	8	43	$8,479,520
3-Bedrooms	$113,200	$237,960	1	13	$3,206,680
Total			48	287	$46,747,695
Average Per Household					$139,545

(1) For market rate units, see Table 3-3. For BMR units, estimates are based on the mid-point of the qualifying income range. The City has determined that the junior one-bedroom will technically be considered studios as they likely cannot have traditional enclosed bedrooms.

Income Available for Expenditures

The input into the IMPLAN model used in this analysis is the net income available for expenditures. To arrive at income available for expenditures, gross income must be adjusted for Federal and State income taxes, contributions to Social Security and Medicare, savings, and payments on household debt. Per KMA correspondence with the producers of the IMPLAN model (IMPLAN Group LLC), other taxes including sales tax and property tax are handled internally within the model as part of the analysis of expenditures. Payroll deduction for medical benefits and pre-tax medical expenditures are also handled internally within the model. Table 5-2 shows the calculation of the percentage of household income available for expenditures.

Table 5-2. Percent of Income Available for Expenditures (1)

Gross Income	100%
Less:	
Federal Income Taxes (2)	13.3%
State Income Taxes (3)	4.0%
FICA Tax Rate (4)	7.65%
Savings & other deductions (5)	8%
Subtotal deductions	33%
Percent of Income Available for Expenditures(6)	*67%*

(1) Calculated as gross income after deduction of taxes and savings. Income available for expenditures is the input to the IMPLAN model which is used to estimate the resulting employment impacts. Housing costs are not deducted as part of this adjustment step because they are addressed separately as expenditures within the IMPLAN model.

(2) Reflects average tax rates (as opposed to marginal) based on U.S. Internal Revenue Services, Tax Statistics, Tables 1.2 and 2.1 for 2017.Tax rates reflect averages for applicable income range. Assumes the standard deduction.

(3) Average tax rate estimated by KMA based on marginal rates per the California Franchise Tax Board and ratios of taxable income to gross income estimated based on U.S. Internal Revenue Service data.

(4) For Social Security and Medicare.

(5) Household savings including retirement accounts like 401k / IRA and other deductions such as interest costs on credit cards, auto loans, etc, necessary to determine the amount of income available for expenditures. The 8% rate used in the analysis is based on a 20 year average computed from U.S. Bureau of Economic Analysis data, specifically the National Income and Product Accounts, Table 2.1 "Personal Income and Its Disposition."

(6) Deductions from gross income to arrive at the income available for expenditures are consistent with the way the IMPLAN model and National Income and Product Accounts (NIPA) defines income available for personal consumption expenditures. Income taxes, contributions to Social Security and Medicare, and savings are deducted; however, property taxes and sales taxes are not. Housing costs are not deducted as part of the adjustment because they are addressed separately as expenditures within the IMPLAN model.

Income available for expenditures is estimated at approximately 67% of gross income. Federal tax rates are estimated at 13.3% of gross income based upon Internal Revenue Service data. State taxes are estimated to average 4% of gross income based on tax rates per the California Franchise Tax Board. The employee share of FICA payroll taxes for Social Security and Medicare is 7.65% of gross income. A ceiling of $137,700 per employee applies to the 6.3% Social Security portion of this tax rate.

Savings and repayment of household debt represent another necessary adjustment to gross income. Savings includes various IRA and 401 K type programs as well as non-retirement

household savings and investments. Debt repayment includes auto loans, credit cards, and all other non-mortgage debt. Savings and repayment of debt are estimated to represent a combined 8% of gross income based on the 20-year average derived from United States Bureau of Economic Analysis data.

The percentage of income available for expenditure for input into the IMPLAN model is prior to deducting housing costs. The reason is for consistency with the IMPLAN model which defines housing costs as expenditures. The IMPLAN model addresses the fact that expenditures on housing do not generate employment to the degree other expenditures such as retail or restaurants do, but there is some maintenance and property management employment generated.

After deducting income taxes, Social Security, Medicare, savings, and repayment of debt, the estimated income available for expenditures is 67% of gross household.

Another adjustment made to spending is to account for standard operational vacancy in rental units of 5%, a level of vacancy considered average for rental units in a healthy market.

Table 5-3 presents the estimate of household income available for expenditures in the local economy after adjustments to income available for expenditures and vacancy:

Table 5-3. Income Available for Expenditures

Aggregate Annual Household Income, New Residents (Table 5-1)	$46,747,695
Percent Available for Expenditure (Table 5-2)	67%
Adjustment for 5% rental vacancy	95%
Aggregate Household Income Available	$29,755,000

The estimated household income available for expenditure associated with the 335 new residential units is the input into the IMPLAN model.

5.2 The IMPLAN Model

Consumer spending by residents of new housing units will create jobs, particularly in sectors such as restaurants, health care, and retail, which are closely connected to the expenditures of residents. The widely used economic analysis tool, IMPLAN, was used to quantify these new jobs by industry sector.

5.2.1 IMPLAN Model Description

The IMPLAN model is an economic analysis software package now commercially available through the IMPLAN Group, LLC. IMPLAN was originally developed by the U.S. Forest Service, the Federal Emergency Management Agency, and the U.S. Department of the Interior Bureau of Land Management and has been in use since 1979 and refined over time. It has become a widely used tool for analyzing economic impacts for a broad range of applications from major construction projects to natural resource programs.

IMPLAN is based on an input-output accounting of commodity flows within an economy from producers to intermediate and final consumers. The model establishes a matrix of supply chain relationships between industries and also between households and the producers of household goods and services. Assumptions about the portion of inputs or supplies for a given industry likely to be met by local suppliers, and the portion supplied from outside the region or study area are derived internally within the model using data on the industrial structure of the region.

The output or result of the model is generated by tracking changes in purchases for final use (final demand) as they filter through the supply chain. Industries that produce goods and services for final demand or consumption must purchase inputs from other producers, which in turn, purchase goods and services. The model tracks these relationships through the economy to the point where leakages from the region stop the cycle. This allows the user to identify how a change in demand for one industry will affect a list of over 500 other industry sectors. The projected response of an economy to a change in final demand can be viewed in terms of economic output, employment, or income.

Data sets are available for each county and state, so the model can be tailored to the specific economic conditions of the region being analyzed. This analysis utilizes the data set for San Mateo County. As will be discussed, much of the employment impact is in local-serving sectors, such as retail, eating and drinking establishments, and medical services. It is likely that many off-site employment impacts will occur in Menlo Park and other nearby jurisdictions; however, employment impacts will also extend throughout the county and beyond based on where residents of the proposed Project will shop, dine, seek medical care and other services. Consistent with the approach taken in most residential affordable housing nexus analyses, the analysis includes job impacts throughout the county.

The Covid-19 pandemic has modified consumer spending patterns due to shelter-in-place orders, business closures, and altered consumer preferences and shopping patterns in response to the virus. It is assumed that the pandemic is a temporary condition which is not representative of future conditions when the proposed Project would be completed and occupied. Spending may mostly revert to pre-pandemic patterns once the virus is contained. However, it is possible that some changes in response to the virus, such as an accelerated shift toward online retail, could endure to some degree post-pandemic. Since there is no data on

post-pandemic spending patterns, the analysis uses the most recent IMPLAN data set available, which is representative of the pre-pandemic pattern.

5.2.2 Application of the IMPLAN Model to Estimate Job Growth

The IMPLAN model was applied to link income to household expenditures to job growth. The estimated annual household spending of the residents of the 335 new housing units is the input to the IMPLAN model. The IMPLAN model then distributes spending among various types of goods and services (industry sectors) based on data from the Consumer Expenditure Survey and the Bureau of Economic Analysis Benchmark input-output study, to estimate the number of off-site jobs.

Job creation, driven by increased demand for products and services, was projected for each of the industries that will serve the new households. A total of 120 off-site jobs are estimated to be generated by spending of the residents as summarized in Table 5-4. Estimates in Table 5-4 exclude on-site jobs in the ground floor commercial space and in property management and maintenance of the residential units which are already considered as part of the Section 4 analysis.

Table 5-4. Jobs Generated from Household Spending of 335 Residential Units

Annual Household Expenditures	$29,755,000
Estimated Number of Off-site Jobs	120.0

As households added to the City by the proposed Project are new and these new households result in net new demand for products and services, the jobs associated with delivery of these products and services are also estimated to be net new jobs. While there may be an ability for existing retail, health care facilities, restaurants, schools and other services to absorb a share of new demand to some extent, existing establishments will still require additional employees in many cases. For example, individual health care providers are only able to see so many patients in a day. Waiters and cooks in restaurants can only serve so many customers. Grocery stores may need to add staff at check-out lanes in response to added demand, and so on. Employment in sectors that serve residents tends to expand with population. As indicated in Section 5.2.3, the ratio between employment in resident-serving sectors of the economy and the number of housing units is relatively consistent at the city and county geographic scales, indicating resident-serving jobs tend to be proportionate to the number of housing units and population.

Table 5-5 provides a detailed breakdown of the employment by industry sorted by projected employment. The Consumer Expenditure Survey published by the Bureau of Labor Statistics tracks expenditure patterns by income level. IMPLAN utilizes this data to reflect the pattern by income bracket. Estimated employment is shown for each IMPLAN industry sector representing 1% or more of total employment. The jobs that are generated are heavily retail jobs, jobs in restaurants and other eating establishments, and in services that are provided locally such as health care.

Table 5-5. Jobs Generated by Industry from Housing Spending [IMPLAN Output]		
Industry Category	**Number of Jobs**	**Percent**
Full-service restaurants	8.2	7%
Limited-service restaurants	6.8	6%
All other food and drinking places	0.3	0%
Subtotal Restaurant	15.3	13%
Retail - Building material and garden equipment stores	0.9	1%
Retail - Clothing and clothing accessories stores	2.5	2%
Retail - Electronics and appliance stores	1.1	1%
Retail - Food and beverage stores	4.5	4%
Retail - Furniture and home furnishings stores	1.1	1%
Retail - Gasoline stores	0.6	1%
Retail - General merchandise stores	3.2	3%
Retail - Health and personal care stores	2.1	2%
Retail - Miscellaneous store retailers	2.2	2%
Retail - Clothing and accessories	1.3	1%
Retail - Nonstore retailers	1.6	1%
Retail - Sporting goods, hobby, musical and book stores	1.1	1%
Personal care services	3.7	3%
Subtotal Retail and Service	26.0	22%
Offices of dentists	2.7	2%
Offices of other health practitioners	3.7	3%
Outpatient care centers	1.7	1%
Offices of physicians	3.1	3%
Other ambulatory health care services	0.5	0%
Home health care services	3.1	3%
Hospitals	3.6	3%
Subtotal Healthcare	18.4	15%
Elementary and secondary schools	1.4	1%
Junior colleges, colleges, universities	0.8	1%
Other educational services	1.2	1%
Subtotal Education	3.4	3%
Individual and family services	5.6	5%
Other personal services	3.8	3%
Automotive repair and maintenance	2.7	2%
Child day care services	2.6	2%
Other financial investment activities	2.6	2%
Automotive repair and maintenance	1.7	1%
Religious organizations	1.5	1%
Fitness and recreational sports centers	1.2	1%
Transit and ground passenger transportation	1.2	1%
All Other	34.0	28%
Total Number of Jobs Generated	**120**	**100%**

(1) Estimated employment generated by household expenditures of Project residents for Industries representing more than 1% of total employment. Employment estimates are based on the IMPLAN Group's economic model, IMPLAN, for San Mateo County (uses 2018 IMPLAN data set, the most recent available as of April 2020). Includes both full- and part-time jobs.

5.2.3 Cross-Check Based on Existing Number of Resident-Serving Jobs

As context for the estimated number of off-site jobs and a secondary cross-check for reasonableness, Table 5-6 provides comparisons to the existing ratio of resident-serving jobs in sectors such as health care, retail, food service and education and the number of residential units within Menlo Park and San Mateo County. In Menlo Park, there are 7,944 existing jobs in resident-serving sectors based on data from the U.S. Census and 14,082 residential units based on data from the California Department of Finance. These figures translate to a ratio of approximately 189 resident-serving jobs for every 335 residential units[13]. The ratio for San Mateo County is similar at 187 resident-serving jobs for every 335 residential units. Based on existing relationships between resident-serving jobs and residential units for both the City and the County, estimates for the proposed Project appear reasonable.

Estimates for the proposed Project reflect a lower ratio of resident serving jobs to housing units than overall averages based on the characteristics of the proposed Project which consists of 81% studio and one-bedroom units. Households occupying the proposed Project will be smaller[14] than the average household size for the City of 2.64 persons per household and 2.88 persons per household for the County per the California Department of Finance. Smaller household sizes will correspond to lower demand for services compared to overall averages, particularly for services like health care and education that are driven by population. In addition, the proposed Project includes BMR units. Residents of BMR units will have lower household incomes and will drive a lower level of demand for services, particularly in sectors like restaurants that are driven more by discretionary spending. Finally, the City and County averages include employment within the identified sectors associated with serving the business and visitor population as well as residents, resulting in higher ratios than would be the case for jobs associated with residents alone. Therefore, the ratio between the estimated number of resident-serving jobs and the number of residential units for the proposed Project is appropriately less than citywide or countywide averages.

[13] Calculated as 7,944 jobs divided by 14,082 residential units and multiplied by 335 units. This 335-unit figure is selected for ready comparison to the proposed Project.

[14] Based on the unit mix of the proposed Project of 19% studios, 17% junior one bedrooms, 45% one-bedrooms, 15% two-bedrooms, 4% three-bedrooms and the HCD standard for relating number of bedrooms to household size of one plus the number of bedrooms, the proposed Project is estimated to correspond to an average household size of approximately 1.88 persons.

Table 5-6. Comparison to Existing City and County Relationships Between Number of Residential Units and Number of Jobs in Key Resident Serving Sectors.

	Existing Jobs [1]		Jobs Per 335 Residential Units		
	City of Menlo Park	San Mateo County	Actual: City of Menlo Park [4]	Actual: San Mateo County [4]	Estimate for Proposed Project
Key Resident-Serving Sectors					
Health Care	2,153	39,857	51.2	47.5	31.9
Retail Trade	1,602	34,260	38.1	40.9	22.3
Food Service	1,780	38,271	42.3	45.6	15.2
Education	1,160	22,149	27.6	26.4	3.4
Other Services[2]	993	15,587	23.6	18.6	17.4
Arts, Entertainment, and Recreation	256	6,534	6.1	7.8	3.2
Subtotal Resident-Serving	7,944	156,658	**189**	**187**	**93**
Other Sectors	33,943	242,366	807	289	27
Total All Sectors	41,887	399,024	996	476	120
Number of Residential Units[3]	14,082	280,879			

(1) U.S. Census Longitudinal Employer-Household Dynamics, 2017 data for workplace geography.

(2) Includes a broad range of services from auto repair, to dry cleaning, to religious organizations.

(3) Number of housing units as of January 1, 2020 per California Department of Finance Table E-5, Population and Housing Estimates for Cities, Counties, and the State, 2011-2020 with 2010 Census Benchmark.

(4) Calculated by dividing the total number of jobs by the number of residential units and multiplying by 335 units.

Note: The number of jobs by industry from the HNA have been aggregated by major industry category to allow ready comparison to actual existing jobs in the City of Menlo Park and in San Mateo County.

5.3 Analysis of Housing Need by Income

This section presents a summary of the analysis linking the number of off-site jobs associated with the new residential units to the estimated number of housing units required in each of six income categories. The analysis is based on the same methodology as Section 4 and consists of the following analysis steps.

Step 1 – Adjustment from Employees to Employee Households

This step (Table 5-7) converts the number of employees identified in Table 5-5 to the number of employee households, recognizing that there is, on average, more than one worker per household, and thus the number of housing units in demand for new workers is reduced. The workers-per-worker-household ratio eliminates from the equation all non-working households, such as retired persons and students. The San Mateo County average of 1.90 workers per worker household derived from the U. S. Census Bureau 2014-2018 American Community Survey is used for this step in the analysis, consistent with Section 4. The estimated 120 off-site jobs is divided by 1.90 to estimate the number of worker households of 63.

Table 5-7. Estimated Net Change in On-Site Employee Households	
Off-Site Jobs in Services to New Residents	120.0
Number Employee Households - Off-site workers (at 1.90 workers per household) (1)	63.2

(1) Derived from 2014-2018 U.S. Census American Community Survey data for San Mateo County

Step 2 – Occupational Distribution of Employees

The occupational breakdown of employees is the first step to arrive at income level. The output from the IMPLAN model provides the number of employees by industry sector, shown in Table 5-5. The IMPLAN output is then paired with data from the Department of Labor, Bureau of Labor Statistics May 2018 Occupational Employment Survey (OES) to estimate the occupational composition of employees for each industry sector. As shown in Table 5-8, new jobs will be distributed across a variety of occupational categories. The three largest occupational categories are sales and related (13.8%), office and administrative support (12.6%), and food preparation and serving (13.4%). Table 5-8 indicates the percentage and number of employee households by occupation for off-site workers.

Table 5-8. Worker Households by Occupation – Jobs in Off-Site Services to New Residential Units

Occupation Category	Number of Worker Households	% of Jobs
Management Occupations	2.6	4.1%
Business and Financial	2.7	4.3%
Computer and Mathematical	0.9	1.3%
Architecture and Engineering	0.1	0.2%
Sciences	0.2	0.4%
Community & Social Services	1.4	2.1%
Legal	0.5	0.7%
Education, and Library	2.0	3.2%
Arts, Design, Entertainment	0.9	1.4%
Healthcare Practitioners	5.3	8.3%
Healthcare Support	6.2	9.7%
Protective Service	0.4	0.6%
Food Prep and Serving	8.5	13.4%
Building and Grounds.	1.4	2.3%
Personal Care and Service	4.0	6.4%
Sales and Related	8.7	13.8%
Office and Admin Support	8.0	12.6%
Farming, Fishing, Forestry	0.0	0.1%
Construction and Extraction	0.5	0.8%
Installation, Maint. and Repair	2.2	3.5%
Production	1.0	1.6%
Transportation	5.9	9.3%
Totals	**63.2**	**100.0%**

See Appendix Tables 1 and 2 for additional detail.

Step 3 – Estimates of Employee Households by Income

In this step, occupations are translated to employee incomes based on recent wage and salary information for workers in San Mateo County from the BLS Occupational Employment Survey. The wage and salary information summarized in Appendix A Table 2 provided the income inputs to the analysis.

For each occupational category shown in Table 5-8, the OES data provides a distribution of specific occupations within the category. For example, within the Food Preparation and Serving Category, there are Supervisors, Cooks, Bartenders, Waiters and Waitresses, Dishwashers, etc. In total, there are approximately 100 detailed occupation categories included in the analysis, as shown in the Appendix A Table 2. Each of these occupation categories has a different distribution of wages, which was obtained from BLS and is specific to workers in the County as of 2019.

Household incomes are estimated from employee incomes using ratios between individual employee income and household income derived from 2014-2018 ACS data for the San Francisco Bay Area. Ratios used in this section are the same as those used in Section 4 and presented in Table 4-6.

Estimated household incomes are compared to the income criteria shown in Table 2-2 to determine the percentage that qualify within each income category for each potential household size/number of workers combination.

Step 4 – Distribution of Household Size and Number of Workers

In this step, we account for the distribution in household sizes and number of workers using local data obtained from the U.S. Census. 2014-2018 ACS data is used to develop a set of percentage factors representing the distribution of household sizes and number of workers within working households. The percentage factors are the same as used in Section 4 and presented in Table 4-5. Application of these percentage factors accounts for the following:

- Households have a range in size and a range in the number of workers.
- Large households generally have more workers than smaller households.

The result of this step is a distribution of working households by number of workers and household size.

Step 5 – Estimate of Number of Households that Meet Size and Income Criteria

Step 5 is the final step to calculate the number of worker households meeting the size and income criteria for the five affordability tiers. The calculation combines the results from Step 3 on percentage of worker households that would meet the income criteria at each potential household size / number of workers combination, with Step 4, the percentage of worker

household having a given household size / number of workers combination. The result is the percent of households that fall into each affordability tier. The percentages are then multiplied by the number of households from Step 1 to arrive at number of households in each affordability tier.

Tables 5-9 presents the resulting estimates of the number of households within each income category by worker occupation category.

Table 5-9. Employee Households by Occupation and Income (Steps 3, 4, and 5) for Workers in Off-Site Services To New Residents

Major Occupation Category [1]	Extremely Low	Very Low	Low	Moderate	Above Moderate	Over 150% AMI	Total
Management	0.0	0.1	0.4	0.4	0.5	1.3	2.6
Business and Financial Operations	0.0	0.2	0.7	0.6	0.6	0.5	2.7
Computer and Mathematical	-	-	-	-	-	-	-
Architecture and Engineering	-	-	-	-	-	-	-
Life, Physical and Social Science	-	-	-	-	-	-	-
Community and Social Services	-	-	-	-	-	-	-
Legal	-	-	-	-	-	-	-
Education Training and Library	0.1	0.7	0.7	0.4	0.1	0.0	2.0
Arts, Design, Entertainment, Sports, & Media	-	-	-	-	-	-	-
Healthcare Practitioners and Technical	0.0	0.2	1.0	1.0	1.3	1.8	5.3
Healthcare Support	1.3	2.2	2.2	0.4	0.0	-	6.2
Protective Service	-	-	-	-	-	-	-
Food Preparation and Serving Related	2.0	3.0	3.1	0.3	0.0	-	8.5
Building Grounds and Maintenance	0.2	0.5	0.6	0.2	0.0	-	1.4
Personal Care and Service	0.8	1.4	1.4	0.3	0.1	0.0	4.0
Sales and Related	1.7	2.9	3.2	0.6	0.3	0.1	8.7
Office and Admin	0.4	2.5	3.2	1.7	0.2	-	8.0
Farm, Fishing, and Forestry	-	-	-	-	-	-	-
Construction and Extraction	-	-	-	-	-	-	-
Installation Maintenance and Repair	0.0	0.5	0.8	0.5	0.3	0.0	2.2
Production	-	-	-	-	-	-	-
Transportation and Material Moving	0.9	1.9	2.2	0.7	0.1	-	5.9
Households: Major Occupations	7.4	16.1	19.5	7.1	3.6	3.7	57.4
Households: all other occupations [2]	0.7	1.6	2.0	0.7	0.4	0.4	5.8
Total Households	**8.2**	**17.7**	**21.5**	**7.9**	**4.0**	**4.0**	**63.2**
Rounded	**8.0**	**18.0**	**21.0**	**8.0**	**4.0**	**4.0**	**63.0**

[1] See Appendix A Table 1 - 2 for additional information on Major Occupation Categories.

[2] Represents occupation categories which have a minor amount of employment and for which detailed compensation analysis was not completed. These worker households are assumed to have a similar income distribution to other employees. See Appendix A Tables 1 - 2 for information on major and detailed occupation categories identified for detailed compensation analysis.

5.4 Summary of Housing Need by Income, Off-site Workers

Table 5-10 summarizes the demand for housing by workers in off-site services to the 335 new residential units by income category.

Table 5-10. Estimated Off-Site Employee Households by Income							
	Extremely Low	Very Low	Low	Moderate	Above Moderate	Over 150% AMI	Total
Worker Households by Income	8	18	21	8	4	4	63

As shown in Table 5-10, the 335 residential units are estimated to create a demand for an additional 63 housing units for off-site workers in services such as retail, restaurants and education. Housing demand for new off-site workers is distributed across the income tiers with the greatest number of households in the Very Low and Low Income categories. The finding that the jobs associated with consumer spending tend to be low-paying jobs where the workers will require housing affordable at the lower income levels is not surprising. As noted above, consumer spending results in employment that is concentrated in lower paid occupations including food preparation, administrative, and retail sales.

6.0 NET IMPACT ON HOUSING AVAILABILITY

This section combines the findings of the prior three sections to estimate the net impact on housing availability from the proposed Project by income. Net impacts on housing availability represent the combined housing supply and demand effects of the proposed Project including from:

- Added housing supply (Section 3);
- Reduced housing demand from removal of existing on-site jobs (Section 4);
- Added housing demand from new on-site jobs (Section 4); and
- Added housing demand from jobs in off-site services to new residential units (Section 5).

Additions to housing supply are considered increases in housing availability. Reductions in housing demand are also considered to *increase* housing availability because this makes existing units available; conversely, increases in housing demand are considered as reducing housing availability.

Section 6.1 addresses total housing availability impacts regardless of location. Section 6.2 provides an estimate specific to impacts occurring within Menlo Park.

6.1 Net Impact on Housing Availability Regionally

The proposed Project is estimated to increase the number of available housing units by 275 units as shown in Table 6-1. This estimate reflects the combined effect of:

- Adding 335 new residential units to the housing supply.

- A 68-unit increase in housing availability from removal of existing on-site jobs, which removes existing worker housing demand.

- A 65-unit decrease in housing availability due to added housing demand from new on-site workers.

- A 63-unit decrease in housing availability due to added housing demand by off-site workers who provide services to residents of the proposed Project.

Table 6-1. Estimated Net Impact of Project on Housing Availability	
1. Increase in available housing from construction of new units (Section 3)	335 Units
2. Increase in available housing from removal of existing on-site jobs, which reduces worker housing demand (Section 4)	68 Units
3. Decrease in available housing from increase in housing demand by new on-site workers (Section 4)	(65 Units)
4. Decrease in available housing from increase in housing demand by off-site workers in services to new residents (Section 5)	(63 Units)
Net Increase in Available Housing	275 Units

Table 6-2 provides a breakout of the housing availability findings by income category. As shown, the 275-unit net increase in housing availability consists of 33 Low and 268 Above Moderate Income units. Increased housing availability in the Low and Above Moderate categories is offset by decreases within the Extremely Low, Very Low and Moderate categories of six, 13, and seven units, respectively, as a result of added housing demand from on- and off-site workers that exceeds added housing availability from construction of new units and removal of on-site jobs within these income categories.

Table 6-2. Net Impacts on Housing Availability by Income Category

	Extremely Low	Very Low	Low	Moderate	Above Moderate	Over 150% AMI	Total
1. Increase in available housing from construction of new units	0	0	48	0	274	13	335
2. Increase in available housing from removal of existing on-site jobs, which reduces worker housing demand	2	13	23	13	10	7	68
3. Decrease in available housing from increase in housing demand from new on-site workers	0	(8)	(17)	(12)	(12)	(16)	(65)
4. Decrease in available housing from increase in housing demand by off-site workers in services to new residents	(8)	(18)	(21)	(8)	(4)	(4)	(63)
Net Increase in Housing Availability [(1)]	**(6)**	**(13)**	**33**	**(7)**	**268**	**0**	**275**

(1) Negative figures represent a net increase in housing demand that is not offset by added housing supply.

6.2 Menlo Park Share of Impact on Housing Supply and Housing Demand

KMA estimated the share of impacts on housing supply and housing demand that would occur within the City of Menlo Park. Estimates represent an allocation of the total housing availability impacts presented in Table 6-2 based on where housing units included in the proposed Project

will be constructed (in Menlo Park) and where workers will live (a share in Menlo Park and a share outside of Menlo Park). Two scenarios are presented regarding the share of workers who will seek and find housing within the City of Menlo Park:

A. Current Commute Share (6.3%) – the "Current Commute Share" scenario is based on the existing 6.3% share of Menlo Park workers who live in the City. Section 6.3 provides additional discussion of the existing commute share.

B. Increased Commute Share (20%) – the "Increased Commute Share" scenario assumes 20% of new workers are housed within the City consistent with an assumption used in the City's 2000 commercial linkage fee nexus study[15] (2000 Nexus Study). The 20% commute share assumption from the 2000 Nexus Study reflects a goal of housing a larger share of the City's workforce. This scenario is included for informational purposes in response to interest expressed by the City Council in improving the jobs housing balance and obtaining data to inform the goal of increasing the number of workers who live and work in Menlo Park.

The applicant provided data indicating approximately 10.9% of existing on-site workers live in Menlo Park. The analysis applies this 10.9% commute share to existing on-site workers in both commute scenarios. The commute data for existing tenants was not applied to new employees because the new office space is likely to be occupied by different tenants. The 6.3% and 20% commute shares described above are applied to new on- and off-site employees.

The analysis under the two commute scenarios is described below.

A. Current Commute Share Scenario

The analysis of housing availability impacts within Menlo Park under the Current Commute Share scenario reflects the following allocation of total regional impacts identified in Section 6.1:

(1) All residential units added by the proposed Project are in the City of Menlo Park; therefore, all 335 units are identified as additional housing supply in Menlo Park.

(2) Seven of 68 total units of added housing availability from removal of on-site jobs is estimated to be within Menlo Park based on the 10.9% share of existing on-site workers who live in Menlo Park. Applying the 10.9% factor to the findings by income level from Table 6-2 yields added housing availability in Menlo Park of three Low Income units and one unit in each of the Very Low, Moderate, Above Moderate and Over 150% AMI income categories.

[15] Commercial Linkage Fee Nexus Study prepared for the City of Menlo Park by Vernazza Wolfe Associates, Inc. dated September 2000.

(3) Four of the 65 total units of additional housing need for new on-site workers is estimated to be within Menlo Park based on the existing 6.3% share of Menlo Park workers who live in the City. Applying the 6.3% factor to the findings by income level from Table 6-2 yields one unit of additional housing need in each of the Very Low, Low, Moderate and Over 150% AMI income categories.

(4) Four of the 63 total units of additional housing need for off-site workers is estimated to be within Menlo Park based on the existing 6.3% share of Menlo Park workers who live in the City. One unit of additional housing need is estimated within each income category from Extremely Low through Moderate Income.

In summary, with the Current Commute Share scenario, the estimated net increase in housing availability in Menlo Park is 334 units based on the 335 new housing units constructed in Menlo Park, plus seven units of added housing availability from removal of on-site jobs, minus four units of new housing demand from new on-site workers and four units of new housing demand from new off-site workers.

Table 6-3 presents the findings by income level. As shown, the estimated 334-unit net increase in housing availability in Menlo Park consists of 49 Low, 275 Above Moderate and 13 Over 150% AMI units, offset by a one-unit net decrease in housing availability within each of the Extremely Low, Very Low and Moderate Income categories.

Table 6-3. Estimated Menlo Park Share of Net Housing Availability Impacts with Current Commute Share

	Basis for Allocation to Menlo Park	Extr. Low	Very Low	Low	Moderate	Above Moderate	Over 150% AMI	Total
1. Increase in available housing from construction of new units	*all units are in Menlo Park*	-	-	48	-	274	13	335
2. Increase in available housing from removal of existing on-site jobs, which reduces worker housing demand	*Based on current 10.9% commute share for existing workers*	-	1	3	1	1	1	7
3. Decrease in available housing from increase in housing demand from new on-site workers	*Based on current 6.3% Menlo Park commute share*	-	(1)	(1)	(1)	-	(1)	(4)
4. Decrease in available housing from increase in housing demand by off-site workers in services to new residents	*Based on current 6.3% Menlo Park commute share*	(1)	(1)	(1)	(1)	-	-	(4)
Menlo Park Share of Net Increase in Housing Availability		(1)	(1)	49	(1)	275	13	334

B. Increased Commute Share Scenario

The Increased Commute Share scenario is based on the City's 2000 Nexus Study which incorporated a commute share assumption of 20%. This 20% commute share assumption reflects a goal to house a larger share of the City's workforce locally that was approximately double the 10% commute share for Menlo Park as of the time the Nexus Study was prepared[16]. As stated in the 2000 Nexus Study:

> *Using a relatively higher number provides a goal for the City to achieve. Although inflated housing prices in the 1990's have resulted in a decrease in the percentage of Menlo Park workers who can afford to live in Menlo Park, the City's goal is to encourage local workers to live in Menlo Park in order to achieve a better jobs/housing balance.*

This Increased Commute Share scenario provides additional information regarding how analysis findings would vary were the City to seek to house 20% of the added workforce locally consistent with the goal identified in the 2000 Nexus Study.

With the Increased Commute Share scenario, application of the 20% goal-based commute share results in allocation of 13 of the 65 units of added housing demand from new on-site jobs and 13 of the 63 units of additional housing need for off-site workers to Menlo Park, rather than four units each with the Current Commute Share scenario. In total, with the Increased Commute Share scenario, the estimated net increase in housing availability in Menlo Park is 316 units, consisting of 335 new housing units constructed in Menlo Park plus seven units of added housing availability from removal of on-site jobs minus 26 units of new housing demand in Menlo Park from on- and off-site workers.

Table 6-4 presents the findings by income level with the Increased Commute Share. As shown, the estimated 316-unit net increase in housing availability in Menlo Park with the Increased Commute Share consists of 44 Low, 271 Above Moderate and ten Over 150% AMI units, offset by a net decrease in housing availability within the Extremely Low, Very Low and Moderate Income categories of two, five and two units, respectively.

[16] Per the 1990 Census, Menlo Park's commute share was 10% based on a total number working in Menlo Park of 26,048 of which 2,662 lived in Menlo Park. Figures do not include those who work out of their homes rather than commute to a separate workplace. The 1990 Census was the most recent data available at the time the 2000 Nexus Study was prepared as the 2000 Census data was not yet released. The 2000 Nexus Study references a separate factor of 23%, also as of 1990, which is not comparable to the 10% commute share in 1990. This 23% factor represents the share of Menlo Park *employed residents* (residents who are employed) who work in Menlo Park versus commute out of Menlo Park to a job located in another city.

Table 6-4. Estimated Menlo Park Share of Net Housing Availability Impacts with Increased Commute Share								
	Basis for Allocation to Menlo Park	**Extr. Low**	**Very Low**	**Low**	**Moderate**	**Above Moderate**	**Over 150% AMI**	**Total**
1. Increase in available housing from construction of new units	*all units are in Menlo Park*	-	-	48	-	274	13	335
2. Increase in available housing from removal of existing on-site jobs, which reduces worker housing demand	*Based on current 10.9% commute share for existing workers*	-	1	3	1	1	1	7
3. Decrease in available housing from increase in housing demand from new on-site workers	*2000 Nexus Goal-Based Menlo Park commute share of 20%*	-	(2)	(3)	(2)	(3)	(3)	(13)
4. Decrease in available housing from increase in housing demand by off-site workers in services to new residents	*2000 Nexus Goal-Based Menlo Park commute share of 20%*	(2)	(4)	(4)	(1)	(1)	(1)	(13)
Menlo Park Share of Net Increase in Housing Availability		(2)	(5)	44	(2)	271	10	316

6.3 Additional Discussion of Commute Share

The share of new on- and off-site workers who will live in Menlo Park is estimated based on a commute share of 6.3% in the Current Commute Share scenario. This percentage is derived from the U.S. Census 2014-2018 American Community Survey and reflects the existing share of those working in Menlo Park who also live in Menlo Park, excluding those who work at home. The remaining 93.7% of the workforce commutes in from outside of the City.

Use of the existing commute share specific to the City of Menlo Park may overstate the share of off-site workers likely to live in Menlo Park as some jobs in off-site services to new residents such as retail, medical care, and restaurants may be in nearby cities rather than in Menlo Park. For those who work in nearby cities, the propensity to live in Menlo Park is expected to be less than the 6.3% commute share for Menlo Park workers[17].

[17] For example, around 3.9% of those who work in Palo Alto live in Menlo Park based on data from the American Community Survey, lower than the 6.3% share for Menlo Park workers.

The existing percentage of workers commuting from other jurisdictions to Menlo Park is attributable to a number of factors including the supply of housing relative to the number of jobs and the high cost of housing in Menlo Park. Although many factors influence housing decisions, because the number of workers that both live and work in Menlo Park is so low and the cost of housing is high, it is possible that the 6.3% does not reflect the proportion of workers who would live in Menlo Park if they could find housing and could afford it. The share of the workforce that lives in Menlo Park has also been declining over time from 10% in 1990 to 7% as of the 2000 Census to 6.3% per the 2014-2018 ACS. Workers most everywhere tend to commute more in recent years than in the past and, in addition, Menlo Park has become less affordable over time. The possibility that availability and affordability of housing have contributed to a downward trend in Menlo Park's commute share is the primary reason for including the separate goal-based Increased Commute Share scenario.

Construction of new housing can be expected to contribute toward increasing the number of workers that live locally by providing additional housing opportunities in Menlo Park. The 335-unit size of the proposed Project represents an approximately 2.4% increase in the size of the City's existing housing stock of 14,082 units[18]. While the number of units added is small relative to the larger workforce of more than 40,000, the proposed Project can be expected to contribute incrementally to housing a greater number of workers locally.

[18] Number of housing units as of January 1, 2020 per California Department of Finance Table E-5, Population and Housing Estimates for Cities, Counties, and the State, 2011-2020 with 2010 Census Benchmark.

7.0 DISPLACEMENT ANALYSIS

This section provides a discussion of the potential for the proposed Project to contribute to displacement of existing residents and neighborhood change in two proximate communities known to be vulnerable to displacement, the City of East Palo Alto (East Palo Alto) and the Belle Haven neighborhood of Menlo Park (Belle Haven). Given the complex array of factors that influence housing markets and neighborhood change, precise estimates or projections of outcomes are not feasible; instead, a qualitative discussion of the potential for the proposed Project to impact displacement is provided.

Location of Proposed Project Relative to Belle Haven and East Palo Alto

The aerial image below shows the location of the proposed Project relative to Belle Haven and East Palo Alto. The proposed Project is located near the Marsh Road and U.S. 101 interchange. Belle Haven is a residential neighborhood located to the east of the Project site generally bounded by U.S. 101, Willow Road and a railroad right-of-way, outlined in red on the aerial image below. East Palo Alto is just to the east of Belle Haven across Willow Road.

Proposed Project, Belle Haven and East Palo Alto Location



Source: Google Maps

7.1 Displacement and Risk of Displacement in East Palo Alto and Belle Haven

Displacement occurs when housing or neighborhood conditions force existing residents to move or households feel like their move is involuntary. Displacement can be caused by a range of physical, economic and social factors including but not limited to foreclosure, condominium

conversion, building deterioration or condemnation, increased taxes, natural disasters, eminent domain, and increases in housing costs[19, 20, 21]. The HNA is focused on economic drivers of displacement, specifically the potential for the proposed Project to affect the local housing market and housing costs.

Lower income communities in the Bay Area have become increasingly vulnerable to displacement of existing residents. Employment growth, constrained housing production, and rising income inequality are among the factors that have contributed to increased displacement pressures, especially within lower income communities in locations accessible to employment centers where many households are housing-cost burdened.

East Palo Alto and Belle Haven both have existing risk factors for displacement. Both have a relatively lower-income existing population that includes a high percentage of households who spend 35% or more of their income on housing. East Palo Alto's rent control and just cause eviction ordinance provides significant protection to existing renters within multi-family buildings built prior to 1988 but does not preclude the potential for longer-term neighborhood change. The Urban Displacement Project,[22] an initiative of UC Berkeley "aimed at understanding the nature of gentrification and displacement in the Bay Area" has identified the Belle Haven census tract and census tracts within East Palo Alto as areas experiencing "ongoing gentrification and/or displacement" or "at risk of displacement." A separate analysis by the Urban Displacement Project[23] indicates that, despite risk factors for displacement, East Palo Alto had not experienced significant gentrification during the 2000 to 2013 period, potentially due to policies aimed at preventing displacement including rent control and just cause eviction protections.

A recent study by UC Berkeley's Center for Community Innovation and its Y-PLAN initiative, titled *Investment and Disinvestment as Neighbors: A Study of Baseline Housing Conditions in the Bay Area Peninsula*, provided an assessment of the baseline housing conditions in the Belle Haven neighborhood, City of East Palo Alto, and North Fair Oaks neighborhood (unincorporated San Mateo County). The study found indications of recent changes including increased population turnover, declining school age population, and an increase in homelessness. The study also identified a high incidence of rent burdened households and disproportionate pressure on the local housing market compared to the rest of San Mateo County. The study

[19] Zuk, M. et. al. 2017. Gentrification, Displacement, and the Role of Public Investment. Journal of Planning Literature. Journal of Planning Literature 1-14.

[20] Center for Community Innovation (2020). Investment and Disinvestment as Neighbors, A Study of Baseline Housing Conditions in the Bay Area Peninsula.

[21] Bradshaw, K. (2019). Uneven Ground: How unequal land use harms communities in southern San Mateo County. Palo Alto Online. https://paloaltoonline.atavist.com/uneven-ground.

[22] Zuk, M., & Chapple, K. (2019). Urban Displacement Project. http://www.urbandisplacement.org/

[23] Crispell, M, Harris L.R., and Cespedes S. March 2016. San Mateo County's East Palo Alto. Urban Displacement Project.

found more signs of disinvestment in East Palo Alto and more indications of real estate speculation in Belle Haven[24].

7.2 Potential for Proposed Project to Contribute to Displacement

The following outlines factors considered in the evaluation of whether the proposed Project could have an influence on displacement in East Palo Alto and Belle Haven:

(1) The proposed Project adds 335 new units to the housing supply, including 48 below market rate units, which will make additional housing opportunities available in a very competitive housing market.

(2) The proposed Project results in an estimated net increase in housing availability of 275 units. The basis for this figure is described in Section 6.1 and considers the 335 new units constructed as well as changes in worker housing demand.

(3) The proposed Project is located in an area geographically separate from both Belle Haven and East Palo Alto and will not physically alter either community.

(4) The 335 new units in the proposed Project equate to an approximately 2.4% increase in the existing 14,082-unit Menlo Park housing stock[25] and a 0.1% increase in the 280,879-unit housing stock of San Mateo County.

(5) Two recent studies have found moderating effects of new rental housing on rents and displacement pressures at the local level. New residential developments were found to decrease rents in the area surrounding the new housing relative to market trend.[26]

In consideration of the above factors, the proposed Project is not anticipated to contribute to displacement in East Palo Alto or Belle Haven. The proposed Project increases availability of market rate and affordable housing, which will tend to moderate or counteract displacement pressures by relieving, to some extent, market pressures on the existing local housing stock.

---

[24] Center for Community Innovation. (2020). Investment and Disinvestment as Neighbors, A Study of Baseline Housing Conditions in the Bay Area Peninsula.

[25] Number of housing units as of January 1, 2020 per California Department of Finance Table E-5, Population and Housing Estimates for Cities, Counties, and the State, 2011-2020 with 2010 Census Benchmark.

[26] Asquith, Brian J., Evan Mast, and Davin Reed. 2019. "Supply Shock Versus Demand Shock: The Local Effects of New Housing in Low-Income Areas." Upjohn Institute Working Paper 19-316. Kalamazoo, MI: W. E. Upjohn Institute for Employment Research. https://doi.org/10.17848/wp19-316

Li, Xiaodi (2019). Do New Housing Units in Your Backyard Raise Your Rents? NYU Wagner and NYU Furman Center. https://72187189-93c1-48bc-b596-fc36f4606599.filesusr.com/ugd/7fc2bf_2fc84967cfb945a69a4df7baf8a4c387.pdf

APPENDIX A – WORKER OCCUPATIONS AND COMPENSATION LEVELS

APPENDIX A TABLE 1
WORKER OCCUPATION DISTRIBUTION, 2019
SERVICES TO HOUSEHOLDS EARNING $100 - $150K
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

Major Occupations (2% or more)	Worker Occupation Distribution[1] Services to Households Earning $100,000 to $150,000
Management Occupations	*4.0%*
Business and Financial Operations Occupations	*4.2%*
Educational Instruction and Library Occupations	*3.1%*
Healthcare Practitioners and Technical Occupations	*8.1%*
Healthcare Support Occupations	*9.5%*
Food Preparation and Serving Related Occupations	*13.0%*
Building and Grounds Cleaning and Maintenance Occupations	*2.2%*
Personal Care and Service Occupations	*6.2%*
Sales and Related Occupations	*13.4%*
Office and Administrative Support Occupations	*12.3%*
Installation, Maintenance, and Repair Occupations	*3.4%*
Transportation and Material Moving Occupations	*9.0%*
All Other Worker Occupations - Services to Households Earning $100,000 to $150,000	*11.6%*
INDUSTRY TOTAL	100.0%

[1] Distribution of employment by industry is per the IMPLAN model and the distribution of occupational employment within those industries is based on the Bureau of Labor Statistics Occupational Employment Survey.

Source: Bureau of Labor Statistics, IMPLAN
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX A TABLE 2
AVERAGE ANNUAL WORKER COMPENSATION, 2019
SERVICES TO HOUSEHOLDS EARNING $100,000 TO $150,000
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

Occupation [3]	2019 Avg. Compensation [1]	% of Total Occupation Group [2]	% of Total No. of Service Workers
Page 1 of 4			
Management Occupations			
General and Operations Managers	$155,900	38.7%	1.5%
Sales Managers	$159,700	4.9%	0.2%
Administrative Services and Facilities Managers	$132,000	3.2%	0.1%
Computer and Information Systems Managers	$202,000	3.2%	0.1%
Financial Managers	$182,200	9.2%	0.4%
Food Service Managers	$63,500	5.4%	0.2%
Medical and Health Services Managers	$142,800	8.3%	0.3%
Social and Community Service Managers	$73,200	3.9%	0.2%
Personal Service Managers, All Other; Entertainment and Recreation Mar	$168,900	3.9%	0.2%
All other Management Occupations (Avg. All Categories)	$149,200	19.3%	0.8%
Weighted Mean Annual Wage	***$149,200***	**100.0%**	**4.0%**
Business and Financial Operations Occupations			
Human Resources Specialists	$89,800	5.8%	0.2%
Management Analysts	$113,800	5.3%	0.2%
Training and Development Specialists	$83,600	3.7%	0.2%
Market Research Analysts and Marketing Specialists	$91,400	8.0%	0.3%
Project Management Specialists and Business Operations Specialists, All	$93,000	10.3%	0.4%
Accountants and Auditors	$93,600	16.7%	0.7%
Personal Financial Advisors	$157,700	11.0%	0.5%
Loan Officers	$84,900	5.6%	0.2%
Financial and Investment Analysts, Financial Risk Specialists, and Financi	$119,100	10.6%	0.4%
All Other Business and Financial Operations Occupations (Avg. All Categ	$105,900	23.0%	1.0%
Weighted Mean Annual Wage	***$105,900***	**100.0%**	**4.2%**
Educational Instruction and Library Occupations			
Preschool Teachers, Except Special Education	$45,100	26.7%	0.8%
Elementary School Teachers, Except Special Education	$84,000	7.1%	0.2%
Secondary School Teachers, Except Special and Career/Technical Educa	$84,000	4.9%	0.2%
Self-Enrichment Teachers	$53,700	9.3%	0.3%
Substitute Teachers, Short-Term	$42,900	3.7%	0.1%
Tutors and Teachers and Instructors, All Other	$50,800	5.8%	0.2%
Teaching Assistants, Except Postsecondary	$39,700	18.7%	0.6%
All Other Educational Instruction and Library Occupations (Avg. All Categ	$51,300	23.7%	0.7%
Weighted Mean Annual Wage	***$51,300***	**100.0%**	**3.1%**

Sources: Bureau of Labor Statistics, IMPLAN
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX A TABLE 2
AVERAGE ANNUAL WORKER COMPENSATION, 2019
SERVICES TO HOUSEHOLDS EARNING $100,000 TO $150,000
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

Occupation [3]	2019 Avg. Compensation [1]	% of Total Occupation Group [2]	% of Total No. of Service Workers
Page 2 of 4			
Healthcare Practitioners and Technical Occupations			
Pharmacists	$148,400	4.8%	0.4%
Physical Therapists	$102,500	4.9%	0.4%
Registered Nurses	$138,000	24.8%	2.0%
Physicians, All Other; and Ophthalmologists, Except Pediatric	$174,000	3.5%	0.3%
Dental Hygienists	$113,900	6.0%	0.5%
Pharmacy Technicians	$51,100	6.9%	0.6%
Licensed Practical and Licensed Vocational Nurses	$69,500	8.9%	0.7%
All Other Healthcare Practitioners and Technical Occupations (Avg. All Ca	$115,400	40.1%	3.2%
Weighted Mean Annual Wage	***$115,400***	**100.0%**	**8.1%**
Healthcare Support Occupations			
Home Health and Personal Care Aides	$30,300	56.1%	5.3%
Nursing Assistants	$45,100	14.8%	1.4%
Massage Therapists	$50,600	3.7%	0.4%
Dental Assistants	$51,500	7.9%	0.7%
Medical Assistants	$48,900	8.2%	0.8%
All Other Healthcare Support Occupations (Avg. All Categories)	$37,100	9.3%	0.9%
Weighted Mean Annual Wage	***$37,100***	**100.0%**	**9.5%**
Food Preparation and Serving Related Occupations			
First-Line Supervisors of Food Preparation and Serving Workers	$44,600	7.6%	1.0%
Cooks, Fast Food	$27,100	4.6%	0.6%
Cooks, Restaurant	$38,400	11.0%	1.4%
Food Preparation Workers	$31,800	6.5%	0.8%
Bartenders	$37,300	3.5%	0.4%
Fast Food and Counter Workers	$31,600	31.0%	4.0%
Waiters and Waitresses	$37,800	19.6%	2.6%
Dishwashers	$31,700	3.8%	0.5%
Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	$34,500	3.4%	0.4%
All Other Food Preparation and Serving Related Occupations (Avg. All Ca	$35,000	9.1%	1.2%
Weighted Mean Annual Wage	***$35,000***	**100.0%**	**13.0%**

Sources: Bureau of Labor Statistics, IMPLAN
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX A TABLE 2
AVERAGE ANNUAL WORKER COMPENSATION, 2019
SERVICES TO HOUSEHOLDS EARNING $100,000 TO $150,000
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

Occupation [3]	2019 Avg. Compensation [1]	% of Total Occupation Group [2]	% of Total No. of Service Workers
Page 3 of 4			
Building and Grounds Cleaning and Maintenance Occupations			
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	$38,900	51.1%	1.1%
Maids and Housekeeping Cleaners	$41,400	15.4%	0.3%
Pest Control Workers	$47,100	4.1%	0.1%
Landscaping and Groundskeeping Workers	$43,900	20.7%	0.5%
All Other Building and Grounds Cleaning and Maintenance Occupations (/	$40,800	8.7%	0.2%
Weighted Mean Annual Wage	***$40,800***	**100.0%**	**2.2%**
Personal Care and Service Occupations			
First-Line Supervisors of Personal Service and Entertainment and Recrea	$54,200	5.9%	0.4%
Animal Caretakers	$34,100	16.4%	1.0%
Amusement and Recreation Attendants	$29,700	3.0%	0.2%
Hairdressers, Hairstylists, and Cosmetologists	$35,400	23.0%	1.4%
Manicurists and Pedicurists	$29,500	7.5%	0.5%
Childcare Workers	$35,600	14.7%	0.9%
Exercise Trainers and Group Fitness Instructors	$59,300	9.1%	0.6%
Recreation Workers	$36,500	4.6%	0.3%
All Other Personal Care and Service Occupations (Avg. All Categories)	$38,400	15.8%	1.0%
Weighted Mean Annual Wage	***$38,400***	**100.0%**	**6.2%**
Sales and Related Occupations			
First-Line Supervisors of Retail Sales Workers	$47,000	9.8%	1.3%
Cashiers	$32,200	28.7%	3.9%
Retail Salespersons	$34,800	38.9%	5.2%
Securities, Commodities, and Financial Services Sales Agents	$101,800	4.4%	0.6%
Sales Representatives of Services, Except Advertising, Insurance, Financ	$81,300	5.0%	0.7%
Sales Representatives, Wholesale and Manufacturing, Except Technical a	$81,800	3.4%	0.5%
All Other Sales and Related Occupations (Avg. All Categories)	$42,900	9.9%	1.3%
Weighted Mean Annual Wage	***$42,900***	**100.0%**	**13.4%**
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$71,200	7.5%	0.9%
Billing and Posting Clerks	$50,100	3.1%	0.4%
Bookkeeping, Accounting, and Auditing Clerks	$55,000	7.4%	0.9%
Customer Service Representatives	$49,200	14.6%	1.8%
Receptionists and Information Clerks	$40,000	12.0%	1.5%
Medical Secretaries and Administrative Assistants	$49,100	5.9%	0.7%
Secretaries and Administrative Assistants, Except Legal, Medical, and Exe	$51,200	9.6%	1.2%
Office Clerks, General	$46,900	15.5%	1.7%
All Other Office and Administrative Support Occupations (Avg. All Categor	$50,300	24.5%	3.0%
Weighted Mean Annual Wage	***$50,300***	**100.0%**	**12.1%**

Sources: Bureau of Labor Statistics, IMPLAN
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX A TABLE 2
AVERAGE ANNUAL WORKER COMPENSATION, 2019
SERVICES TO HOUSEHOLDS EARNING $100,000 TO $150,000
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

Occupation [3]	2019 Avg. Compensation [1]	% of Total Occupation Group [2]	% of Total No. of Service Workers
Page 4 of 4			
Installation, Maintenance, and Repair Occupations			
First-Line Supervisors of Mechanics, Installers, and Repairers	$89,700	7.8%	0.3%
Automotive Body and Related Repairers	$57,600	11.1%	0.4%
Automotive Service Technicians and Mechanics	$58,600	30.2%	1.0%
Bus and Truck Mechanics and Diesel Engine Specialists	$68,800	6.0%	0.2%
Maintenance and Repair Workers, General	$56,200	14.5%	0.5%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Cate	$62,300	30.4%	1.0%
Weighted Mean Annual Wage	***$62,300***	**100.0%**	**3.4%**
Transportation and Material Moving Occupations			
First-Line Supervisors of Transportation and Material Moving Workers, Ex	$66,700	4.2%	0.4%
Driver/Sales Workers	$34,900	4.7%	0.4%
Heavy and Tractor-Trailer Truck Drivers	$51,400	9.7%	0.9%
Light Truck Drivers	$48,800	6.6%	0.6%
Passenger Vehicle Drivers, Except Bus Drivers, Transit and Intercity	$40,600	9.3%	0.8%
Parking Attendants	$34,300	8.7%	0.8%
Cleaners of Vehicles and Equipment	$33,500	7.3%	0.7%
Laborers and Freight, Stock, and Material Movers, Hand	$39,900	12.4%	1.1%
Packers and Packagers, Hand	$33,000	3.1%	0.3%
Stockers and Order Fillers	$36,200	19.6%	1.8%
All Other Transportation and Material Moving Occupations (Avg. All Categ	$40,800	14.2%	1.3%
Weighted Mean Annual Wage	***$40,800***	**100.0%**	**9.0%**
			88.4%

[1] The methodology utilized by the Bureau of Labor Statistics (BLS) assumes hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

[2] Occupation percentages are based on the 2019 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on Occupational Employment Survey data applicable to San Mateo County as of 2019.

[3] Including occupations representing 3% or more of the major occupation group

Sources: Bureau of Labor Statistics, IMPLAN
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX A TABLE 3
WORKER OCCUPATION DISTRIBUTION, 2019
EXISTING OFFICE / INDUSTRIAL SPACE
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

	Worker Occupation Distribution[1] Existing Office / Industrial Space
Management Occupations	*7.3%*
Business and Financial Operations Occupations	*6.0%*
Computer and Mathematical Occupations	*3.3%*
Arts, Design, Entertainment, Sports, and Media Occupations	*25.3%*
Sales and Related Occupations	*9.3%*
Office and Administrative Support Occupations	*15.1%*
Construction and Extraction Occupations	*14.3%*
Installation, Maintenance, and Repair Occupations	*3.7%*
Production Occupations	*8.5%*
All Other Worker Occupations - Existing Office / Industrial Space	*7.1%*
INDUSTRY TOTAL	100.0%

[1] Distribution of employment by industry is per the IMPLAN model and the distribution of occupational employment within those industries is based on the Bureau of Labor Statistics Occupational Employment Survey.

Source: Bureau of Labor Statistics
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX A TABLE 4
AVERAGE ANNUAL WORKER COMPENSATION, 2019
EXISTING OFFICE / INDUSTRIAL SPACE WORKERS
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

Occupation [3]	2019 Avg. Compensation [1]	% of Total Occupation Group [2]	% of Total Office / Indust Workers
Page 1 of 2			
Management Occupations			
Chief Executives	$236,100	3.1%	0.2%
General and Operations Managers	$155,900	43.5%	3.2%
Marketing Managers	$181,700	8.2%	0.6%
Sales Managers	$159,700	7.4%	0.5%
Computer and Information Systems Managers	$202,000	5.7%	0.4%
Financial Managers	$182,200	5.8%	0.4%
Construction Managers	$134,900	5.1%	0.4%
Personal Service Managers, All Other; Entertainment and Recreation Ma	$168,900	7.1%	0.5%
All other Management Occupations (Avg. All Categories)	$166,300	14.1%	1.0%
Weighted Mean Annual Wage	***$166,300***	**100.0%**	**7.3%**
Business and Financial Operations Occupations			
Buyers and Purchasing Agents	$79,000	4.7%	0.3%
Cost Estimators	$99,000	5.9%	0.4%
Human Resources Specialists	$89,800	5.3%	0.3%
Management Analysts	$113,800	4.9%	0.3%
Meeting, Convention, and Event Planners	$67,500	3.1%	0.2%
Market Research Analysts and Marketing Specialists	$91,400	30.3%	1.8%
Project Management Specialists and Business Operations Specialists, All	$93,000	20.2%	1.2%
Accountants and Auditors	$93,600	15.1%	0.9%
Financial and Investment Analysts, Financial Risk Specialists, and Financ	$119,100	3.3%	0.2%
All Other Business and Financial Operations Occupations (Avg. All Categ	$93,300	7.3%	0.4%
Weighted Mean Annual Wage	***$93,300***	**100.0%**	**6.0%**
Computer and Mathematical Occupations			
Computer Systems Analysts	$121,300	7.9%	0.3%
Computer User Support Specialists	$75,600	9.5%	0.3%
Network and Computer Systems Administrators	$104,400	7.8%	0.3%
Database Administrators and Architects	$107,900	4.0%	0.1%
Computer Programmers	$116,400	4.4%	0.1%
Software Developers and Software Quality Assurance Analysts and Teste	$145,300	24.9%	0.8%
Web Developers and Digital Interface Designers	$110,800	26.0%	0.9%
Computer Occupations, All Other	$120,400	7.7%	0.3%
All Other Computer and Mathematical Occupations (Avg. All Categories)	$117,800	8.0%	0.3%
Weighted Mean Annual Wage	***$117,800***	**100.0%**	**3.3%**
Arts, Design, Entertainment, Sports, and Media Occupations			
Art Directors	$136,000	4.2%	1.1%
Graphic Designers	$77,100	29.2%	7.4%
Interior Designers	$72,200	16.5%	4.2%
News Analysts, Reporters, and Journalists	$81,100	10.6%	2.7%
Editors	$86,500	23.8%	6.0%
All Other Arts, Design, Entertainment, Sports, and Media Occupations (A	$82,200	15.8%	4.0%
Weighted Mean Annual Wage	***$82,200***	**100.0%**	**25.3%**
Sales and Related Occupations			
First-Line Supervisors of Non-Retail Sales Workers	$77,600	4.3%	0.4%
Cashiers	$32,200	4.7%	0.4%
Retail Salespersons	$34,800	11.1%	1.0%
Advertising Sales Agents	$92,700	43.6%	4.1%
Sales Representatives of Services, Except Advertising, Insurance, Financ	$81,300	17.4%	1.6%
Sales Representatives, Wholesale and Manufacturing, Except Technical a	$81,800	12.6%	1.2%
All Other Sales and Related Occupations (Avg. All Categories)	$78,500	6.3%	0.6%
Weighted Mean Annual Wage	***$78,500***	**100.0%**	**9.3%**

Source: U.S. Bureau of Labor Statistics
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX A TABLE 4
AVERAGE ANNUAL WORKER COMPENSATION, 2019
EXISTING OFFICE / INDUSTRIAL SPACE WORKERS
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

Occupation [3]	2019 Avg. Compensation [1]	% of Total Occupation Group [2]	% of Total Office / Indust Workers
Page 2 of 2			
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$71,200	6.4%	1.0%
Bookkeeping, Accounting, and Auditing Clerks	$55,000	10.8%	1.6%
Customer Service Representatives	$49,200	12.1%	1.8%
Production, Planning, and Expediting Clerks	$63,200	4.0%	0.6%
Shipping, Receiving, and Inventory Clerks	$42,900	3.6%	0.5%
Executive Secretaries and Executive Administrative Assistants	$82,500	3.0%	0.5%
Secretaries and Administrative Assistants, Except Legal, Medical, and Ex	$51,200	11.3%	1.7%
Mail Clerks and Mail Machine Operators, Except Postal Service	$39,000	6.0%	0.9%
Office Clerks, General	$46,900	26.4%	4.0%
All Other Office and Administrative Support Occupations (Avg. All Catego	$52,000	16.3%	2.5%
Weighted Mean Annual Wage	***$43,600***	**100.0%**	**15.1%**
Construction and Extraction Occupations			
First-Line Supervisors of Construction Trades and Extraction Workers	$99,600	6.8%	1.0%
Cement Masons and Concrete Finishers	$65,400	3.4%	0.5%
Construction Laborers	$56,000	10.0%	1.4%
Electricians	$100,400	27.1%	3.9%
Plumbers, Pipefitters, and Steamfitters	$87,200	14.9%	2.1%
Helpers--Brickmasons, Blockmasons, Stonemasons, and Tile and Marble	$41,800	4.6%	0.7%
Helpers--Electricians	$42,100	3.7%	0.5%
All Other Construction and Extraction Occupations (Avg. All Categories)	$82,700	29.5%	4.2%
Weighted Mean Annual Wage	***$43,600***	**100.0%**	**14.3%**
Installation, Maintenance, and Repair Occupations			
First-Line Supervisors of Mechanics, Installers, and Repairers	$89,700	7.6%	0.3%
Telecommunications Equipment Installers and Repairers, Except Line Ins	$69,100	5.6%	0.2%
Security and Fire Alarm Systems Installers	$50,400	3.9%	0.1%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	$76,500	45.2%	1.7%
Industrial Machinery Mechanics	$78,000	4.3%	0.2%
Telecommunications Line Installers and Repairers	$64,400	3.7%	0.1%
Maintenance and Repair Workers, General	$56,200	9.3%	0.3%
Helpers--Installation, Maintenance, and Repair Workers	$37,700	4.4%	0.2%
Installation, Maintenance, and Repair Workers, All Other	$55,200	5.5%	0.2%
All Other Installation, Maintenance, and Repair Occupations (Avg. All Cat	$70,300	10.5%	0.4%
Weighted Mean Annual Wage	***$43,600***	**100.0%**	**3.7%**
Production Occupations			
First-Line Supervisors of Production and Operating Workers	$76,700	8.0%	0.7%
Bakers	$37,000	16.2%	1.4%
Food Batchmakers	$35,300	7.9%	0.7%
Prepress Technicians and Workers	$53,100	6.8%	0.6%
Printing Press Operators	$43,700	20.2%	1.7%
Print Binding and Finishing Workers	$39,100	3.2%	0.3%
Sewing Machine Operators	$32,900	3.1%	0.3%
Packaging and Filling Machine Operators and Tenders	$34,700	7.1%	0.6%
Helpers--Production Workers	$34,400	5.1%	0.4%
All Other Production Occupations (Avg. All Categories)	$43,600	22.4%	1.9%
Weighted Mean Annual Wage	***$43,600***	**100.0%**	**8.5%**
			92.9%

[1] The methodology utilized by the Bureau of Labor Statistics (BLS) assumes hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

[2] Occupation percentages are based on the 2019 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on Occupational Employment Survey data applicable to San Mateo County as of 2019.

[3] Including occupations representing 3% or more of the major occupation group

Source: U.S. Bureau of Labor Statistics
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX A TABLE 5
WORKER OCCUPATION DISTRIBUTION, 2019
NEW OFFICE SPACE
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

	Worker Occupation Distribution[1] New Office Space
Management Occupations	*12.8%*
Business and Financial Operations Occupations	*12.3%*
Computer and Mathematical Occupations	*38.0%*
Architecture and Engineering Occupations	*1.0%*
Educational Instruction and Library Occupations	*3.5%*
Arts, Design, Entertainment, Sports, and Media Occupations	*6.2%*
Sales and Related Occupations	*11.4%*
Office and Administrative Support Occupations	*13.0%*
All Other Worker Occupations - New Office Space	*1.8%*
INDUSTRY TOTAL	100.0%

[1] Distribution of employment by industry is per the IMPLAN model and the distribution of occupational employment within those industries is based on the Bureau of Labor Statistics Occupational Employment Survey.

Source: Bureau of Labor Statistics
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX A TABLE 6
AVERAGE ANNUAL WORKER COMPENSATION, 2019
NEW OFFICE SPACE WORKERS
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

Occupation [3]	2019 Avg. Compensation [1]	% of Total Occupation Group [2]	% of Total Office Workers
Page 1 of 2			
Management Occupations			
General and Operations Managers	$155,900	21.6%	2.8%
Marketing Managers	$181,700	11.7%	1.5%
Sales Managers	$159,700	11.5%	1.5%
Computer and Information Systems Managers	$202,000	27.8%	3.6%
Financial Managers	$182,200	6.4%	0.8%
Architectural and Engineering Managers	$186,500	1.1%	0.1%
Natural Sciences Managers	$208,900	0.0%	0.0%
Personal Service Managers, All Other; Entertainment and Recreation Ma	$168,900	7.2%	0.9%
All other Management Occupations (Avg. All Categories)	$178,000	12.7%	1.6%
Weighted Mean Annual Wage	***$178,000***	**100.0%**	**12.8%**
Business and Financial Operations Occupations			
Buyers and Purchasing Agents	$79,000	2.3%	0.3%
Compliance Officers	$93,000	1.3%	0.2%
Human Resources Specialists	$89,800	9.0%	1.1%
Management Analysts	$113,800	10.9%	1.3%
Training and Development Specialists	$83,600	5.7%	0.7%
Market Research Analysts and Marketing Specialists	$91,400	29.9%	3.7%
Project Management Specialists and Business Operations Specialists, Al	$93,000	18.0%	2.2%
Accountants and Auditors	$93,600	11.2%	1.4%
Financial and Investment Analysts, Financial Risk Specialists, and Financ	$119,100	5.5%	0.7%
All Other Business and Financial Operations Occupations (Avg. All Categ	$95,300	6.3%	0.8%
Weighted Mean Annual Wage	***$95,300***	**100.0%**	**12.3%**
Computer and Mathematical Occupations			
Computer Systems Analysts	$121,300	9.3%	3.5%
Computer User Support Specialists	$75,600	11.4%	4.3%
Network and Computer Systems Administrators	$104,400	4.3%	1.6%
Computer Programmers	$116,400	4.6%	1.7%
Software Developers and Software Quality Assurance Analysts and Teste	$145,300	46.9%	17.8%
Web Developers and Digital Interface Designers	$110,800	6.3%	2.4%
Computer Occupations, All Other	$120,400	6.5%	2.5%
All Other Computer and Mathematical Occupations (Avg. All Categories)	$126,200	10.8%	4.1%
Weighted Mean Annual Wage	***$126,200***	**100.0%**	**38.0%**
Architecture and Engineering Occupations			
Aerospace Engineers	$135,200	1.1%	0.0%
Computer Hardware Engineers	$134,000	33.8%	0.3%
Electrical Engineers	$121,000	9.2%	0.1%
Electronics Engineers, Except Computer	$112,800	8.2%	0.1%
Industrial Engineers	$113,900	12.3%	0.1%
Mechanical Engineers	$123,300	4.0%	0.0%
Engineers, All Other	$113,100	9.3%	0.1%
Electrical and Electronic Engineering Technologists and Technicians	$67,200	8.0%	0.1%
Calibration Technologists and Technicians and Engineering Technologists	$75,100	2.5%	0.0%
All Other Architecture and Engineering Occupations (Avg. All Categories)	$117,500	11.7%	0.1%
Weighted Mean Annual Wage	***$117,500***	**100.0%**	**1.0%**

Source: U.S. Bureau of Labor Statistics
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX A TABLE 6
AVERAGE ANNUAL WORKER COMPENSATION, 2019
NEW OFFICE SPACE WORKERS
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

Occupation [3]	2019 Avg. Compensation [1]	% of Total Occupation Group [2]	% of Total Office Workers
Page 2 of 2			
Educational Instruction and Library Occupations			
Archivists	$81,700	4.2%	0.1%
Librarians and Media Collections Specialists	$89,400	43.0%	1.5%
Library Technicians	$59,000	40.0%	1.4%
All Other Educational Instruction and Library Occupations (Avg. All Categ	$75,100	12.8%	0.5%
Weighted Mean Annual Wage	***$53,300***	**100.0%**	**3.5%**
Arts, Design, Entertainment, Sports, and Media Occupations			
Special Effects Artists and Animators	$97,600	6.7%	0.4%
Graphic Designers	$77,100	9.3%	0.6%
Producers and Directors	$104,500	9.6%	0.6%
News Analysts, Reporters, and Journalists	$81,100	13.3%	0.8%
Public Relations Specialists	$84,500	8.3%	0.5%
Editors	$86,500	26.6%	1.7%
Technical Writers	$102,500	4.8%	0.3%
Writers and Authors	$93,100	7.3%	0.5%
All Other Arts, Design, Entertainment, Sports, and Media Occupations (A	$88,800	14.0%	0.9%
Weighted Mean Annual Wage	***$53,300***	**100.0%**	**6.2%**
Sales and Related Occupations			
First-Line Supervisors of Non-Retail Sales Workers	$77,600	4.3%	0.5%
Advertising Sales Agents	$92,700	17.3%	2.0%
Sales Representatives of Services, Except Advertising, Insurance, Financ	$81,300	50.7%	5.8%
Sales Representatives, Wholesale and Manufacturing, Technical and Sci	$104,700	10.6%	1.2%
Sales Representatives, Wholesale and Manufacturing, Except Technical a	$81,800	6.0%	0.7%
Sales Engineers	$125,700	2.9%	0.3%
Telemarketers	$33,400	4.2%	0.5%
All Other Sales and Related Occupations (Avg. All Categories)	$85,000	4.2%	0.5%
Weighted Mean Annual Wage	***$53,300***	**100.0%**	**11.4%**
Office and Administrative Support Occupations			
First-Line Supervisors of Office and Administrative Support Workers	$71,200	8.5%	1.1%
Bookkeeping, Accounting, and Auditing Clerks	$55,000	6.0%	0.8%
Customer Service Representatives	$49,200	35.3%	4.6%
Library Assistants, Clerical	$43,600	9.5%	1.2%
Executive Secretaries and Executive Administrative Assistants	$82,500	5.4%	0.7%
Secretaries and Administrative Assistants, Except Legal, Medical, and Ex	$51,200	6.2%	0.8%
Office Clerks, General	$46,900	11.5%	1.5%
All Other Office and Administrative Support Occupations (Avg. All Categc	$53,300	17.5%	2.3%
Weighted Mean Annual Wage	***$53,300***	**100.0%**	**13.0%**
			98.2%

[1] The methodology utilized by the Bureau of Labor Statistics (BLS) assumes hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

[2] Occupation percentages are based on the 2019 National Industry - Specific Occupational Employment survey compiled by the Bureau of Labor Statistics. Wages are based on Occupational Employment Survey data applicable to San Mateo County as of 2019.

[3] Including occupations representing 3% or more of the major occupation group

Source: U.S. Bureau of Labor Statistics
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX A TABLE 7
AVERAGE ANNUAL WORKER COMPENSATION, 2019
BUILDING SERVICES
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

Occupation [3]	2019 Avg. Compensation [1]	% of Total Building Services Workers
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	$38,900	75.0%
Maintenance and Repair Workers, General	$56,200	25.0%
		100.0%

[1] The methodology utilized by the Bureau of Labor Statistics (BLS) assumes hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

Source: Bureau of Labor Statistics
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX A TABLE 8
AVERAGE ANNUAL WORKER COMPENSATION, 2019
APARTMENT PROPERTY MANAGEMENT
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

Occupation [3]	2019 Avg. Compensation [1]	% of Total Apartment Property Management Workers
Property, Real Estate, and Community Association Managers	$92,900	20.0%
Maintenance and Repair Workers, General	$56,200	40.0%
Grounds Maintenance Workers, All Other	$54,100	40.0%
		100.0%

[1] The methodology utilized by the Bureau of Labor Statistics (BLS) assumes hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

Source: Bureau of Labor Statistics
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX A TABLE 9
AVERAGE ANNUAL WORKER COMPENSATION, 2019
RETAIL / COMMERCIAL
HOUSING NEEDS ASSESSMENT - MENLO PORTAL PROJECT
MENLO PARK, CA

Occupation [3]	2019 Avg. Compensation [1]	% of Total Retail / Commercial Workers
First-Line Supervisors of Food Preparation and Serving Worke	$44,600	25.0%
Food Preparation Workers	$31,800	50.0%
Food Servers, Nonrestaurant	$35,200	25.0%
		100.0%

[1] The methodology utilized by the Bureau of Labor Statistics (BLS) assumes hourly paid employees are employed full-time. Annual compensation is calculated by multiplying hourly wages by 40 hours per work week by 52 weeks.

Source: Bureau of Labor Statistics
Keyser Marston Associates, Inc.
\\SF-FS2\wp\15\15885\005\HNA - Menlo Portal 10-17-2020.xlsm; 10/19/2020; dd

APPENDIX E

TRANSPORTATION IMPACT ANALYSIS

This page intentionally left blank

KITTELSON & ASSOCIATES
155 GRAND AVENUE, SUITE 505
OAKLAND, CA 94612
P 510.839.1742 F 510.839.0871

Menlo Portal – Transportation Impact Analysis

INTRODUCTION

This Transportation Impact Analysis (TIA) presents the analysis methodology and findings of the level of service assessment conducted for the Menlo Portal project at 115 Independence Drive in Menlo Park, California.

For purposes of disclosing potential transportation impacts, the proposed project uses the City of Menlo Park's current TIA Guidelines to ensure compliance with both State and local requirements.[1] Up until July 1, 2020, the City's TIA Guidelines used roadway congestion or level of service (LOS) as the primary study metric for planning and environmental review purposes. However, Senate Bill (SB) 743 required the Governor's Office of Planning and Research (OPR) to establish a new metric for identifying and mitigating transportation impacts under CEQA in an effort to meet the State's goals to reduce GHG emissions, encourage infill development, and improve public health through more active transportation. CEQA Section 21099(b)(2) states that upon certification of the revised guidelines for determining transportation impacts pursuant to CEQA Section 21099(b)(1), automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA. OPR identified vehicle miles traveled (VMT) as the required CEQA transportation metric for determining potentially significant environmental impacts.[2] In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the section implementing SB 743 (CEQA Guidelines Section 15064.3). OPR developed a *Technical Advisory on Evaluating Transportation Impacts in CEQA,* which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.[3] As of July 1, 2020, VMT (not LOS) is the only legally acceptable threshold for transportation-related environmental impacts pursuant to CEQA.

As stated above, LOS is no longer a CEQA threshold. However, the City's TIA Guidelines require that the TIA also analyze LOS for local planning purposes. The LOS analysis would determine whether the project traffic would cause an intersection LOS to exceed the City's LOS thresholds or cause either the average delay or average critical delay to exceed the City's intersection delay thresholds under near term and

[1] Menlo Park, City of. 2020a. *Transportation Impact Analysis Guidelines*. Website: www.menlopark.org/DocumentCenter/View/302/Transportation-Impact-Analysis-Guidelines?bidId= (accessed July 10, 2020). July.

[2] California Office of Planning and Research. 2016. *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Implementing Senate Bill 743 (Steinberg, 2013)*. January 20.

[3] California Office of Planning and Research. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA.* Available online at: http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf (accessed February 7, 2019). December 18.

cumulative conditions. The LOS and delay thresholds vary depending on the street classifications as well as whether the intersection is on a State route or not. The City's TIA Guidelines further require an analysis of the proposed project in relation to relevant policies of the Circulation Element and consideration of specific measures to address noncompliance with local policies which may occur as a result of the addition of project traffic. This analysis is prepared to determine if there are potential measures that could bring the proposed project into conformance with Circulation Policy 3.4 (strive to maintain LOS D at all City controlled intersections).

PROJECT DESCRIPTION

The proposed project would result in the demolition of the existing building on the site and construction of one seven-story apartment building with 335 dwelling units and one office building with approximately 34,819 square feet of office space and 1,609 square feet of ground floor commercial space. The tenant and specific commercial land use type for the ground floor space was uncertain at the time of analysis. However, it is known that the commercial space would be a non-residential community amenity space and would therefore be expected to serve nearby residents and employees and would not be expected to generate a substantial number of vehicle trips. Therefore, for purposes of the LOS analysis, the commercial space was analyzed as commercial office space.[4]

The residential building includes parking for 324 vehicles while the office building includes 93 vehicle parking spaces on two levels. Direct local access to the project site is via Independence Drive that borders the site immediately to the west and south, Constitution Drive that borders the site immediately to the north, and Chrysler Drive approximately 0.2 mile to the east of the site. Access to the residential parking garage would be via a single two-way entry point at the north eastern corner of the project site from Constitution Drive. Access to the office parking would be via a single two-way entry point on the west side of the project site from Independence Drive. The ground floor would also include an access lane along the eastern boundary of the project site to provide emergency vehicle access.

Pedestrian access to the proposed building would be provided from Independence Drive, from Constitution Drive, and within the site interior. The project includes dedication of an easement along Independence Drive and Constitution Drive to construct a portion of public sidewalk within the site. Residential lobbies would be provided on the ground floor, and the residential units would be accessed via entry porches on Independence Drive and on Constitution Drive. A central pedestrian plaza would be provided between the apartment and office buildings to enable residents and employees to walk between buildings and parking areas.

A total of 552 bicycle parking spaces and a bike repair station would be provided. The apartment building includes a secured bike room on the first level for 480 long-term parking spaces and bike racks on the exterior of the building to hold 48 bicycles for short-term use. The office building includes 12 long-term bike parking spaces on the first level of the parking garage and 12 short-term bike parking spaces near the entry of the office building.

[4] The commercial space was evaluated as a child care center for the CEQA analysis. For CEQA purposes, this approach allows for flexibility and can be considered conservative because it classifies the non-residential space as a commercial/retail land use, thereby requiring VMT screening for commercial/retail use.

Transportation Demand Management Plan

The proposed project would implement the Menlo Portal Mixed-Use Development Transportation Demand Management Plan[5] as part of the proposed project in an effort to reduce project-generated vehicle trips and encourage travel by other modes. The TDM Plan includes the following measures in compliance with the City of Menlo Park Transportation Demand Management Guidelines:

- TDM Administration and Promotion
    - Assign a Transportation Coordinator to provide information regarding alternative modes of transportation to residents
    - Establish an online kiosk with transportation information including a summary of SamTrans, Caltrain, and nearby shuttle services, information about ride matching services and ridesharing services, local bikeway map and bicycling resources, and links to other resources in the Bay Area
    - Provide transportation information packets to new residents
- Bicycle and Pedestrian Amenities
    - Provide long-term bicycle parking spaces in secured bike storage rooms
    - Provide short-term bicycle parking spaces outdoors
    - Provide bicycle repair shop adjacent to bike storage room with services available for residents
    - Add new sidewalks with street trees along the project's Constitution Drive and Independence Drive frontages
    - Provide well-lit, accessible sidewalks around the apartment and office buildings
    - Incorporate a central pedestrian plaza between the apartment and office buildings to enable residents and employees to walk between buildings and parking areas
- On-site Amenities
    - Include business center, fitness center, and café on the ground floor of the apartment building
    - Include electric vehicle charging stations
    - Provide high-bandwidth internet connections to facilitate telecommunications
    - Include refrigerated mail areas to facilitate the delivery of groceries
- Carpool and Vanpool Programs

[5] Hexagon Transportation Consultants, Inc. 2019. *Menlo Portal Housing Development in Menlo Park, Transportation Demand Management Plan*. November 1.

- Provide a carpool/vanpool matching application to all residents as part of the welcome packets
- Promote 511 RideMatch service and Scoop services

- Unbundle parking costs from each living unit

Project Trip Generation

The vehicle trip generation estimates for the proposed residential and office space and the existing office and industrial buildings were calculated using the trip generation rates from the most recent ITE Trip Generation Manual (10th Edition, 2018).[6] The land use categories for General Office Building (ITE Code 710), Multi-Family Housing Mid-Rise (ITE Code 221), and General Light Industrial (ITE Code 110) were applied to this analysis.

Consistent with the Menlo Park TIA Guidelines,[7] vehicle trip reductions were taken to account for internalized trips, the TDM Plan,[8] and existing uses.

The trip subtotal for the office including a 5 percent internalization reduction for the trips made onsite and not utilizing external streets. A 20 percent reduction was applied to account for the proposed TDM Plan which would comply with City Ordinance 1026 and achieved the required minimum of 20 percent reduction of peak hour vehicle trips.[9] Additionally, because the site is occupied by existing active office and industrial buildings, trip credits were applied to account for the removal of the existing 64,832 square feet of office and industrial space.

As shown in Table 1, application of the vehicle trip generation rates, assumptions, and trip reductions would result in a net project-generated increase in the number of daily and AM and PM peak hour vehicle trips. The proposed project would generate 1,204 net new daily vehicle trips, 63 net new AM peak hour vehicle trips (-6 inbound trips and 69 outbound trips) and 86 net new PM peak hour vehicle trips (63 inbound trips and 18 outbound trips). The vehicle trip generation estimates used in this analysis have been approved by the City of Menlo Park.

[6] Institute of Transportation Engineers. 2018. *Trip Generation Manual, 10th Edition*.

[7] Menlo Park, City of. 2020a, op. cit.

[8] Caltrans Transportation Management Association. 2019. *111 Independence Drive TDM Plan*. August.

[9] Menlo Park, City of. Ordinance No. 1026. Available online at: www.menlopark.org/DocumentCenter/View/12605/1026---GP-MU-District?bidId= (accessed September 28, 2020).

Table 1 Vehicle Trip Generation Estimates

Land Use (ITE Code)	Size	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
			In	Out	Total	In	Out	Total
Existing Uses								
Office Building (ITE Code 710)	39,741 sf	(387)	(40)	(6)	(46)	(7)	(39)	(46)
Industrial Building (ITE Code 110)	25,091 sf	(124)	(16)	(2)	(18)	(2)	(14)	(16)
Proposed Uses								
Residential ITE Code 221)	335 du	1,822	31	90	121	90	57	147
Office (ITE Code 710)[1]	36,428 sf	339	34	6	40	6	34	40
Internalization: 5%	-	(17)	(2)	0	(2)	0	(2)	(2)
Commercial Office Subtotal	-	322	32	6	38	6	32	38
PROPOSED USES SUBTOTAL		2,144	63	96	159	96	89	185
TDM Plan: 20%		(429)	(13)	(19)	(32)	(19)	(18)	(37)
PROPOSED USES TOTAL		1,715	50	77	127	77	71	148
NET NEW PROJECT VEHICLE TRIPS		**1,204**	**-6**	**69**	**63**	**68**	**18**	**86**

Source: *ITE Trip Generation Manual, 10th Edition* (2018).
du = dwelling units
sf = square feet
[1] The square footage includes 34,819 sf office and 1,609 sf ground floor commercial.

Project Trip Distribution

Project-generated vehicle traffic was distributed to the surrounding roadway network based on travel surveys and existing traffic patterns. Project-added traffic volumes at the study intersections are included in Attachment 1.

SCOPE OF ANALYSIS AND METHODOLOGY

The analysis scope and methodology, data collection methods, and study locations are described in this section. The analysis scope presented in this chapter and all methodologies herein were reviewed and approved by the City of Menlo Park.

Analysis Scenarios

Transportation conditions were evaluated in this study for the following five scenarios:

- **Existing Conditions** – This scenario represents the current transportation network and traffic conditions. Existing turning movement counts collected in March 2019 were obtained from City staff and grown by one percent to represent growth from 2019 to 2020 when the analysis was conducted. [10] Signal timing information was obtained from the City.

[10] The analysis relies on historical data with application of growth factors to estimate traffic volumes representing existing conditions because collection of new data was not recommended during the public health crisis, COVID-19. The COVID-19 pandemic has resulted in shelter-in-place orders across the Bay Area and travel demand is significantly

- **Near Term (2022) Conditions** – This scenario represents the transportation network and traffic conditions at the time of expected occupancy of the proposed project but does not include the proposed project. This scenario includes transportation network changes, background traffic, and traffic generated from approved development projects in the area.

- **Near Term (2022) Plus Project Conditions** – This scenario represents Near Term (2022) Conditions with the addition of project-generated traffic.

- **Cumulative (2040) Conditions** – This scenario represents the transportation network and traffic conditions over a longer-term horizon to account for the cumulative effects of transportation network changes as well as background growth and land use development within the project area. This scenario assumes Conditions (2040) Conditions plus traffic generated from additional approved and reasonably foreseeable development projects in the area. This scenario does not include the proposed project. Volumes used for this scenario were estimated using the citywide traffic model and adjusted to reflect cumulative growth and development in the area.

- **Cumulative (2040) Plus Project Conditions** – This scenario represents Cumulative (2040) Conditions with the addition of project-generated traffic.

Level of Service Analysis

Although the law required the transition to VMT as the metric for significance in environmental analysis, level of service (LOS) can still be considered for planning purposes. With the adoption of the updated TIA Guidelines the City Council indicated continued concern over roadway congestion and the TIA Guidelines continue to require analysis of LOS alongside VMT. Consistent with the City's TIA Guidelines, the TIA includes a level of service analysis to evaluate compliance with local policies.

Roadway Segment Level of Service

C/CAG has adopted guidelines to evaluate the impacts of net new vehicle trips generated by new developments on the CMP network. These guidelines apply to all developments that generate 100 or more net new peak period vehicular trips on the CMP network and are subject to CEQA review. The proposed project would generate fewer than 100 net new peak period vehicular trips. Therefore, roadway segment level of service analysis is not required.

Intersection Level of Service

Level of service describes the operating conditions experienced by motorists. LOS is a qualitative measure of the effect of several factors, including speed and travel time, traffic interruptions, freedom to maneuver, driving comfort, and convenience. LOS A through LOS F covers the entire range of traffic operations that might occur. Motorists using a facility that operates at LOS A experience very little delay,

reduced across all modes. Travel behaviors and travel patterns have also changed substantially as a result of multiple factors such as school closures, restrictions on business operations, and an increased amount of telecommuting.

while those using a facility that operates at LOS F will experience long delays. These conditions are generally described in Table 2.

Table 2: General Level of Service Definitions

Level of Service	Description
A	**Free Flow or Insignificant Delays:** Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.
B	**Stable Operation or Minimal Delays:** The ability to maneuver within the traffic stream is only slightly restricted, and control delay at signalized intersections are not significant.
C	**Stable Operation or Acceptable Delays:** The ability to maneuver and change lanes is somewhat restricted, and average travel speeds may be about 50 percent of the free flow speed.
D	**Approaching Unstable or Tolerable Delays:** Small increases in flow may cause substantial increases in delay and decreases in travel speed.
E	**Unstable Operation or Significant Delays:** Significant delays may occur and average travel speeds may be 33 percent or less of the free flow speed.
F	**Forced Flow or Excessive Delays:** Congestion, high delays, and extensive queuing occur at critical signalized intersections with urban street flow at extremely low speeds.

Source: *Highway Capacity Manual*, Transportation Research Board, Washington D.C., 2016.

Signalized Intersections

Signalized intersection analysis was conducted using the operational methodology outlined in the Highway Capacity Manual (HCM) (Transportation Research Board, Washington, D.C., 2016), as operationalized by Vistro 2020[11]. The HCM 6th Edition procedure calculates a weighted average stop delay in seconds per vehicle at an intersection and assigns a level of service designation based on the delay. Table 3 presents the relationship of average delay to level of service at signalized intersections.

[11] Vistro is a traffic engineering software that allows creation of a transportation network model and applies industry standard methodologies to evaluate signalized and unsignalized intersections.

Table 3: Signalized Intersection Level of Service Definitions

Average Delay per Vehicle (Seconds)	Level of Service	Description of Traffic Conditions
≤10.0	A	Free flowing. Most vehicles do not have to stop.
>10.0 and ≤20.0	B	Minimal delays. Some vehicles have to stop, although waits are not bothersome.
>20.0 and ≤35.0	C	Acceptable delays. Significant numbers of vehicles have to stop because of steady, high traffic volumes. Still, many pass without stopping.
>35.0 and ≤55.0	D	Tolerable delays. Many vehicles have to stop. Drivers are aware of heavier traffic. Cars may have to wait through more than one red light. Queues begin to form, often on more than one approach.
>55.0 and ≤80.0	E	Significant delays. Cars may have to wait through more than one red light. Long queues form, sometimes on several approaches.
≤80.0	F	Excessive delays. Intersection is jammed. Many cars have to wait through more than one red light, or more than 60 seconds. Traffic may back up into "up-stream" intersections.

Source: *Highway Capacity Manual*, Transportation Research Board, Washington, D.C., 2016.

Unsignalized Intersections

Unsignalized intersection analysis was also conducted using the operational methodology outlined in the HCM, as operationalized by Vistro 2020. Table 4 presents the relationship of average delay to level of service for unsignalized intersections.

Table 4: Unsignalized Intersection Level of Service Definitions

Average Delay per Vehicle (Seconds)	Level of Service	Description of Traffic Conditions
≤10.0	A	Free flowing. Most vehicles do not have to stop.
>10.0 and ≤15.0	B	Minimal delays. Some vehicles have to stop, although waits are not bothersome.
>15.0 and ≤25.0	C	Acceptable delays. Significant numbers of vehicles have to stop because of steady, high traffic volumes. Still, many pass without stopping.
>25.0 and ≤35.0	D	Tolerable delays. Many vehicles have to stop. Drivers are aware of heavier traffic. Queues begin to form, often on more than one approach.
>35.0 and ≤50.0	E	Significant delays. Long queues form, sometimes on several approaches.
>50.0	F	Excessive delays. Intersection is jammed. Many cars have to wait more than 60 seconds. Traffic may back up into "up-stream" intersections.

Source: *Highway Capacity Manual*, Transportation Research Board, Washington, D.C., 2016.

Study Intersections

Level of service was analyzed[12] at fifteen study intersections. The study locations are presented in Figure 1. The City of Menlo Park conducted traffic counts for the two peak periods, 7 AM to 9 AM and 4 PM to 6 PM, in March 2019. The peak hours at each location were identified in these counts and used in the operations analysis.

[12] Intersection operations are not a CEQA topic but are analyzed as a local requirement in compliance with the General Plan Circulation Element.

Study Intersections



The study intersections and associated jurisdiction are listed below.

1. Marsh Road & Bayfront Expressway/Haven Avenue (Local Approaches to State)
2. Marsh Road & US-101 NB Off-Ramp (State)
3. Marsh Road & US-101 SB Off-Ramp (State)
4. Marsh Road & Scott Drive (Menlo Park)
5. Marsh Road & Bay Road (Menlo Park)
6. Marsh Road & Middlefield Road (Atherton)
7. Chrysler Drive & Bayfront Expressway (Local Approaches to State)
8. Chrysler Drive & Constitution Drive (Menlo Park)
9. Chrysler Drive & Jefferson Drive (Menlo Park)
10. Chrysler Drive & Independence Drive (Menlo Park)
11. Chilco Street & Bayfront Expressway (Local Approaches to State)
12. Chilco Street & Constitution Drive (Menlo Park)
13. Willow Road & Bayfront Expressway (State)
14. University & Bayfront Expressway (State)
15. Marsh Road & Florence Street-Bohannon Drive (Menlo Park)

EXISTING CONDITIONS

The turning movement volumes for the 15 study intersections were acquired from the City's database, which reflects the 2019 counts. The turning movement volumes for the study intersection are provided in Attachment 1 and the existing lane configurations are provided in Attachment 2.

The level of service results for the study intersections during the existing AM and PM peak hours are shown in Table 5. The Vistro analysis outputs are provided in Attachment 3. The intersections listed below operate at LOS not meeting the City's LOS Standard during one or both peak hours. All other study intersections operate in compliance with the LOS standard under Existing Conditions.

- Intersection #1, Marsh Road and Bayfront Expressway/Haven Avenue (Local Approaches to State): AM
- Intersection #10, Chrysler Drive and Independence Drive (Menlo Park): AM
- Intersection #12, Chilco Street and Constitution Drive (Menlo Park): AM and PM
- Intersection #13, Willow Road and Bayfront Expressway (State): AM and PM
- Intersection #14, University Avenue and Bayfront Expressway (State): PM

Manual on Uniform Traffic Control Devices (MUTCD) peak hour signal warrant analysis was conducted at the unsignalized intersections. The intersection of Chilco Street and Constitution Drive (Intersection #12), which operates with all-way stop control under Existing Conditions, met the peak hour signal warrant during both the AM and PM peak hours. No other study unsignalized intersections met the peak hour signal warrant during either peak hour.

Table 5: Existing Conditions Level of Service

No.	Intersection	Control	Peak Hour	Existing		Meet General Plan Standard?
				Delay	LOS	
1	Marsh Road & Bayfront Expressway/Haven Avenue (Local Approaches to State)	Signal	AM	**56.9**	**E**	No
			PM	36.5	D	Yes
2	Marsh Road & US-101 NB Off-Ramp (State)	Signal	AM	15.8	B	N/A
			PM	13.3	B	N/A
3	Marsh Road & US-101 SB Off-Ramp (State)	Signal	AM	18.1	B	N/A
			PM	17.0	B	N/A
4	Marsh Road & Scott Drive (Menlo Park)	Signal	AM	18.5	B	Yes
			PM	15.3	B	Yes
5	Marsh Road & Bay Road (Menlo Park)	Signal	AM	19.7	B	Yes
			PM	18.6	B	Yes
6	Marsh Road & Middlefield Road (Atherton)	Signal	AM	35.0	D	N/A
			PM	37.9	D	N/A
7	Chrysler Drive & Bayfront Expressway (Local Approaches to State)	Signal	AM	8.4	A	Yes
			PM	13.1	B	Yes
8	Chrysler Drive & Constitution Drive (Menlo Park)	Signal	AM	50.6	D	Yes
			PM	28.0	C	Yes
9	Chrysler Drive & Jefferson Drive (Menlo Park)	TWSC[1]	AM	18.6	C	Yes
			PM	19.0	C	Yes
10	Chrysler Drive & Independence Drive (Menlo Park)	TWSC[2]	AM	**44.0**	**E**	No
			PM	17.9	C	Yes
11	Chilco Street & Bayfront Expressway (Local Approaches to State)	Signal	AM	12.7	B	Yes
			PM	16.0	B	Yes
12	Chilco Street & Constitution Drive (Menlo Park)	AWSC[3]	AM	**32.1**	**D**	No
			PM	**32.5**	**D**	No
13	Willow Road & Bayfront Expressway (State)	Signal	AM	**106.0**	**F**	N/A
			PM	**168.1**	**F**	N/A
14	University Avenue & Bayfront Expressway (State)	Signal	AM	11.4	B	N/A
			PM	**94.1**	**F**	N/A
15	Marsh Road & Florence Street-Bohannon Drive (Menlo Park)	Signal	AM	35.3	D	Yes
			PM	34.6	C	Yes

Notes:
TWSC - Two-way stop-controlled. Delay and LOS for the worst movement is reported for TWSC intersections.
AWSC - All-way stop-controlled.
Bold text - Indicates intersections operate at LOS not meeting LOS standard.
N/A – Not applicable. The "General Plan Standard" information is only relevant where the City's LOS policy standards apply.
[1] This intersection does not meet signal warrant criteria under Existing Conditions during both peak hours.
[2] This intersection does not meet signal warrant criteria under Existing Conditions during both peak hours.
[3] This intersection meets signal warrant criteria under Existing Conditions during both peak hours.

NEAR TERM (2022) CONDITIONS

Near Term (2022) Conditions represent the transportation network and traffic conditions at the time of expected occupancy of the proposed project. This scenario includes transportation network changes, land use changes, and traffic generated from approved development projects in the area.

Programmed/Planned Transportation Facility Improvements

At the direction of the City of Menlo Park, the following programmed and planned improvements to study facilities were included in the Near Term (2022) Conditions analysis:

- **Chilco Street & Constitution Drive** was analyzed with a shared left-through-right lane in the northbound direction, a shared left-thru lane and right-turn lane in the southbound direction, a left turn lane and shared through-right lane in the eastbound direction, and with a left turn lane and shared through-right lane in the westbound direction. This intersection was evaluated with a signal in all future analysis scenarios.

The lane configurations under Near Term (2022) Conditions are provided in Attachment 2.

Additionally, Caltrain's Modernization Program is currently upgrading the Caltrain signal system for improved safety and performance and replacing diesel-powered trains with electric multiple-unit trains. Improvements are expected to finish prior to 2022 and result in improved frequency and speed of trains and increased ridership.

Development Projects

Approved development projects included in the Near Term (2022) Conditions analysis are detailed in Table 6. The Near Term scenario includes traffic that would be generated by these projects. The traffic volumes from approved projects were included in the Vistro analysis network. Additionally, a growth rate of one percent per year was applied to account for growth in regional traffic until the horizon year of 2022. The turning movement volumes under Near Term (2022) Conditions are provided in Attachment 1.

Table 6: Near Term (2022) Conditions Approved Projects

Project	Land Use	Size
Greenheart 1300 El Camino Real	Residential	183 units
	Office	203,000 square feet
	Retail/Personal Service	18,600 square feet
Menlo Gateway Constitution 100-155 Constitution Drive	Office	487,244 square feet
	Restaurant	7,420 square feet
Facebook Expansion Project 301-309 Constitution Drive	Office	450,400 square feet
	Hotel	200 rooms
Stanford 500 El Camino Real	Residential	215 units
	Office	143,900 square feet
	Retail	10,000 square feet
New Magnet High School 150 Jefferson Drive	High School	400 students
1275 El Camino Real	Residential	3 units
	Office	9,334 square feet
	Retail	589 square feet
1430 O'Brien Drive	Research & Development	46,608 square feet
	Fitness	10,223 square feet
	Cafe	7,652 square feet
1345 Willow Road	Residential	140 units

Source: City of Menlo Park, 2020.

Intersection Level of Service

Table 7 provides LOS results for the study intersections during the AM and PM peak hours under Near Term (2022) Conditions. The Vistro analysis outputs are provided in Attachment 3.

The intersections listed below would operate at LOS exceeding the City's LOS standard during one or both peak hours. All other study intersections would operate in compliance with the LOS standard under Near Term (2022) Conditions.

- Intersection #1, Marsh Road and Bayfront Expressway/Haven Avenue (Local Approaches to State): AM
- Intersection #6, Marsh Road and Middlefield Road (Atherton): AM
- Intersection #8, Chrysler Drive and Constitution Drive (Menlo Park): AM
- Intersection #10, Chrysler Drive and Independence Drive (Menlo Park): AM
- Intersection #13, Willow Road and Bayfront Expressway (State): AM and PM
- Intersection #14, University Avenue and Bayfront Expressway (State): PM

None of the unsignalized study intersections would meet the peak hour MUTCD signal warrant during either peak hour.

Table 7: Near Term (2022) Conditions Level of Service

No.	Intersection	Control	Peak Hour	Critical Approach	Near Term		Meet General Plan Standard?
					Delay	LOS	
1	Marsh Road & Bayfront Expressway/Haven Avenue (Local Approaches to State)	Signal	AM	N/A	**59.7**	**E**	No
				EB	**114.1**	**F**	
				WB	36.5	D	
			PM	N/A	37.4	D	Yes
2	Marsh Road & US-101 NB Off-Ramp (State)	Signal	AM	N/A	25.3	C	N/A
			PM	N/A	13.3	B	N/A
3	Marsh Road & US-101 SB Off-Ramp (State)	Signal	AM	N/A	22.9	C	N/A
			PM	N/A	17.7	B	N/A
4	Marsh Road & Scott Drive (Menlo Park)	Signal	AM	N/A	20.0	B	Yes
			PM	N/A	15.1	B	Yes
5	Marsh Road & Bay Road (Menlo Park)	Signal	AM	N/A	22.7	C	Yes
			PM	N/A	18.4	B	Yes
6	Marsh Road & Middlefield Road (Atherton)	Signal	AM	N/A	**73.8**	**E**	N/A
			PM	N/A	44.2	D	N/A
7	Chrysler Drive & Bayfront Expressway (Local Approaches to State)	Signal	AM	N/A	9.5	A	Yes
			PM	N/A	20.1	C	Yes
8	Chrysler Drive & Constitution Drive (Menlo Park)	Signal	AM	N/A	**111.1**	**F**	No
				NB	24.2	C	
				SB	**176.1**	**F**	
				EB	**104.4**	**F**	
				WB	**56.7**	**E**	
			PM	N/A	39.8	D	Yes
9	Chrysler Drive & Jefferson Drive (Menlo Park)	TWSC[1]	AM	N/A	23.2	C	Yes
			PM	N/A	20.1	C	Yes
10	Chrysler Drive & Independence Drive (Menlo Park)	TWSC[2]	AM	N/A	**69.3**	**F**	No
			PM	N/A	18.3	C	Yes
11	Chilco Street & Bayfront Expressway (Local Approaches to State)	Signal	AM	N/A	21.9	C	Yes
			PM	N/A	25.3	C	Yes
12	Chilco Street & Constitution Drive (Menlo Park)	Signal	AM	N/A	33.8	C	Yes
			PM	N/A	50.0	D	Yes
13	Willow Road & Bayfront Expressway (State)	Signal	AM	N/A	**193.1**	**F**	N/A
			PM	N/A	**180.9**	**F**	N/A
14	University & Bayfront Expressway (State)	Signal	AM	N/A	12.7	B	N/A
			PM	N/A	**113.1**	**F**	N/A
15	Marsh Road & Florence Street-Bohannon Drive (Menlo Park)	Signal	AM	N/A	38.3	D	Yes
			PM	N/A	37.0	D	Yes

Notes:
TWSC - Two-way stop-controlled. Delay and LOS for the worst movement is reported for TWSC intersections.
Bold text - Indicates intersections operate at LOS not meeting LOS standard.
N/A = Not applicable. The "Critical Approach" information is only relevant where the proposed project would increase delay per the LOS policy standards. The "General Plan Standard" information is only relevant where the City's LOS policy standards apply.
[1] This intersection does not meet signal warrant criteria under Near Term Conditions during both peak hours.

[2] This intersection does not meet signal warrant criteria under Near Term Conditions during both peak hours.

CUMULATIVE (2040) CONDITIONS

Cumulative (2040) Conditions represent the transportation network and traffic conditions over a longer-term horizon to account for the cumulative effects of transportation network changes as well as background growth and land use development within the project area. Intersection geometry and signal changes are incorporated into this scenario and described in the Programmed/Planned Transportation Facility Improvements section. Development projects included in the Cumulative (2040) Conditions analysis are detailed in the Development Projects section.

Programmed/Planned Transportation Facility Improvements

The programmed/planned transportation facility improvements affecting the study intersections are the same as those identified under Near Term (2022) Conditions. The lane configurations for Cumulative (2040) Conditions are provided in Attachment 2.

The following bicycle network improvements were identified in the Comprehensive Bicycle Development Plan[13] for streets near the project site and are anticipated to be completed prior to 2040:

- Class II bike lanes are recommended on Marsh Road, which would connect to the existing bike path next to Bayfront Expressway. These proposed bike lanes would allow bicyclists to cross US 101 safely and access the bikeway network on the west side of the freeway.

- A Class I Connector Path is recommended on Independence Drive, which would connect the planned Class II bike lanes on Marsh Road and the existing Class II bike lanes on Constitution Drive. Because Independence Drive is one-way in the southbound direction off Marsh Road, a Class I off-street connection would allow bicyclists to travel counter-flow to traffic on this short one-way roadway segment. This bike path would provide bicyclists from the project site with safer access to the proposed bike lanes on Marsh Road.

- A new bicycle and pedestrian bridge over the Atherton Channel is recommended to extend the bike lanes and sidewalks on Haven Avenue to Marsh Road.

The Marsh Road bike lanes and Independence Drive Connector Path are identified as long-term projects. The Marsh Road bike lanes are also identified as proposed improvements in the San Mateo County Comprehensive Bicycle and Pedestrian Plan. The implementation timeline of these proposed improvements is unknown.

The following improvements for walking and biking are identified in the Transportation Master Plan [14]:

[13] Menlo Park Comprehensive Bicycle Development Plan (2005). Accessed online on July 30, 2020.

[14] City of Menlo Park. 2017. City of Menlo Park Transportation Master Plan. https://menloparktmp.participate.online/project-map. Accessed on July 31, 2020.

- The Haven Avenue Streetscape Project includes pedestrian crossing improvements to the Marsh Road-Haven Avenue-Bayfront Expressway intersection. Although this project is not in the immediate vicinity of the project site, it will improve the overall pedestrian network in the area east of US 101. The improvements include widened sidewalks, replacement of curb ramps to comply with Americans with Disabilities Act (ADA) standards, realigning with the existing crosswalk on the northwest (Haven Avenue) leg of the intersection, and improving the existing median to provide a crossing refuge island. Additionally, as adjacent land parcels are redeveloped, new sidewalks will be constructed on the street frontages, which will improve pedestrian facilities in the general vicinity of the project.

- Improvements to bicycle safety on Marsh Road from Bay Road to Scott Drive and from Independence Drive to Scott Drive include adding bike lanes and constructing a bicycle and pedestrian bridge over US 101. Class II Bike Lanes are proposed along both sections of Marsh Road.

- Improvements to pedestrian safety on Constitution Drive from Chrysler Drive to Chilco Street and on Jefferson Drive from Chrysler Drive to Constitution Drive include construction of sidewalks on both sides of the roadways.

- Enhancements to pedestrian and bicycle crossing along Bayfront Expressway, including high visibility pedestrian crossings along Bayfront Expressway at Chrysler Drive, Chilco Street, and Willow Road. Construction of a bicycle and pedestrian bridge is proposed over Bayfront Expressway between Chilco Street and Willow Road.

- Proposed multiuse pathways on Willow Road from Dumbarton Rail Corridor to Hamilton Avenue and at Facebook from Chilco Street to the proposed bicycle and pedestrian bridge over Bayfront Expressway.

- A new bicycle and pedestrian bridge over Bayfront Expressway, east of Chilco Street.

The following improvements to transit within the study area are identified in the Transportation Master Plan[15] and are anticipated to be completed prior to 2040:

- Allow buses to use existing right turn lane on Willow Road and O'Brien Drive for queue jump with transit signal priority (TSP) and implement peak hour left-turn restrictions at Willow Road and O'Brien Drive.

- Increase mobility along the Dumbarton Corridor by supporting the reactivation of the Dumbarton rail service between the East Bay and Peninsula.

- Install shoulder-running peak hour bus lane on Bayfront Expressway and install TSP at signalized intersections.

- Increase the number of people traveling on Bayfront Expressway by removing traffic signals and converting a travel lane to a managed (toll) lane for carpools and buses. Implement the corridor with

[15] City of Menlo Park Transportation Master Plan (2017), https://menloparktmp.participate.online/project-map, Accessed July 31, 2020.

improved mixed flow and managed lane connections, including grade separations with revised access at University Avenue, Willow Road, Chilco Street, Marsh Road, and Chrysler Drive.

Caltrain's Modernization Program and related infrastructure improvements on the Caltrain corridor will also accommodate the California High-Speed Rail service as early as 2025[16].

SamTrans completed the El Camino Corridor Bus Rapid Transit Phasing Study in 2014 and is evaluating options to improve transit service along El Camino Real[17]. Recommendations include consolidating existing bus service along El Camino Real to improve reliability and frequency of routes. SamTrans will continue to work from this study to evaluate long-term transit vision for El Camino Real. Although the project is not in the immediate vicinity of the project site, it will improve transit service in the transportation network south of the project.

The implementation timeline of these proposed improvements is unknown. However, these are anticipated to be completed by 2040 and are therefore assumed in the Cumulative (2040) Conditions analysis.

Development Projects

The Cumulative scenario includes all approved projects incorporated into the Near-Term Conditions analysis, plus the cumulative development identified in Table 4.A of the EIR. The Cumulative (2040) Conditions traffic volumes includes traffic from these development projects and a growth rate of one percent per year was applied to account for growth in regional traffic until the horizon year of 2040. The turning movement volumes under Cumulative (2040) Conditions are provided in Attachment 1.

Intersection Level of Service

Table 8 provides LOS results for the study intersections during the AM and PM peak hours under Cumulative (2040) Conditions. Vistro output sheets are included in Attachment 3.

The intersections listed below would operate at LOS exceeding the City's LOS standard during one or both peak hours. All other study intersections would operate in compliance with the LOS standard under Cumulative (2040) Conditions.

- Intersection #1, Marsh Road and Bayfront Expressway/Haven Avenue (Local Approaches to State): AM
- Intersection #3, Marsh Road and US-101 SB Off-Ramp (State): AM and PM
- Intersection #6, Marsh Road and Middlefield Road (Atherton): AM

[16] Caltrain, Accessed Online July 31, 2020
https://www.caltrain.com/projectsplans/CaltrainModernization/BlendedSystem.html

[17] SamTrans El Camino Real Bus Rapid Transit Phasing Study, 2014; Accessed July 31, 2020
https://www.samtrans.com/Assets/_Planning/BRT/SamTrans+ECR+BRT+Phasing+Study.pdf

- Intersection #7, Chrysler Drive and Bayfront Expressway (Local Approaches to State): PM
- Intersection #8, Chrysler Drive and Constitution Drive (Menlo Park): AM and PM
- Intersection #9, Chrysler Drive and Jefferson Drive (Menlo Park): AM and PM
- Intersection #10, Chrysler Drive and Independence Drive (Menlo Park): AM
- Intersection #11, Chilco Street and Bayfront Expressway (Local Approaches to State): AM and PM
- Intersection #12, Chilco Street and Constitution Drive (Menlo Park): AM and PM
- Intersection #13, Willow Road and Bayfront Expressway (State): AM and PM
- Intersection #14, University Avenue and Bayfront Expressway (State): AM and PM

Manual on Uniform Traffic Control Devices peak hour signal warrant analysis was conducted at the two unsignalized intersections. The intersection of Chrysler Drive and Jefferson Drive (Intersection #9) would meet the peak hour warrant during the PM peak hour and the intersection of Chrysler Drive and Independence Drive (Intersection #10) would meet the peak hour warrant during the AM peak hour.

Table 8: Cumulative (2040) Conditions Level of Service

No.	Intersection	Control	Peak Hour	Critical Approach	Cumulative		Meet General Plan Standard?
					Delay	LOS	
1	Marsh Road & Bayfront Expressway/Haven Avenue (Local Approaches to State)	Signal	AM	N/A	**99.1**	**F**	No
				EB	**169.2**	**F**	
				WB	**79.6**	**E**	
			PM	N/A	36.5	D	Yes
2	Marsh Road & US-101 NB Off-Ramp (State)	Signal	AM	N/A	34.6	C	N/A
			PM	N/A	16.6	B	N/A
3	Marsh Road & US-101 SB Off-Ramp (State)	Signal	AM	N/A	**36.5**	**D**	N/A
			PM	N/A	**38.9**	**D**	N/A
4	Marsh Road & Scott Drive (Menlo Park)	Signal	AM	N/A	32.8	C	Yes
			PM	N/A	22.9	C	Yes
5	Marsh Road & Bay Road (Menlo Park)	Signal	AM	N/A	28.6	C	Yes
			PM	N/A	19.8	B	Yes
6	Marsh Road & Middlefield Road (Atherton)	Signal	AM	N/A	**81.0**	**F**	N/A
			PM	N/A	52.8	D	N/A
7	Chrysler Drive & Bayfront Expressway (Local Approaches to State)	Signal	AM	N/A	10.9	B	Yes
			PM	N/A	**56.5**	**E**	No
				NB	**190.5**	**F**	
8	Chrysler Drive & Constitution Drive (Menlo Park)	Signal	AM	N/A	**356.6**	**F**	No
				NB	40.2	D	
				SB	**118.3**	**F**	
				EB	**159.4**	**F**	
				WB	**1394.8**	**F**	
			PM	N/A	**222.8**	**F**	No
				NB	27.7	C	

Table 8: Cumulative (2040) Conditions Level of Service

No.	Intersection	Control	Peak Hour	Critical Approach	Cumulative		Meet General Plan Standard?
					Delay	LOS	
				SB	**763.6**	**F**	
				EB	**102.5**	**F**	
				WB	**396.7**	**F**	
9	Chrysler Drive & Jefferson Drive (Menlo Park)	TWSC[1]	AM	N/A	**44.8**	**E**	No
			PM	N/A	**132.9**	**F**	No
10	Chrysler Drive & Independence Drive (Menlo Park)	TWSC[2]	AM	N/A	**271.6**	**F**	No
			PM	N/A	21.6	C	Yes
11	Chilco Street & Bayfront Expressway (Local Approaches to State)	Signal	AM	N/A	**61.6**	**E**	No
				NB	**164.3**	**F**	
			PM	N/A	**67.4**	**E**	No
				NB	**257.3**	**F**	
12	Chilco Street & Constitution Drive (Menlo Park)	Signal	AM	N/A	**85.5**	**F**	No
				NB	**92.1**	**F**	
				SB	**94.4**	**F**	
				EB	35.9	D	
				WB	50.0	D	
			PM	N/A	**252.3**	**F**	No
				NB	**98.6**	**F**	
				SB	**211.6**	**F**	
				EB	**521.3**	**F**	
				WB	**113.7**	**F**	
13	Willow Road & Bayfront Expressway (State)	Signal	AM	N/A	**326.6**	**F**	N/A
			PM	N/A	**370.7**	**F**	N/A
14	University & Bayfront Expressway (State)	Signal	AM	N/A	**101.1**	**F**	N/A
			PM	N/A	**215.3**	**F**	N/A
15	Marsh Road & Florence Street-Bohannon Drive (Menlo Park)	Signal	AM	N/A	39.9	D	Yes
			PM	N/A	45.9	D	Yes

Notes:
TWSC - Two-way stop-controlled. Delay and LOS for the worst movement is reported for TWSC intersections.
Bold text - Indicates intersections operate at LOS not meeting LOS standard.
N/A = Not applicable. The "Critical Approach" information is only relevant where the proposed project would increase delay per the LOS policy standards. The "General Plan Standard" information is only relevant where the City's LOS policy standards apply.
[1] This intersection meets signal warrant criteria under Cumulative Conditions during the PM peak hour.
[2] This intersection meets signal warrant criteria under Cumulative Conditions during the AM peak hour.

GENERAL PLAN LEVEL OF SERVICE POLICY STANDARDS

The following plans, ordinances, or policies are applicable to determine planning consistency and whether decision makers can make the necessary findings to issue entitlements, but are not a CEQA impact:

City of Menlo Park Level of Service Policy

Menlo Park General Plan requires that all City-controlled signalized intersections shall be maintained at level of service D or better during peak hours, except at the intersection of Ravenswood Avenue and Middlefield Road and the intersections along Willow Road from Middlefield Road to US101.

Town of Atherton Level of Service Policy

The circulation element of the Town of Atherton General Plan 2019 provides minimum acceptable level of service standards for the Town facilities by roadway type. that the Town facilities shall be maintained by roadway type, LOS D for highways, LOS D for minor arterials, and LOS C for local roads.

One of the study intersections, Marsh Road and Middlefield Road, is located within the Town limit. Marsh Road and Middlefield Road are classified as part of the minor arterial system connecting between residential areas and other transportation facilities and serving as emergency and evacuation routes. The intersection of Marsh Road and Middlefield Road was analyzed based on the Town standard for minor arterial facility.

Caltrans Level of Service Policy

Caltrans establishes level of service standards at the transition between LOS C and LOS D on State facilities. For purposes of this study and a consistency with past studies in Menlo Park, the City's LOS standard is also applied to State-controlled intersections while Caltrans LOS standard still applies to ramp intersections.

City/County Association of Governments (C/CAG) Level of Service Policy

The LOS standards established by C/CAG vary based on geographic differences to prevent the Congestion Management Program (CMP) facilities to operate at level of service worse than currently anticipated in San Mateo County CMP 2019. The CMP intersection level of service standards were set based on the following considerations:

- LOS F for the intersections operating at LOS F.
- LOS E for the remaining intersections.

Although C/CAG monitors three of the study intersections for compliance with the CMP LOS standards, these intersections are also under Caltrans' jurisdiction. Given that City or Caltrans' standards are more stringent than the C/CAG's CMP standards, the analysis based on City or Caltrans' level of service standards would be more conservative.

Table 9 shows the jurisdiction and corresponding LOS standard applied for each study intersection.

Table 9: Level of Service Standard for the Study Intersections

No.	Intersection	Traffic Control	Jurisdiction	LOS Standard[2]
1	Marsh Road & Bayfront Expressway	Signal	State (local approach)	D
2	Marsh Road & US-101 NB Off-Ramp	Signal	State	C
3	Marsh Road & US-101 SB Off-Ramp	Signal	State	C
4	Marsh Road & Scott Drive	Signal	Menlo Park	D
5	Marsh Road & Bay Road	Signal	Menlo Park	D
6	Marsh Road & Middlefield Road	Signal	Atherton	D
7	Chrysler Drive & Bayfront Expressway	Signal	State (local approach)	D
8	Chrysler Drive & Constitution Drive	Signal	Menlo Park	D
9	Chrysler Drive & Jefferson Drive	TWSC	Menlo Park	C
10	Chrysler Drive & Independence Drive	TWSC	Menlo Park	C
11	Chilco Street & Bayfront Expressway	Signal	State (local approach)	D
12	Chilco Street & Constitution Drive	Signal[1]	Menlo Park	D
13	Willow Road & Bayfront Expressway	Signal	State	D
14	University Avenue & Bayfront Expressway	Signal	State	D
15	Marsh Road & Florence Street-Bohannon Drive	Signal	Menlo Park	D

Sources:
Menlo Park General Plan, 2016.
Town of Atherton General Plan, 2019.
C/CAG of San Mateo County Transportation Congestion Management Program, 2019.
Caltrans' Guide for the Preparation of Traffic Impact Studies, 2002.
Note:
TWSC - Two-way stop-controlled.
[1] Intersection was analyzed with all-way stop-controlled under Existing Conditions.
[2] City LOS standard is applied to State-controlled intersections except for ramp intersections for consistency with the prior studies in Menlo Park.

NEAR TERM (2022) PLUS PROJECT CONDITIONS

The following analysis is based on the City's TIA Guidelines for intersection level of service under Near Term (2022) Plus Project Conditions. The turning movement volumes under Near Term (2022) Plus Project Conditions are provided in Attachment 1 and the lane configurations are provided in Attachment 2. Table 10 provides LOS results for the study intersections during the AM and PM peak hours under Near Term (2022) Plus Project Conditions. The Vistro outputs are provided in Attachment 3.

The intersections listed below would operate at LOS exceeding the City's LOS standard during one or both peak hours. All other study intersections would operate in compliance with the LOS standard under Near Term (2022) Plus Project Conditions.

- Intersection #1, Marsh Road and Bayfront Expressway/Haven Avenue (Local Approaches to State): AM
- Intersection #6, Marsh Road and Middlefield Road (Atherton): AM
- Intersection #8, Chrysler Drive and Constitution Drive (Menlo Park): AM
- Intersection #10, Chrysler Drive and Independence Drive (Menlo Park): AM
- Intersection #13, Willow Road and Bayfront Expressway (State): AM and PM

- Intersection #14, University Avenue and Bayfront Expressway (State): PM

None of the unsignalized study intersections would meet the MUTCD peak hour signal warrant during either peak hour under Near Term (2022) Plus Project Conditions.

Table 10: Near Term (2022) Plus Project Conditions Level of Service

No.	Intersection	Control	Peak Hour	Critical Approach	Near Term		Near Term Plus Project		Meet General Plan Standard?	Non-Compliant with TIA Guidelines?
					Delay	LOS	Delay	LOS		
1	Marsh Road & Bayfront Expressway/Haven Avenue (Local Approaches to State)	Signal	AM	N/A	**59.7**	**E**	**59.9**	**E**	No	Yes
				EB	**114.1**	**F**	**114.1**	**F**		
				WB	36.5	D	37.3	D		
			PM	N/A	37.4	D	38.0	D	Yes	No
2	Marsh Road & US-101 NB Off-Ramp (State)	Signal	AM	N/A	25.3	C	25.2	C	N/A	No
			PM	N/A	13.3	B	13.6	B	N/A	No
3	Marsh Road & US-101 SB Off-Ramp (State)	Signal	AM	N/A	22.9	C	22.9	C	N/A	No
			PM	N/A	17.7	B	17.9	B	N/A	No
4	Marsh Road & Scott Drive (Menlo Park)	Signal	AM	N/A	20.0	B	20.0	C	Yes	No
			PM	N/A	15.1	B	15.1	B	Yes	No
5	Marsh Road & Bay Road (Menlo Park)	Signal	AM	N/A	22.7	C	22.7	C	Yes	No
			PM	N/A	18.4	B	18.5	B	Yes	No
6	Marsh Road & Middlefield Road (Atherton)	Signal	AM	N/A	**73.8**	**E**	**73.9**	**E**	N/A	No
			PM	N/A	44.2	D	44.5	D	N/A	No
7	Chrysler Drive & Bayfront Expressway (Local Approaches to State)	Signal	AM	N/A	9.5	A	9.9	A	Yes	No
			PM	N/A	20.1	C	21.0	C	Yes	No
8	Chrysler Drive & Constitution Drive (Menlo Park)	Signal	AM	N/A	**111.1**	**F**	**114.5**	**F**	No	Yes
				NB	24.2	C	24.6	C		
				SB	**176.1**	**F**	**197.2**	**F**		
				EB	**104.4**	**F**	**100.8**	**F**		
				WB	**56.7**	**E**	**56.5**	**E**		
			PM	N/A	39.8	D	45.5	D	Yes	No
9	Chrysler Drive & Jefferson Drive (Menlo Park)	TWSC[1]	AM	N/A	23.2	C	24.4	C	Yes	No
			PM	N/A	20.1	C	20.8	C	Yes	No
10	Chrysler Drive & Independence Drive (Menlo Park)	TWSC[2]	AM	N/A	**69.3**	**F**	**117.7**	**F**	No	Yes
			PM	N/A	18.3	C	19.7	C	Yes	No
11	Chilco Street & Bayfront Expressway (Local Approaches to State)	Signal	AM	N/A	21.9	C	22.2	C	Yes	No
			PM	N/A	25.3	C	25.3	C	Yes	No
12	Chilco Street & Constitution Drive (Menlo Park)	Signal	AM	N/A	33.8	C	33.7	C	Yes	No
			PM	N/A	50.0	D	51.1	D	Yes	No
13	Willow Road & Bayfront Expressway (State)	Signal	AM	N/A	**193.1**	**F**	**192.2**	**F**	N/A	No
			PM	N/A	**180.9**	**F**	**180.9**	**F**	N/A	No
14	University Avenue & Bayfront Expressway (State)	Signal	AM	N/A	12.7	B	12.8	B	N/A	No
			PM	N/A	**113.1**	**F**	**113.2**	**F**	N/A	No
15	Marsh Road & Florence Street-Bohannon Drive (Menlo Park)	Signal	AM	N/A	38.3	D	38.4	D	Yes	No
			PM	N/A	37.0	D	37.1	D	Yes	No

Notes:
TWSC - Two-way stop-controlled. Delay and LOS for the worst movement is reported for TWSC Intersections.
Bold text - Indicates intersections operate at LOS not meeting LOS standard.

N/A = Not applicable. The "Critical Approach" information is only relevant where the proposed project would increase delay per the LOS policy standards. The "General Plan Standard" information is only relevant where the City's LOS policy standards apply.
[1] This intersection does not meet signal warrant criteria under Near Term or Near Term Plus Project Conditions during both peak hours.
[2] This intersection does not meet signal warrant criteria under Near Term or Near Term Plus Project Conditions during both peak hours

The proposed project would increase the average critical movement delay by 0.8 seconds or more during at least one peak hour and cause three intersections to be non-compliant with the TIA Guidelines under Near Term (2022) Plus Project Conditions. Followings are the recommended conditions of approval to improve intersection operations to pre-project conditions, or better, at locations the proposed project would cause to operate in non-compliance with the TIA Guidelines. Implementation of the recommended conditions of approval would not result in any changes to VMT associated with the proposed project and would not result in secondary effects or contribute to impacts under CEQA.

Marsh Road and Bayfront Expressway/Haven Avenue (Intersection #1)

Implementation of the proposed project would cause the Marsh Road and Bayfront Expressway intersection to operate in non-compliance with the TIA Guidelines under Near Term (2022) Plus Project Conditions. The proposed project would cause this intersection to experience an increase in average critical movement delay of 0.8 seconds or greater during the AM peak hour.

The recommended modification for this location is to restripe the through lane on Haven Avenue to a shared through/right lane. The lane configuration on Haven Avenue would have one shared left/through lane, one shared through/right lane, and one right-turn lane. This improvement is in the City's TIF program and the project is required to pay traffic impact fees according to the City's current TIF schedule.

With implementation of this intersection modification, the intersection would operate at or better than Near Term (2022) Conditions and would be in compliance with the TIA Guidelines by reducing the increase in the average critical movement delay at the intersection such that the increase becomes less than 0.8 seconds or more during the AM peak hour.

Chrysler Drive and Constitution Drive (Intersection #8)

Implementation of the proposed project would cause the Chrysler Drive and Constitution Drive intersection to operate in non-compliance with the TIA Guidelines under Near Term (2022) Plus Project Conditions. The proposed project would cause this City-controlled intersection to experience an increase in average critical movement delay of 0.8 seconds or greater during the AM peak hour.

The recommended modification for this location is to install one left-turn lane on westbound Chrysler Drive and convert the shared left/through/right lane to shared through/right lane resulting in having one left-turn lane and one shared through/right lane in this direction. The excessive delay on southbound Constitution Drive would require installation of a right-turn lane and conversion of the shared through/right lane to through lane resulting in having one left-turn lane, one through lane, and one right-turn lane in this direction. The recommended modifications would require a widening to accommodate the lane modifications on westbound Chrysler Drive and on southbound Constitution Drive and would potentially require acquisition of additional right-of-way. This may require traffic signal modification if traffic signal poles need to be replaced due to the widening. The project is

required to pay traffic impact fees (TIF) according to the current TIF schedule. While the improvements to the westbound approach are included in the City's TIF program, the improvements on the other approaches are beyond those in the TIF program and payment of the TIF would not entirely address the change to LOS as a result of project traffic.

With implementation of these intersection modifications, the intersection would be in compliance with the TIA Guidelines and address the proposed project's share of the non-compliant operation.

Chrysler Drive and Independence Drive (Intersection #10)

Implementation of the proposed project would cause the Chrysler Drive and Independence Drive intersection to operate in non-compliance with the TIA Guidelines under Near Term (2022) Plus Project Conditions. The proposed project would cause this City-controlled intersection to experience an increase in average critical movement delay of 0.8 seconds or greater during the AM peak hour.

The recommended modification for this location is to install a stop control for both approaches of Chrysler Drive, thereby converting the intersection from a two-way stop control to an all-way stop control. The intersection of Chrysler Drive and Independence Drive would not meet the peak hour signal warrant based on MUTCD. A conversion from side-street stop control to all-way stop control would reduce the average vehicle delay on southbound Independence Drive.

Alternatively, the City's Transportation Master Plan identifies installation of a traffic signal as a future improvement at the intersection of Chrysler Drive and Independence Drive. If additional traffic studies indicate a traffic signal is warranted in compliance with MUTCD, the City may choose to install a signal. This improvement is in the City's TIF program and the project is required to pay traffic impact fees according to the City's current TIF schedule.

With implementation of these intersection modifications, the intersection would be in compliance with the TIA Guidelines and address the proposed project's share of the non-compliant operation.

Table 11 provides results for the intersection LOS operations with the improvements during the AM and PM peak hours under Near Term (2022) Plus Project Conditions. The Vistro outputs are provided in Attachment 3.

Table 11: Near Term (2022) Plus Project Conditions with Improvements Level of Service

No.	Intersection	Control	Peak Hour	Critical Approach	Near Term		Near Term Plus Project		Near Term Plus Project with Improvements		Meet General Plan Standard?[2]
					Delay	LOS	Delay	LOS	Delay	LOS	
1	Marsh Road & Bayfront Expressway/Haven Avenue (Local Approaches to State)	Signal	AM	N/A	**59.7**	**E**	**59.9**	**E**	41.7	D	Yes
				EB	**114.1**	**F**	**114.1**	**F**	**84.6**	**F**	
				WB	36.5	D	37.3	D	37.3	D	
			PM	N/A	37.4	D	38.0	D	38.8	D	Yes
8	Chrysler Drive & Constitution Drive (Menlo Park)	Signal	AM	N/A	**111.1**	**F**	**114.5**	**F**	30.2	C	Yes
				NB	24.2	C	24.6	C	17.6	B	
				SB	**176.1**	**F**	**197.2**	**F**	33.6	C	
				EB	**104.4**	**F**	**100.8**	**F**	29.8	C	
				WB	**56.7**	**E**	**56.5**	**E**	38.9	D	
			PM	N/A	39.8	D	45.5	D	33.7	C	Yes
10	Chrysler Drive & Independence Drive (Menlo Park)	TWSC[1]	AM	N/A	**69.3**	**F**	**117.7**	**F**	15.0	B	Yes
			PM	N/A	18.3	C	19.7	C	11.3	B	Yes

Notes:
TWSC - Two-way stop-controlled. Delay and LOS for the worst movement is reported for TWSC intersections.
Bold text - Indicates intersections operate at LOS not meeting LOS standard.
N/A = Not applicable. The "Critical Approach" information is only relevant where the proposed project would increase delay per the LOS policy standards.
[1] This intersection does not meet signal warrant criteria under Near Term or Near Term Plus Project Conditions during both peak hours. The intersection operates with all-way stop-control with the improvements.
[2] Indicates the General Plan compliance for the intersection LOS operations under Near Term (2022) Plus Project Conditions with improvements.

CUMULATIVE (2040) PLUS PROJECT CONDITIONS.

The following analysis is based on the City's TIA Guidelines for intersection level of service under Cumulative (2040) Plus Project Conditions. The turning movement volumes are provided in Attachment 1 and the lane configurations are provided in Attachment 2.

Table 12 provides LOS results for the study intersections during the AM and PM peak hours under Cumulative (2040) Plus Project Conditions. The Vistro outputs are included in Attachment 3. The intersections listed below would operate at LOS exceeding the City's LOS standard during one or both peak hours. All other study intersections would operate in compliance with the LOS standard under Cumulative (2040) Plus Project Conditions.

- Intersection #1, Marsh Road and Bayfront Expressway/Haven Avenue (Local Approaches to State): AM
- Intersection #3, Marsh Road and US-101 SB Off-Ramp (State): AM and PM
- Intersection #6, Marsh Road and Middlefield Road (Atherton): AM
- Intersection #7, Chrysler Drive and Bayfront Expressway (Local Approaches to State): PM
- Intersection #8, Chrysler Drive and Constitution Drive (Menlo Park): AM and PM
- Intersection #9, Chrysler Drive and Jefferson Drive (Menlo Park): AM and PM

- Intersection #10, Chrysler Drive and Independence Drive (Menlo Park): AM
- Intersection #11, Chilco Street and Bayfront Expressway (Local Approaches to State): AM and PM
- Intersection #12, Chilco Street and Constitution Drive (Menlo Park): AM and PM
- Intersection #13, Willow Road and Bayfront Expressway (State): AM and PM
- Intersection #14, University Avenue and Bayfront Expressway (State): AM and PM

The intersection of Chrysler Drive and Independence Drive (Intersection #10) would meet the MUTCD peak hour signal warrant during the AM peak hour and the intersection of Chrysler Drive and Jefferson Drive (Intersection #9) would meet the MUTCD peak hour signal warrant during the PM peak hour.

Table 12: Cumulative (2040) Plus Project Conditions Level of Service

No.	Intersection	Control	Peak Hour	Critical Approach	Cumulative		Cumulative Plus Project		Meet General Plan Standard?	Non-Compliant with TIA Guidelines?
					Delay	LOS	Delay	LOS		
1	Marsh Road & Bayfront Expressway/Haven Avenue (Local Approaches to State)	Signal	AM	N/A	**99.1**	**F**	**101.8**	**F**	No	Yes
				EB	**169.2**	**F**	**169.2**	**F**		
				WB	**79.6**	**E**	**85.1**	**F**		
			PM	N/A	36.5	D	37.1	D	N/A	No
2	Marsh Road & US-101 NB Off-Ramp (State)	Signal	AM	N/A	34.6	C	34.5	C	N/A	No
			PM	N/A	16.6	B	17.5	B	N/A	No
3	Marsh Road & US-101 SB Off-Ramp (State)	Signal	AM	N/A	**36.5**	**D**	**36.7**	**D**	N/A	No
			PM	N/A	**38.9**	**D**	**41.1**	**D**	No	No
4	Marsh Road & Scott Drive (Menlo Park)	Signal	AM	N/A	32.8	C	32.9	C	Yes	No
			PM	N/A	22.9	C	22.9	C	Yes	No
5	Marsh Road & Bay Road (Menlo Park)	Signal	AM	N/A	28.6	C	28.6	C	Yes	No
			PM	N/A	19.8	B	19.9	B	Yes	No
6	Marsh Road & Middlefield Road (Atherton)	Signal	AM	N/A	**81.0**	**F**	**81.2**	**F**	N/A	No
			PM	N/A	52.8	D	53.4	D	N/A	No
7	Chrysler Drive & Bayfront Expressway (Local Approaches to State)	Signal	AM	N/A	10.9	B	12.0	B	Yes	No
			PM	N/A	**56.5**	**E**	**59.8**	**E**	No	Yes
				NB	**190.5**	**F**	**202.2**	**F**		
8	Chrysler Drive & Constitution Drive (Menlo Park)	Signal	AM	N/A	**356.6**	**F**	**361.5**	**F**	No	Yes
				NB	40.2	D	40.8	D		
				SB	**118.3**	**F**	**123.7**	**F**		
				EB	**159.4**	**F**	**175.9**	**F**		
				WB	**1394.8**	**F**	**1430.7**	**F**		
			PM	N/A	**222.8**	**F**	**242.7**	**F**	No	Yes
				NB	27.7	C	28.0	C		
				SB	**763.6**	**F**	**837.5**	**F**		
				EB	**102.5**	**F**	**107.4**	**F**		
				WB	**396.7**	**F**	**403.1**	**F**		
9	Chrysler Drive & Jefferson Drive (Menlo Park)	TWSC[1]	AM	N/A	**44.8**	**E**	**48.3**	**E**	No	Yes
			PM	N/A	**132.9**	**F**	**141.8**	**F**	No	Yes
10	Chrysler Drive & Independence Drive (Menlo Park)	TWSC[2]	AM	N/A	**271.6**	**F**	**394.4**	**F**	No	Yes
			PM	N/A	21.6	C	23.8	C	Yes	No
11	Chilco Street & Bayfront Expressway (Local Approaches to State)	Signal	AM	N/A	**61.6**	**E**	**61.6**	**E**	No	No
				NB	**164.3**	**F**	**164.7**	**F**		
			PM	N/A	**67.4**	**E**	**67.2**	**E**	No	No
				NB	**257.3**	**F**	**257.2**	**F**		
12	Chilco Street & Constitution Drive (Menlo Park)	Signal	AM	N/A	**85.5**	**F**	**85.3**	**F**	No	No
				NB	**92.1**	**F**	**92.2**	**F**		
				SB	**94.4**	**F**	**94.0**	**F**		
				EB	35.9	D	35.8	D		

Table 12: Cumulative (2040) Plus Project Conditions Level of Service

No.	Intersection	Control	Peak Hour	Critical Approach	Cumulative		Cumulative Plus Project		Meet General Plan Standard?	Non-Compliant with TIA Guidelines?
					Delay	LOS	Delay	LOS		
				WB	50.0	D	50.1	D		
			PM	N/A	**252.3**	**F**	**252.2**	**F**	No	No
				NB	**98.6**	**F**	**98.6**	**F**		
				SB	**211.6**	**F**	**211.6**	**F**		
				EB	**521.3**	**F**	**521.3**	**F**		
				WB	**113.7**	**F**	**113.7**	**F**		
13	Willow Road & Bayfront Expressway (State)	Signal	AM	N/A	**326.6**	**F**	**325.5**	**F**	N/A	No
			PM	N/A	**370.7**	**F**	**372.4**	**F**	N/A	No
14	University Avenue & Bayfront Expressway (State)	Signal	AM	N/A	**101.1**	**F**	**101.0**	**F**	N/A	No
			PM	N/A	**215.3**	**F**	**215.2**	**F**	N/A	No
15	Marsh Road & Florence Street-Bohannon Drive (Menlo Park)	Signal	AM	N/A	39.9	D	40.0	D	Yes	No
			PM	N/A	45.9	D	46.1	D	Yes	No

Notes:
TWSC - Two-way stop-controlled. Delay and LOS for the worst movement is reported for TWSC intersections.
Bold text - Indicates intersections operate at LOS not meeting LOS standard.
N/A = Not applicable. The "Critical Approach" information is only relevant where the proposed project would increase delay per the LOS policy standards. The "General Plan Standard" information is only relevant where the City's LOS policy standards apply.
[1] This intersection meets signal warrant criteria under Cumulative and Cumulative Plus Project Conditions during the PM peak hour.
[2] This intersection meets signal warrant criteria under Cumulative and Cumulative Plus Project Conditions during the AM peak hour.

The proposed project would increase average critical movement delay by 0.8 seconds or more during at least one peak hour and cause five intersections to be non-compliant with the TIA Guidelines under Cumulative (2040) Plus Project Conditions. Followings are the recommended conditions of approval to improve intersection operations to pre-project conditions, or better, at locations the proposed project would cause to operate in non-compliance with the TIA Guidelines. Implementation of the recommended conditions of approval would not result in any changes to VMT associated with the proposed project and would not result in secondary effects or contribute to impacts under CEQA.

Marsh Road and Bayfront Expressway/Haven Avenue (Intersection #1)

Implementation of the proposed project would cause the Marsh Road and Bayfront Expressway/Haven Avenue intersection to operate in non-compliance with the TIA Guidelines under Cumulative (2040) Plus Project Conditions. The proposed project would cause this intersection to experience an increase in average critical movement delay of 0.8 seconds or greater during the AM peak hour.

The recommended modification is to restripe the through lane on Haven Avenue to a shared through/right lane resulting in having one shared left/through lane, one shared through/right lane,

and one right-turn lane. This improvement is in the City's TIF program and the project is required to pay traffic impact fees according to the City's current TIF schedule.

With implementation of these intersection modifications, the intersection would operate at or better than Cumulative (2040) Conditions and would be in compliance with the TIA Guidelines by reducing the increase in the average critical movement critical delay at the intersection by such that the increase becomes less than 0.8 seconds or more during the AM peak hour.

Chrysler Drive and Bayfront Expressway (Intersection #7)

Implementation of the proposed project would cause the Chrysler Drive and Bayfront Expressway intersection to operate in non-compliance with the TIA Guidelines under Cumulative (2040) Plus Project Conditions. The proposed project would cause this intersection to experience an increase in average critical movement delay of 0.8 seconds or greater during the PM peak hour.

The recommended modification is to convert the existing right-turn lane on Chrysler Drive to shared left/right-turn lane resulting in having two left-turn lanes and one shared left/right-turn lane in this direction. Since the intersection is located under Caltrans jurisdiction, the recommended modification would be subject to Caltrans's approval and the implementation cannot be guaranteed.

With implementation of these intersection modifications, the intersection would be in compliance with LOS standard and address the proposed project's share of the non-compliant operation.

Chrysler Drive and Constitution Drive (Intersection #8)

Implementation of the proposed project would cause the Chrysler Drive and Constitution Drive intersection to operate in non-compliance with the TIA Guidelines under Near Term (2022) Plus Project Conditions. The proposed project would cause this City-controlled intersection to experience an increase in average critical movement delay of 0.8 seconds or greater during the AM and PM peak hour.

The recommended modification is to install left-turn lane on westbound Chrysler Drive and convert the shared left/through/right to a shared through/right lane resulting in having one left-turn lane and one shared through/right lane in this direction. The excessive delays on southbound Constitution Drive would require an installation of right-turn lane and a conversion of the shared through/right lane to through lane resulting in having one left-turn lane, one through lane, and one right-turn lane. The northbound Constitution Drive would require an installation of right-turn lane and a conversion of the shared left/through/right lane to shared left/through lane resulting in having one shared left/through lane and one right-turn lane. The recommended modification to lane configurations would require a widening of westbound Chrysler Drive and a widening of Constitution Drive on both sides of the intersection and consequently, would potentially require acquisition of additional right of way. This may also require traffic signal modification if poles need to be replaced due to the widening. The project is required to pay traffic impact fees according to the current TIF schedule. While the improvements to the westbound approach are included in the City's TIF program, the improvement's on the other approaches are beyond those in the TIF program and payment of the TIF would not entirely address the change to LOS as a result of project traffic.

With implementation of these intersection modifications, the intersection would operate at or better than Cumulative (2040) Conditions and would be in compliance with the TIA Guidelines by reducing

the increase in the average critical movement delay at the intersection by such that the increase becomes less than 0.8 seconds during the AM and PM peak hours.

Chrysler Drive and Jefferson Drive (Intersection #9)

Implementation of the proposed project would cause the Chrysler Drive and Jefferson Drive intersection to operate in non-compliance with the TIA Guidelines under Cumulative (2040) Plus Project Conditions. The proposed project would cause this City-controlled intersection to experience an increase in average critical movement delay of 0.8 seconds or greater during the AM and PM peak hour.

The recommended modification is to install a traffic signal and convert the shared left/right lane to one left-turn lane and one right-turn lane on northbound Jefferson Drive to operate at level of service compliance with the LOS standard. The installation of a traffic signal is consistent with the City's Transportation Master Plan, which identifies traffic signal installation as a future improvement at the intersection of Chrysler Drive and Jefferson Drive. This improvement is also in the City's TIF program and the project is required to pay traffic impact fees according to the City's current TIF schedule.

With implementation of these intersection modifications, the intersection would be in compliance with LOS standard and address the project's share of the non-compliant operation.

Chrysler Drive and Independence Drive (Intersection #10)

Implementation of the proposed project would cause the Chrysler Drive and Independence Drive intersection to operate in non-compliance with the TIA Guidelines under Cumulative (2040) Plus Project Conditions. The proposed project would cause this City-controlled intersection to experience an increase in average critical movement delay of 0.8 seconds or greater during the AM peak hour.

The recommended modification to bring this intersection back to pre-project conditions and operate in compliance with the TIA Guidelines is to install a traffic signal. The City's Transportation Master Plan identifies traffic signal installation as a future improvement at the intersection of Chrysler Drive and Independence Drive. This improvement is also in the City's TIF program and the project is required to pay traffic impact fees according to the City's current TIF schedule.

With implementation of these intersection modifications, the intersection would be in compliance with LOS standard and address the project's share of the non-compliant operation.

Table 13 provides results for the intersection LOS operations with the improvements during the AM and PM peak hours under Cumulative (2040) Plus Project Conditions. The Vistro outputs are provided in Attachment 3.

Table 13: Cumulative (2040) Plus Project Conditions with Improvements Level of Service

No.	Intersection	Control	Peak Hour	Critical Approach	Cumulative		Cumulative Plus Project		Cumulative Plus Project with Improvements		Meet General Plan Standard?[3]
					Delay	LOS	Delay	LOS	Delay	LOS	
1	Marsh Road & Bayfront Expressway/Haven Avenue (Local Approaches to State)	Signal	AM	N/A	**99.1**	**F**	**101.8**	**F**	**78.2**	**E**	No
				EB	**169.2**	**F**	**169.2**	**F**	**84.1**	**F**	
				WB	**79.6**	**E**	**85.1**	**F**	**84.8**	**F**	
			PM	N/A	36.5	D	37.1	D	38.0	D	Yes
7	Chrysler Drive & Bayfront Expressway (Local Approaches to State)	Signal	AM	N/A	10.9	B	12.0	B	11.2	B	Yes
			PM	N/A	**56.5**	**E**	**59.8**	**E**	25.1	C	Yes
				NB	**190.5**	**F**	**202.2**	**F**	49.4	D	
8	Chrysler Drive & Constitution Drive (Menlo Park)	Signal	AM	N/A	**356.6**	**F**	**361.5**	**F**	49.4	D	Yes
				NB	40.2	D	40.8	D	40.8	D	
				SB	**118.3**	**F**	**123.7**	**F**	**61.1**	**E**	
				EB	**159.4**	**F**	**175.9**	**F**	46.3	D	
				WB	**1394.8**	**F**	**1430.7**	**F**	45.5	D	
			PM	N/A	**222.8**	**F**	**242.7**	**F**	**121.7**	**F**	No
				NB	27.7	C	28.0	C	28.0	C	
				SB	**763.6**	**F**	**837.5**	**F**	**410.3**	**F**	
				EB	**102.5**	**F**	**107.4**	**F**	**86.6**	**F**	
				WB	**396.7**	**F**	**403.1**	**F**	**80.8**	**F**	
9	Chrysler Drive & Jefferson Drive (Menlo Park)	TWSC[1]	AM	N/A	**44.8**	**E**	**48.3**	**E**	26.4	C	Yes
			PM	N/A	**132.9**	**F**	**141.8**	**F**	50.1	D	Yes
10	Chrysler Drive & Independence Drive (Menlo Park)	TWSC[2]	AM	N/A	**271.6**	**F**	**394.4**	**F**	14.4	B	Yes
			PM	N/A	21.6	C	23.8	C	6.1	A	Yes

Notes:
TWSC - Two-way stop-controlled. Delay and LOS for the worst movement is reported for TWSC intersections.
Bold text - Indicates intersections operate at LOS not meeting LOS standard.
N/A = Not applicable. The "Critical Approach" information is only relevant where the proposed project would increase delay per the LOS policy standards.
[1] This intersection meets signal warrant criteria under Cumulative and Cumulative Plus Project Conditions during the PM peak hour. The intersection is signalized with the improvements.
[2] This intersection meets signal warrant criteria under Cumulative and Cumulative Plus Project Conditions during the AM peak hour. The intersection is signalized with the improvements.
[3] Indicates the General Plan compliance for the intersection LOS operations under Cumulative (2040) Plus Project Conditions with improvements.

Transportation Impact Analysis Attachments

Attachment 1. Turning Movement Volumes

Attachment 2. Intersection Lane Configurations

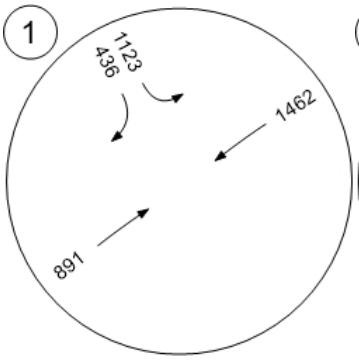
Attachment 3. Intersection Level of Service Results

Attachment 1. Turning Movement Volumes – All Scenarios

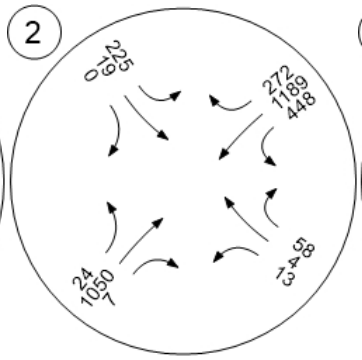
Traffic Volume - Future Total Volume



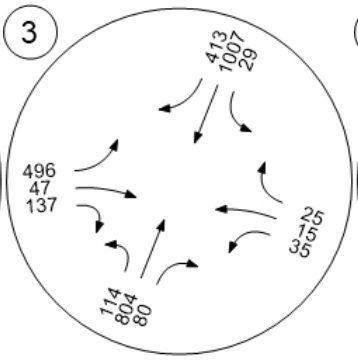
Marsh Rd (SR 84)/US 101 S



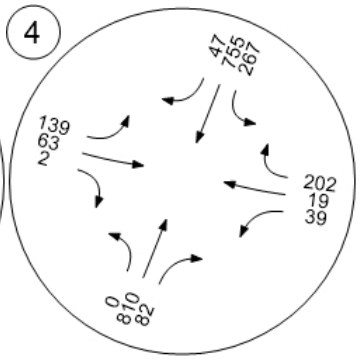
Marsh Rd/Rolison Rd-Scott D



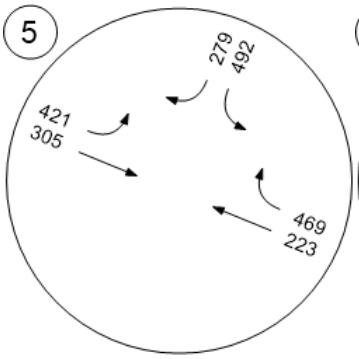
Marsh Rd/Florence St-Bohan



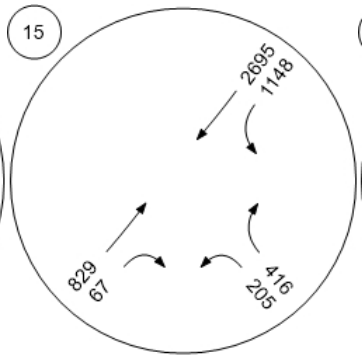
Marsh Rd/Bay Rd



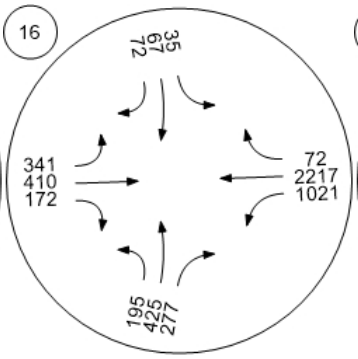
Middlefield Rd/Marsh Rd



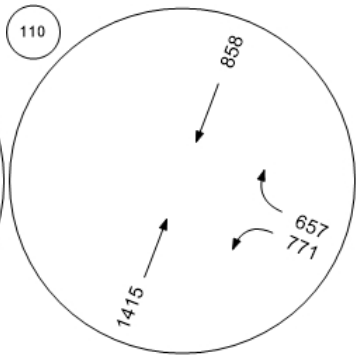
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



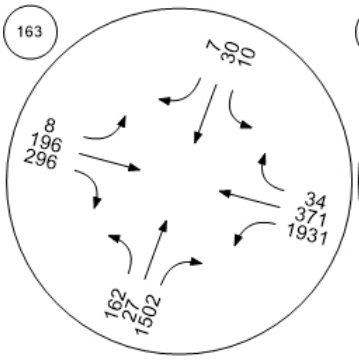
Marsh Road and US 101 NB



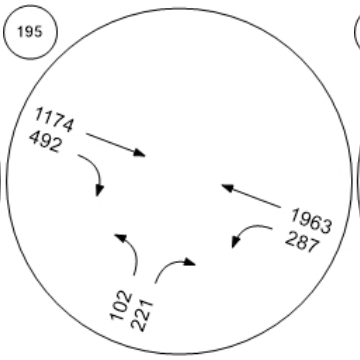
Traffic Volume - Future Total Volume



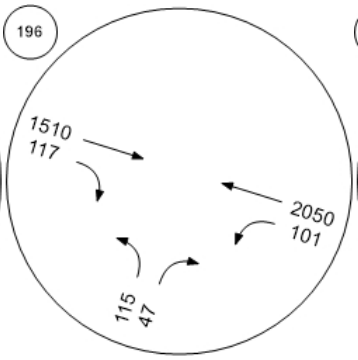
Bayfront Expy/Marsh Rd



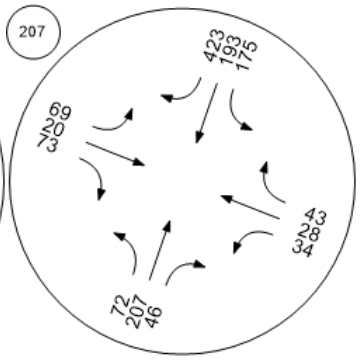
Bayfront Expy/Chilco St



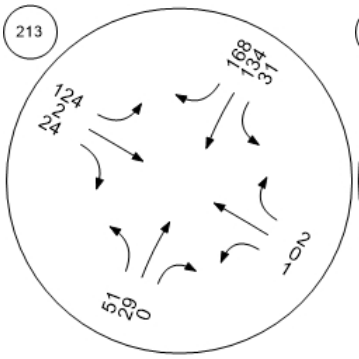
Bayfront Expy/Chrysler Drive



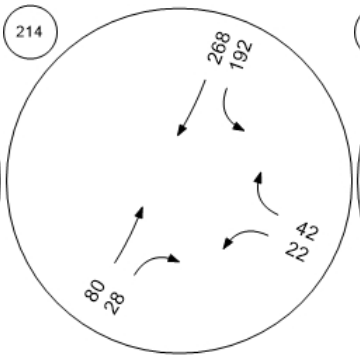
Chilco St/Constitution Dr



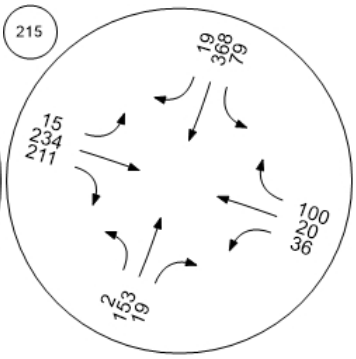
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



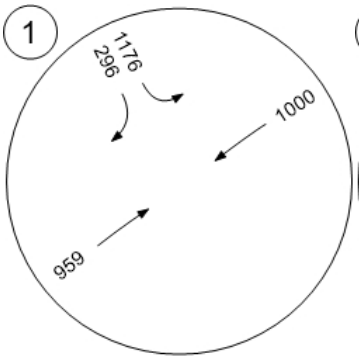
Chrysler Dr/Constitution Dr



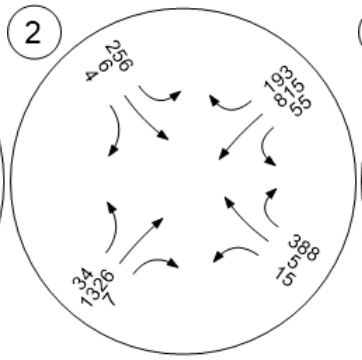
Traffic Volume - Future Total Volume



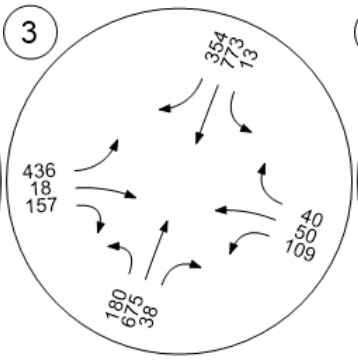
Marsh Rd (SR 84)/US 101 S



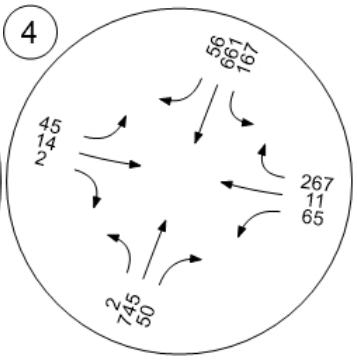
Marsh Rd/Rolison Rd-Scott D



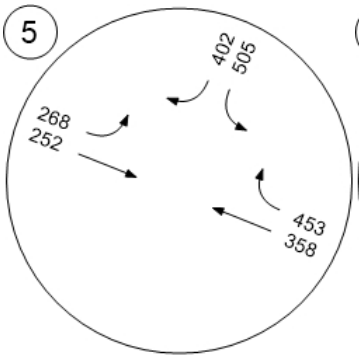
Marsh Rd/Florence St-Bohan



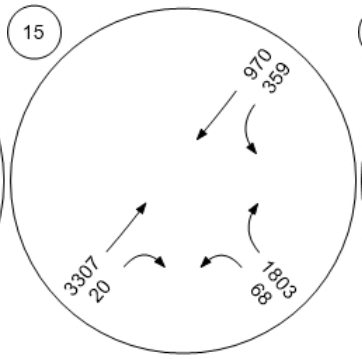
Marsh Rd/Bay Rd



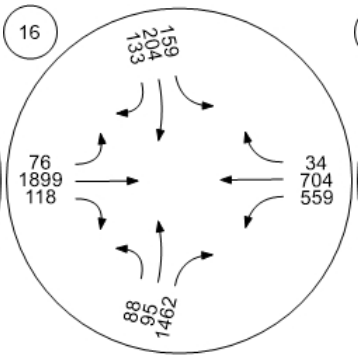
Middlefield Rd/Marsh Rd



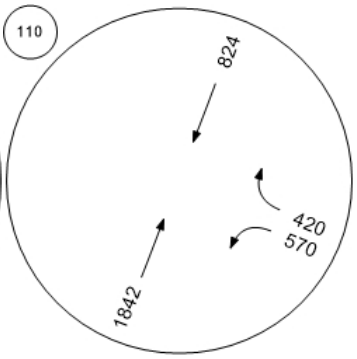
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



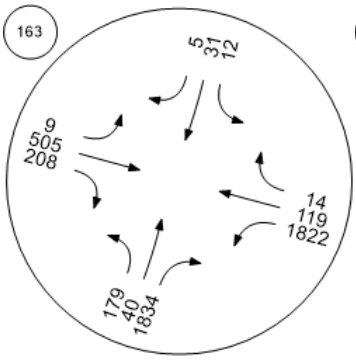
Marsh Road/101 NB Ramps



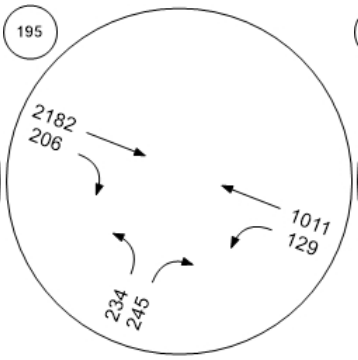
Traffic Volume - Future Total Volume



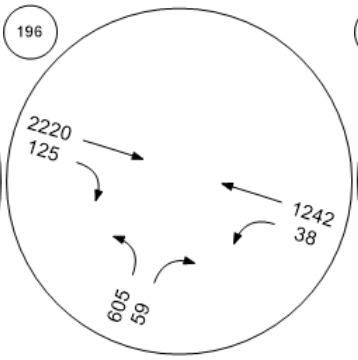
Bayfront Expy/Marsh Rd



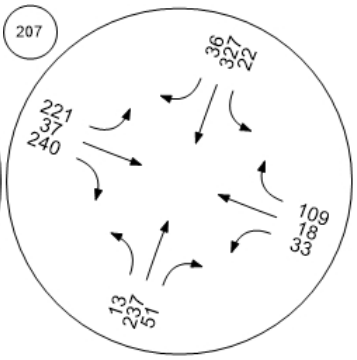
Bayfront Expy/Chilco St



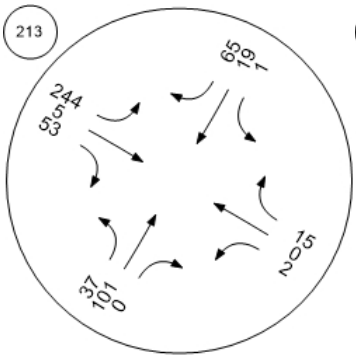
Bayfront Expy/Chrysler Drive



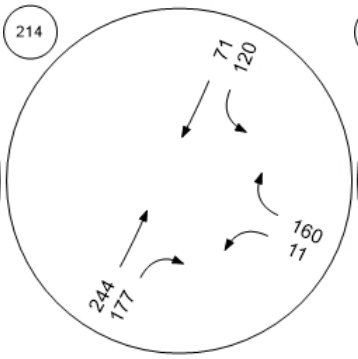
Chilco St/Constitution Dr



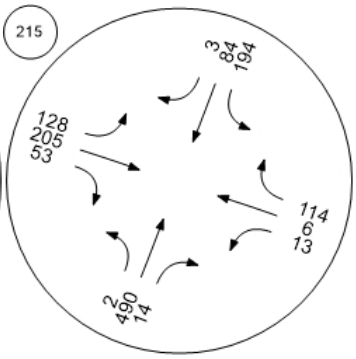
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



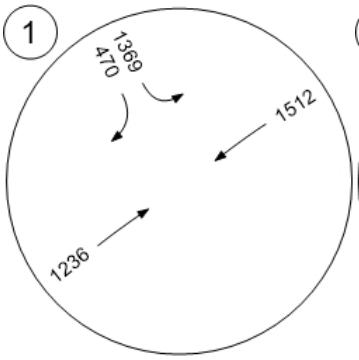
Chrysler Dr/Constitution Dr



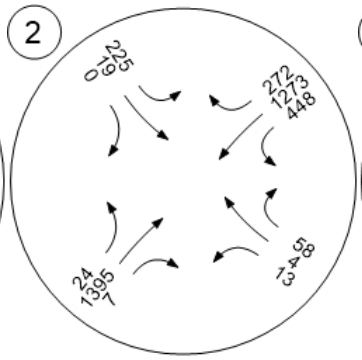
Traffic Volume - Future Total Volume



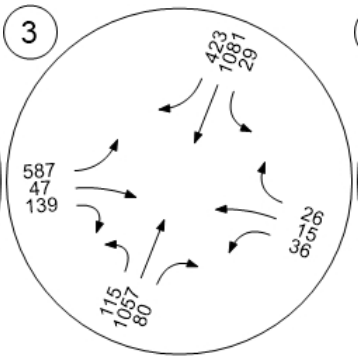
Marsh Rd (SR 84)/US 101 S



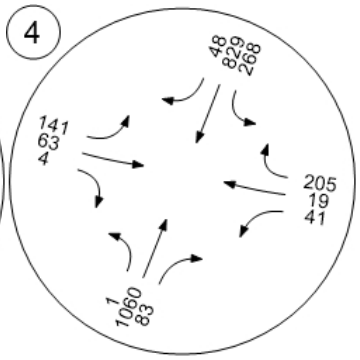
Marsh Rd/Rolison Rd-Scott D



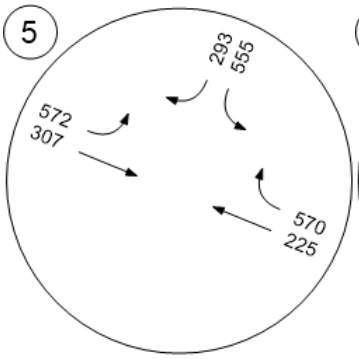
Marsh Rd/Florence St-Bohan



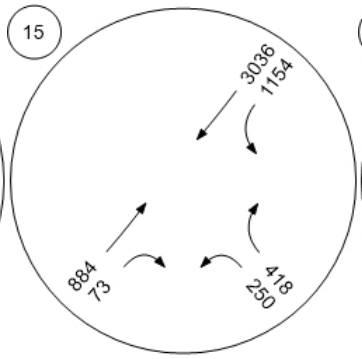
Marsh Rd/Bay Rd



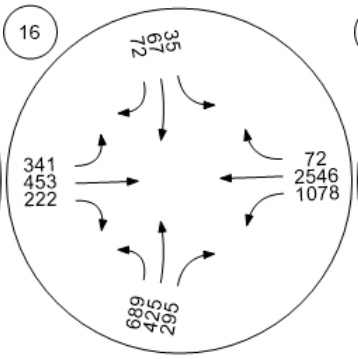
Middlefield Rd/Marsh Rd



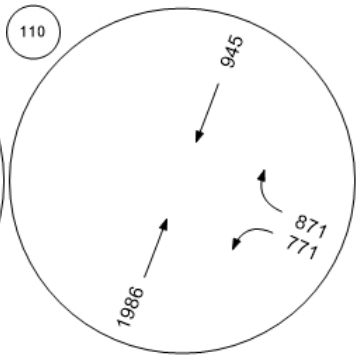
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



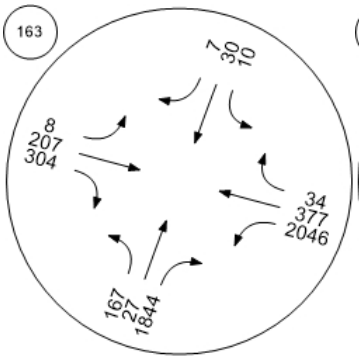
Marsh Road and US 101 NB



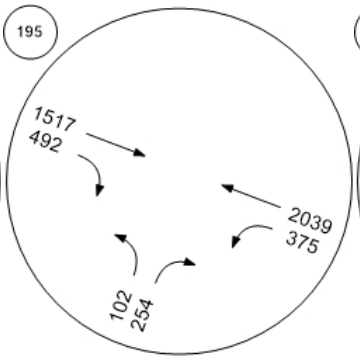
Traffic Volume - Future Total Volume



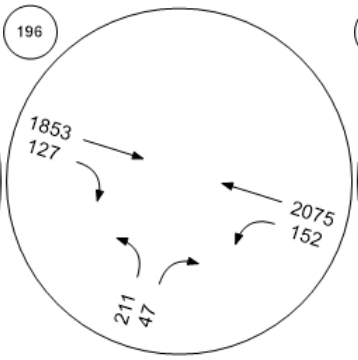
Bayfront Expy/Marsh Rd



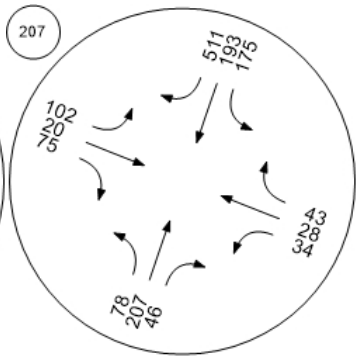
Bayfront Expy/Chilco St



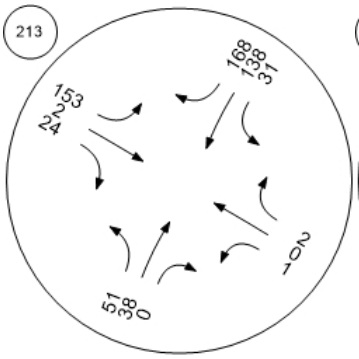
Bayfront Expy/Chrysler Drive



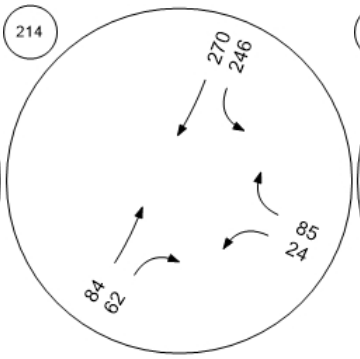
Chilco St/Constitution Dr



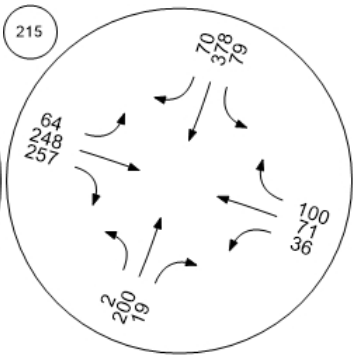
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



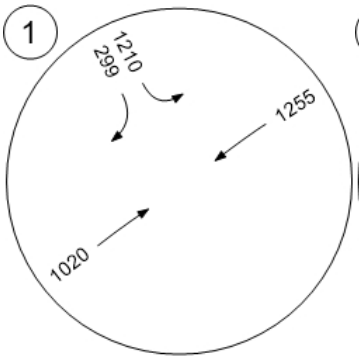
Chrysler Dr/Constitution Dr



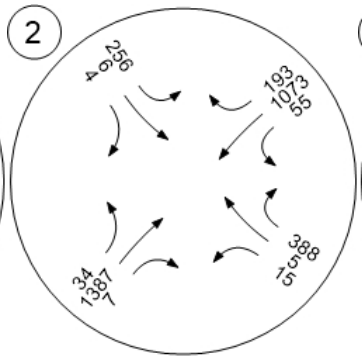
Traffic Volume - Future Total Volume



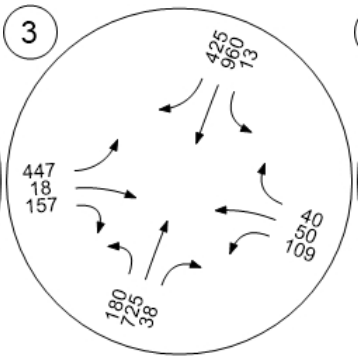
Marsh Rd (SR 84)/US 101 S



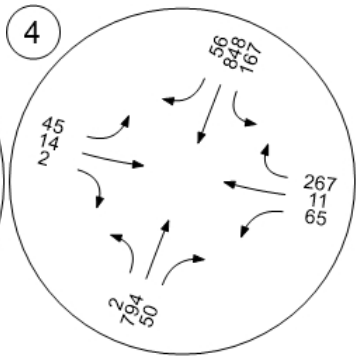
Marsh Rd/Rolison Rd-Scott D



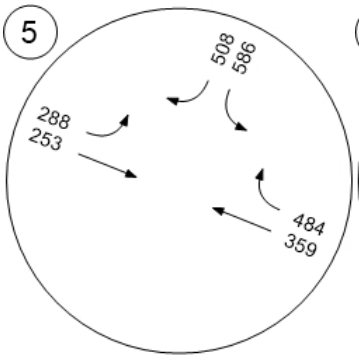
Marsh Rd/Florence St-Bohan



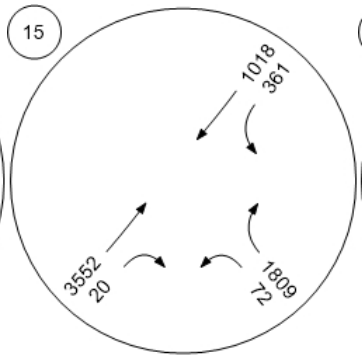
Marsh Rd/Bay Rd



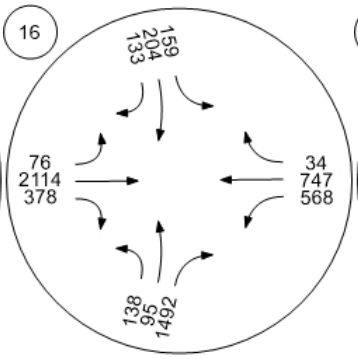
Middlefield Rd/Marsh Rd



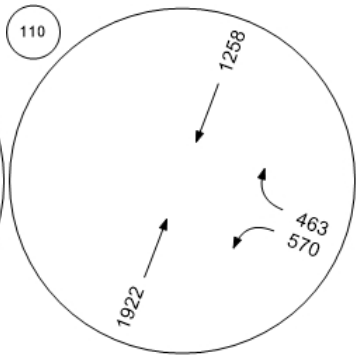
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



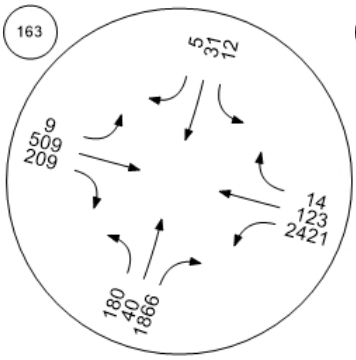
Marsh Road/101 NB Ramps



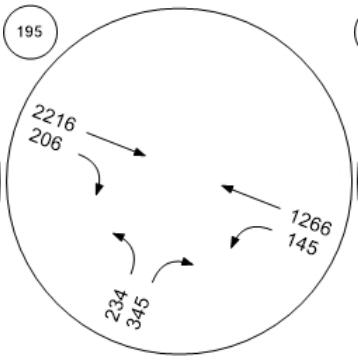
Traffic Volume - Future Total Volume



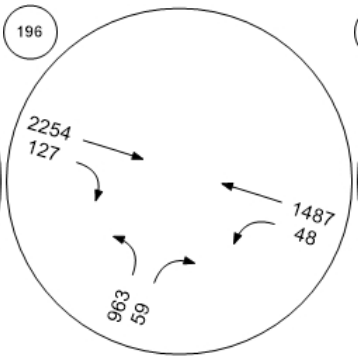
Bayfront Expy/Marsh Rd



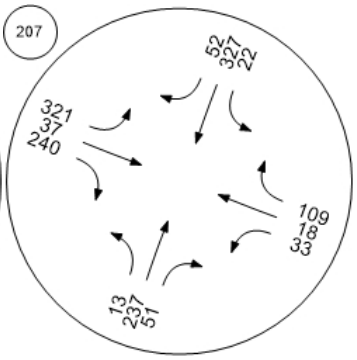
Bayfront Expy/Chilco St



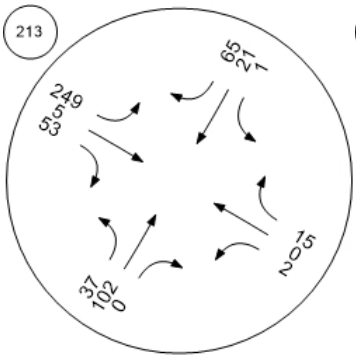
Bayfront Expy/Chrysler Drive



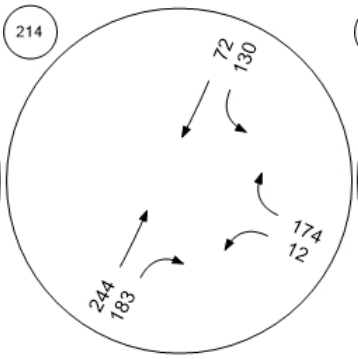
Chilco St/Constitution Dr



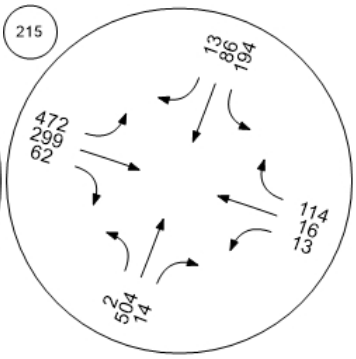
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



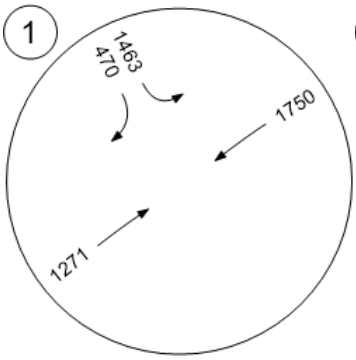
Chrysler Dr/Constitution Dr



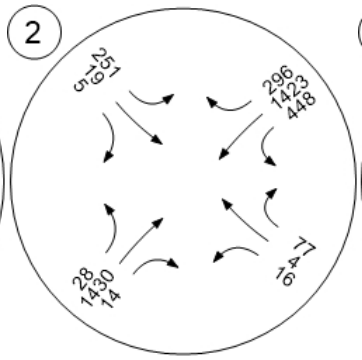
Traffic Volume - Future Total Volume



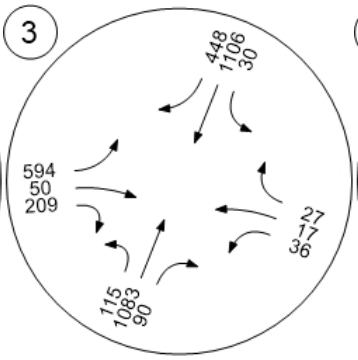
Marsh Rd (SR 84)/US 101 S



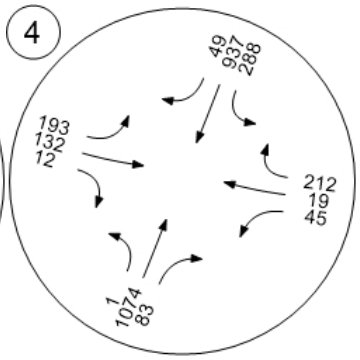
Marsh Rd/Rolison Rd-Scott D



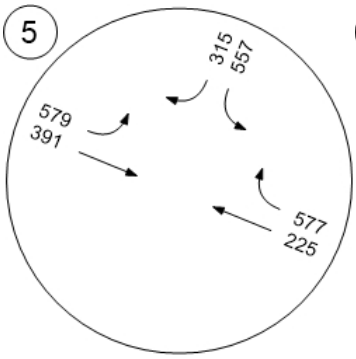
Marsh Rd/Florence St-Bohan



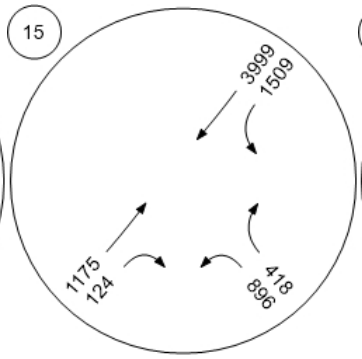
Marsh Rd/Bay Rd



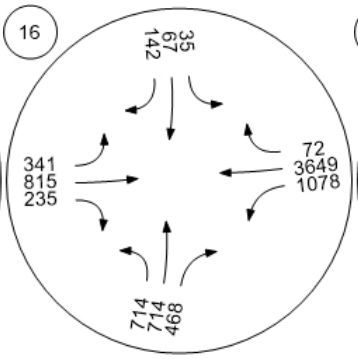
Middlefield Rd/Marsh Rd



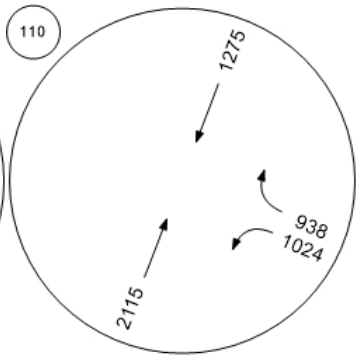
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



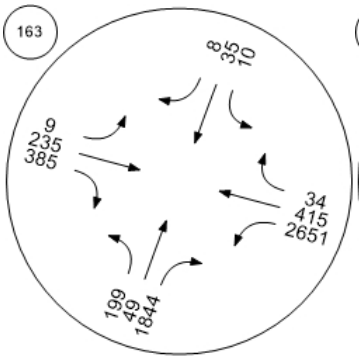
Marsh Road and US 101 NB



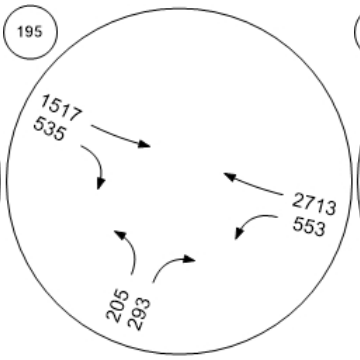
Traffic Volume - Future Total Volume



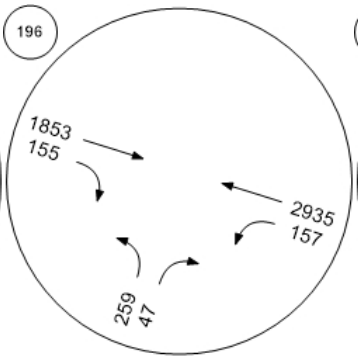
Bayfront Expy/Marsh Rd



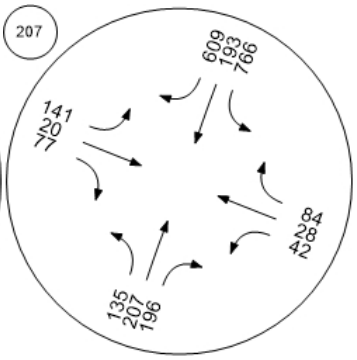
Bayfront Expy/Chilco St



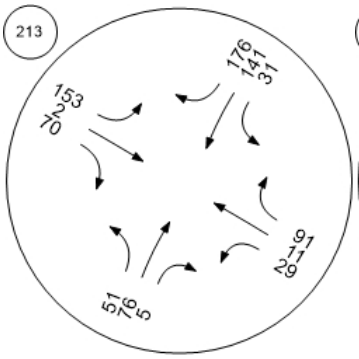
Bayfront Expy/Chrysler Drive



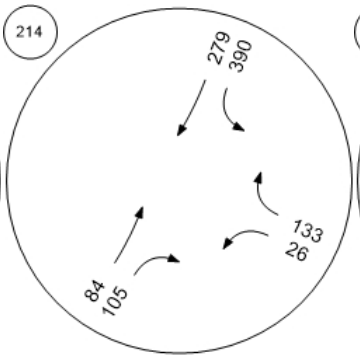
Chilco St/Constitution Dr



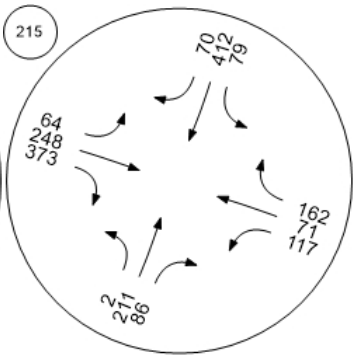
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



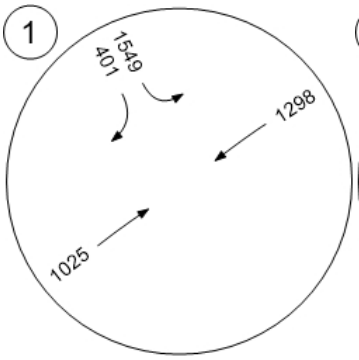
Chrysler Dr/Constitution Dr



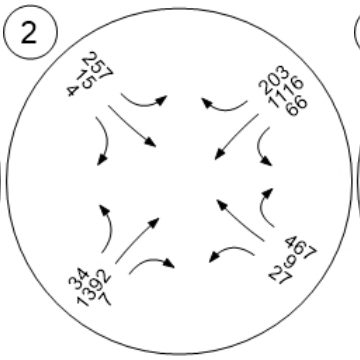
Traffic Volume - Future Total Volume



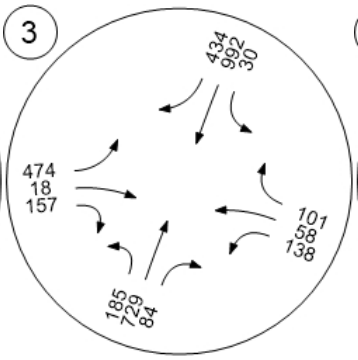
Marsh Rd (SR 84)/US 101 S



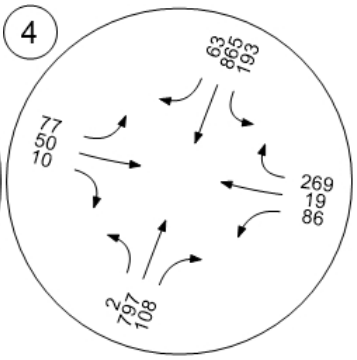
Marsh Rd/Rolison Rd-Scott D



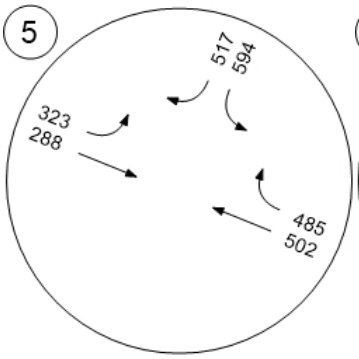
Marsh Rd/Florence St-Bohan



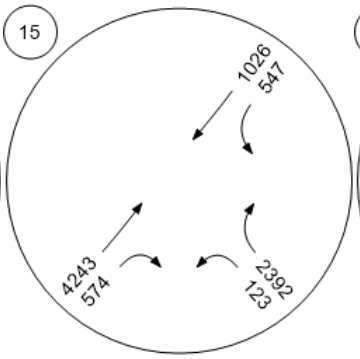
Marsh Rd/Bay Rd



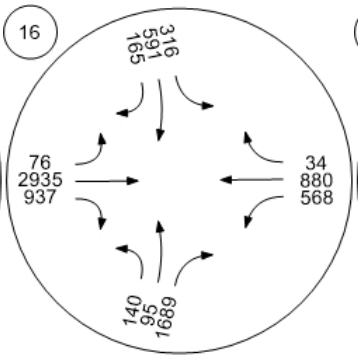
Middlefield Rd/Marsh Rd



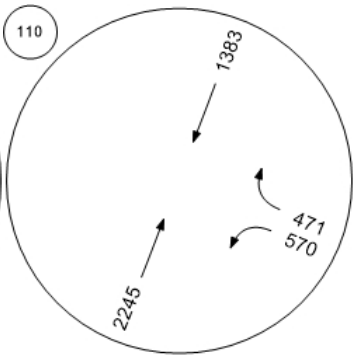
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



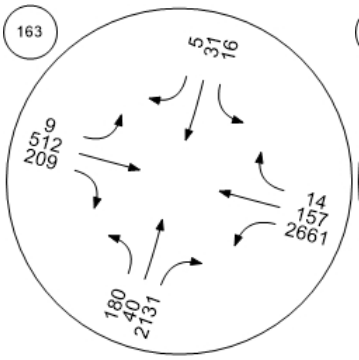
Marsh Road/101 NB Ramps



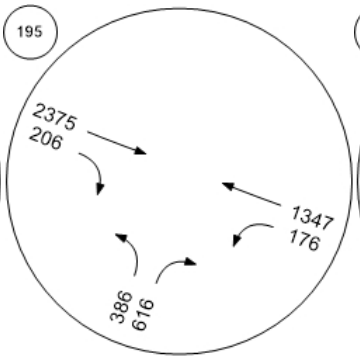
Traffic Volume - Future Total Volume



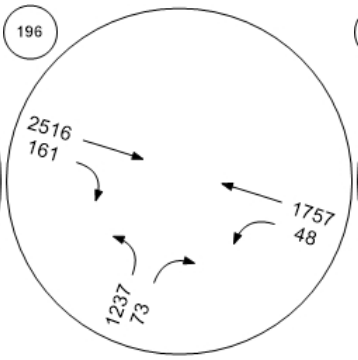
Bayfront Expy/Marsh Rd



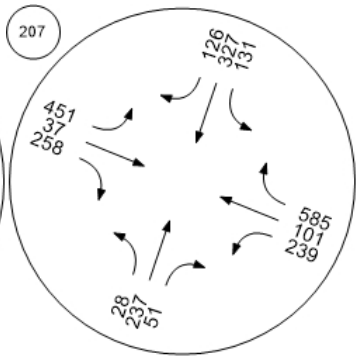
Bayfront Expy/Chilco St



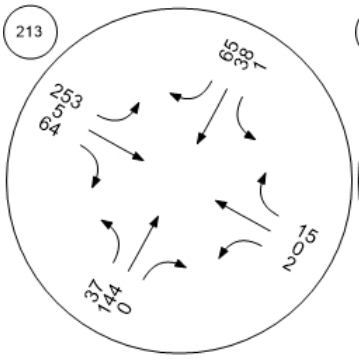
Bayfront Expy/Chrysler Drive



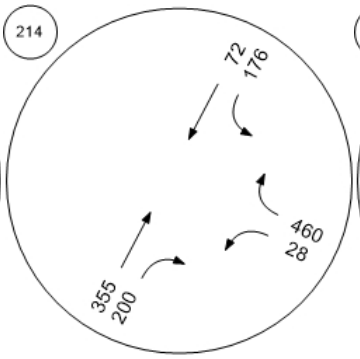
Chilco St/Constitution Dr



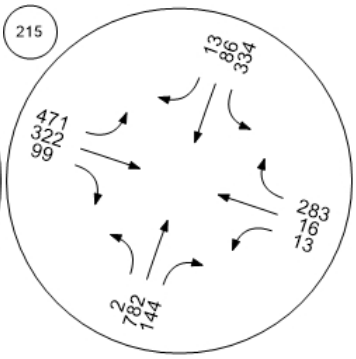
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



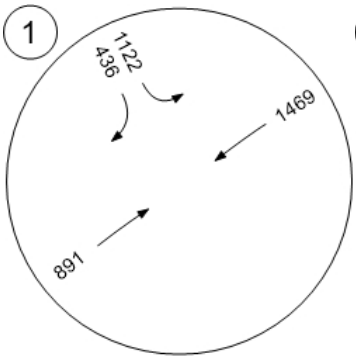
Chrysler Dr/Constitution Dr



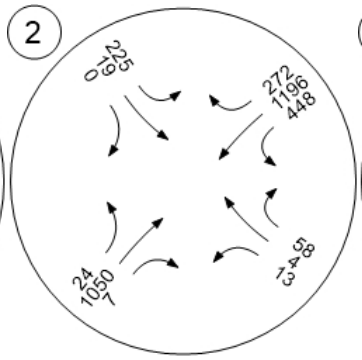
Traffic Volume - Future Total Volume



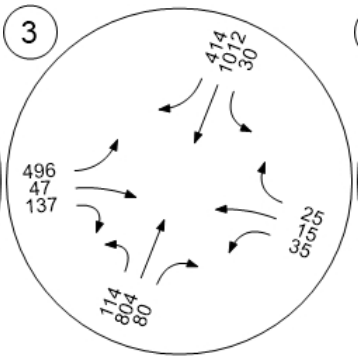
Marsh Rd (SR 84)/US 101 S



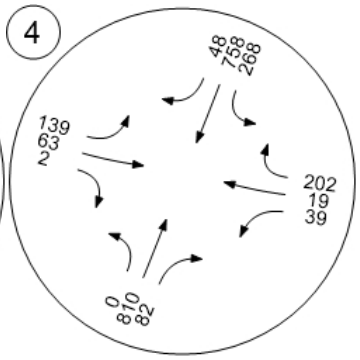
Marsh Rd/Rolison Rd-Scott D



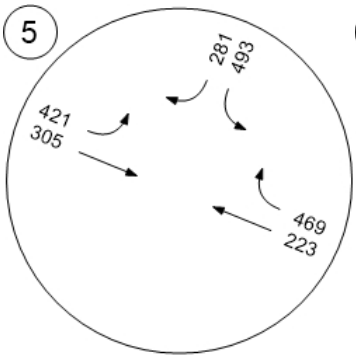
Marsh Rd/Florence St-Bohan



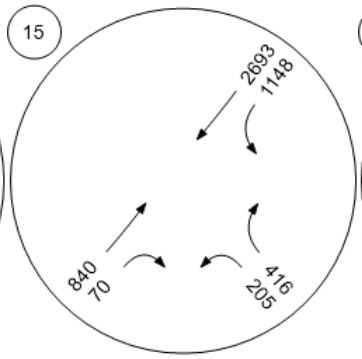
Marsh Rd/Bay Rd



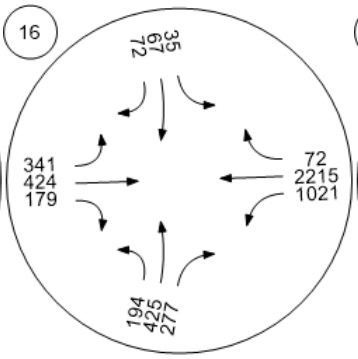
Middlefield Rd/Marsh Rd



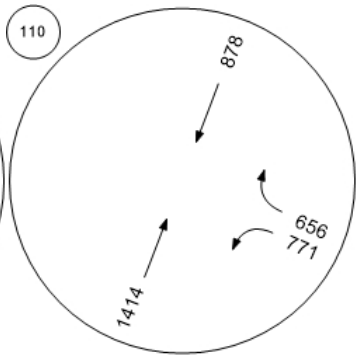
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



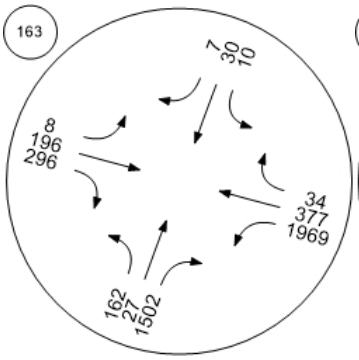
Marsh Road and US 101 NB



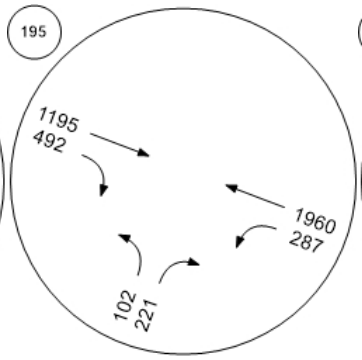
Traffic Volume - Future Total Volume



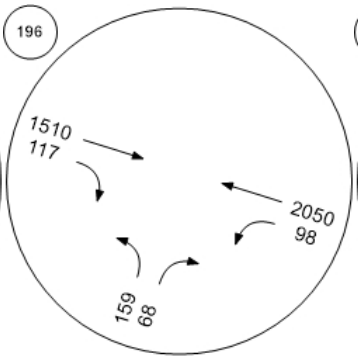
Bayfront Expy/Marsh Rd



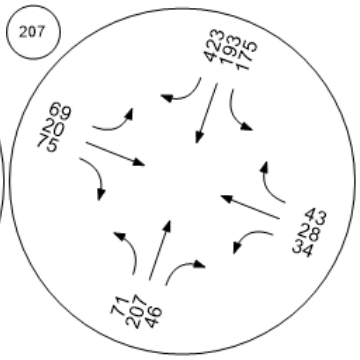
Bayfront Expy/Chilco St



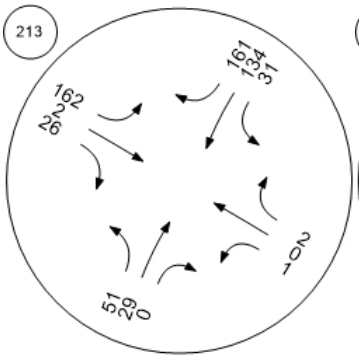
Bayfront Expy/Chrysler Drive



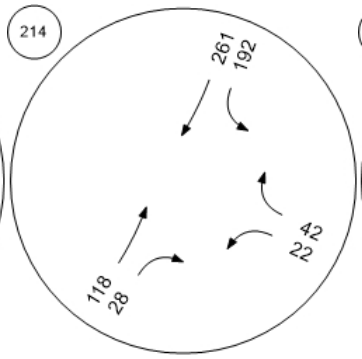
Chilco St/Constitution Dr



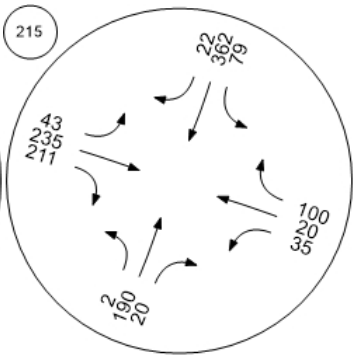
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



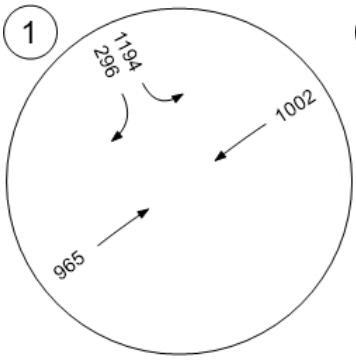
Chrysler Dr/Constitution Dr



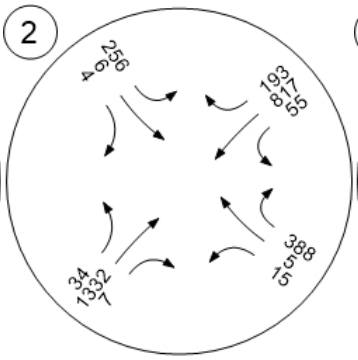
Traffic Volume - Future Total Volume



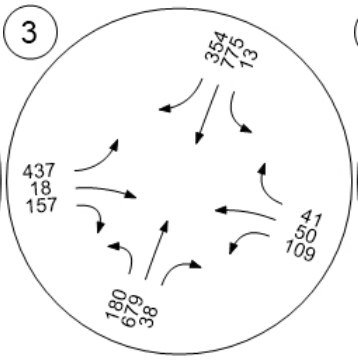
Marsh Rd (SR 84)/US 101 S



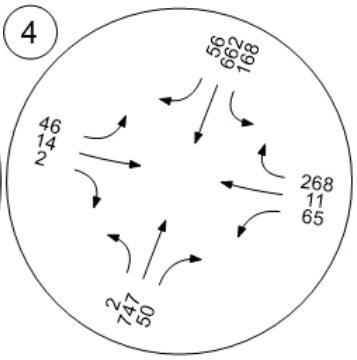
Marsh Rd/Rolison Rd-Scott D



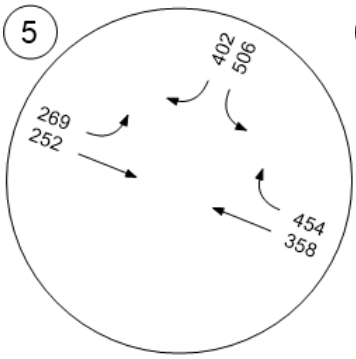
Marsh Rd/Florence St-Bohan



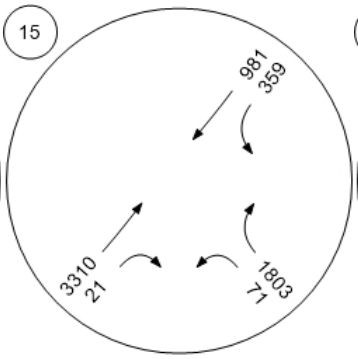
Marsh Rd/Bay Rd



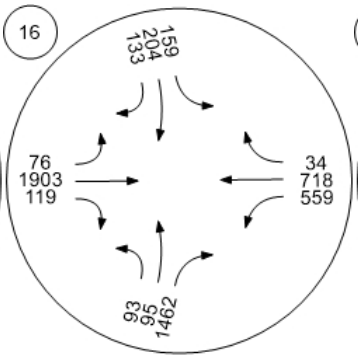
Middlefield Rd/Marsh Rd



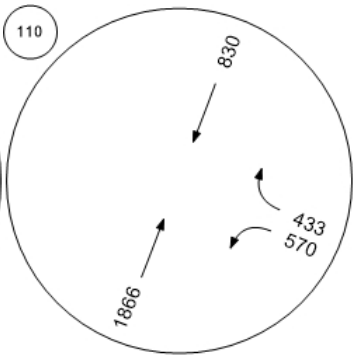
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



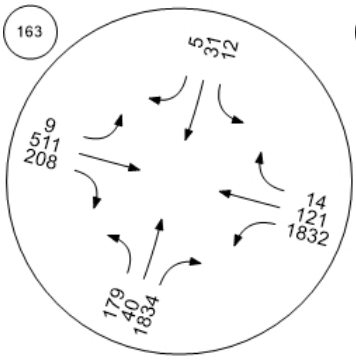
Marsh Road/101 NB Ramps



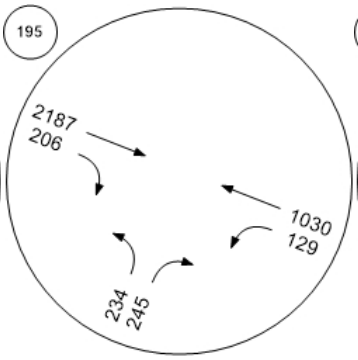
Traffic Volume - Future Total Volume



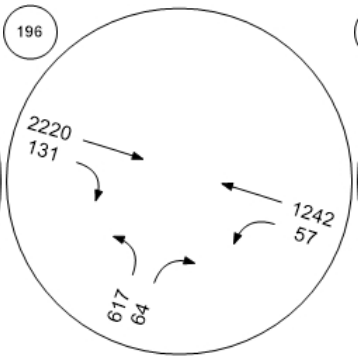
Bayfront Expy/Marsh Rd



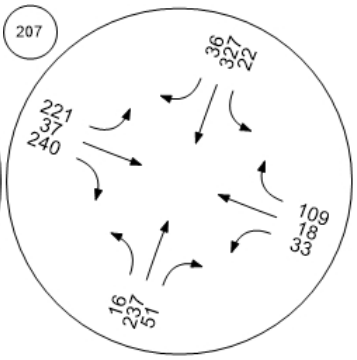
Bayfront Expy/Chilco St



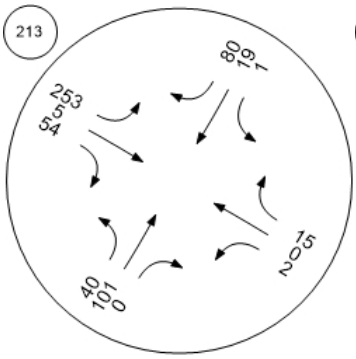
Bayfront Expy/Chrysler Drive



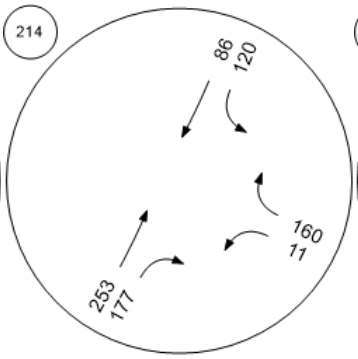
Chilco St/Constitution Dr



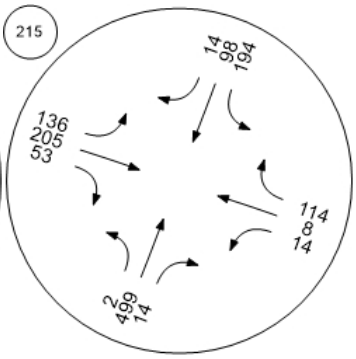
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



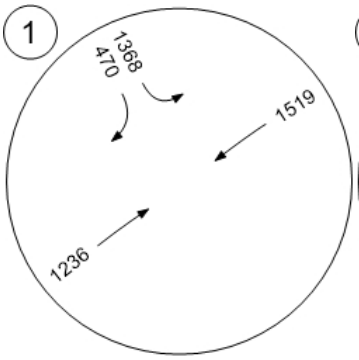
Chrysler Dr/Constitution Dr



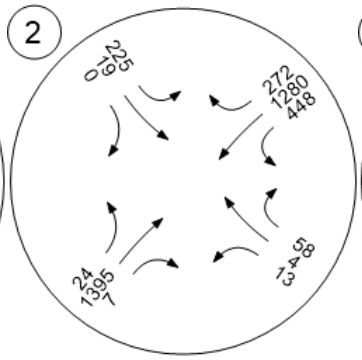
Traffic Volume - Future Total Volume



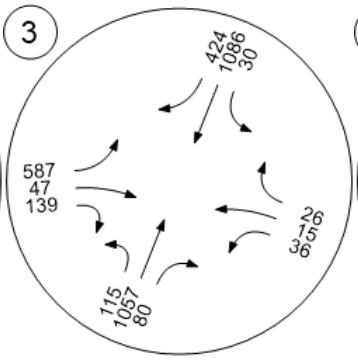
Marsh Rd (SR 84)/US 101 S



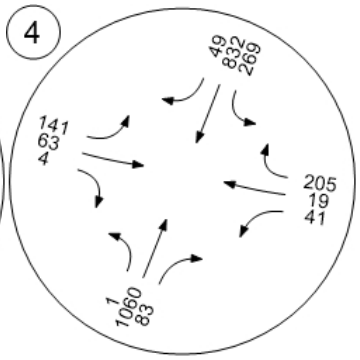
Marsh Rd/Rolison Rd-Scott D



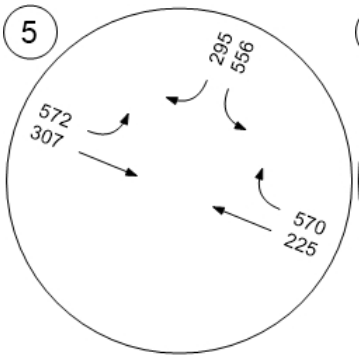
Marsh Rd/Florence St-Bohan



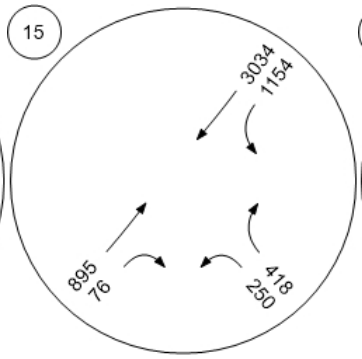
Marsh Rd/Bay Rd



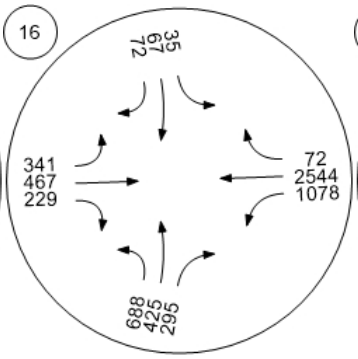
Middlefield Rd/Marsh Rd



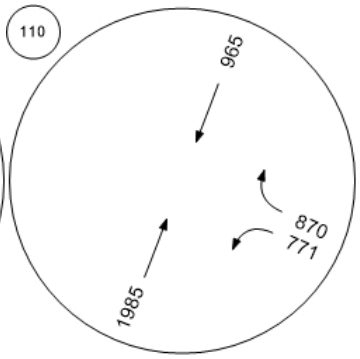
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



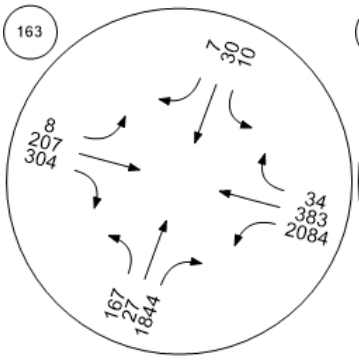
Marsh Road and US 101 NB



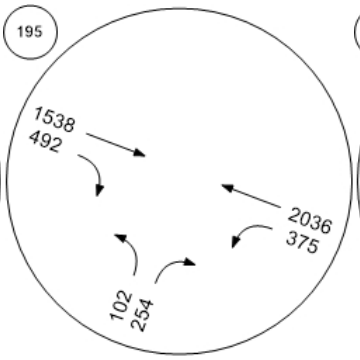
Traffic Volume - Future Total Volume



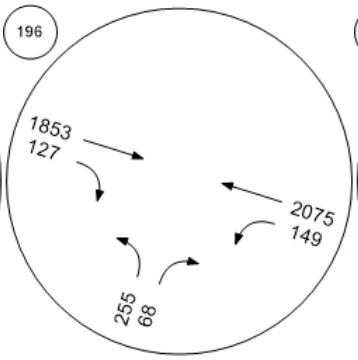
Bayfront Expy/Marsh Rd



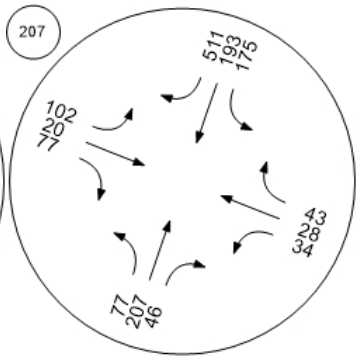
Bayfront Expy/Chilco St



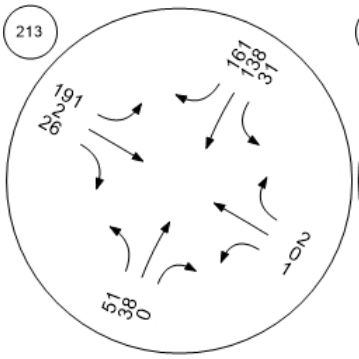
Bayfront Expy/Chrysler Drive



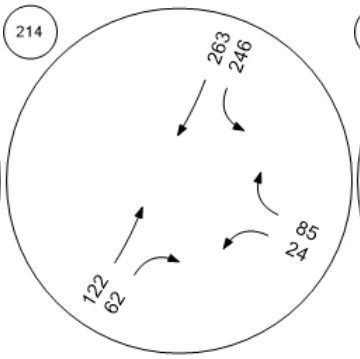
Chilco St/Constitution Dr



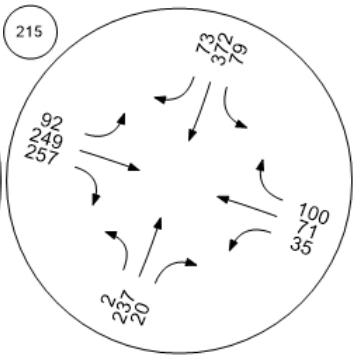
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



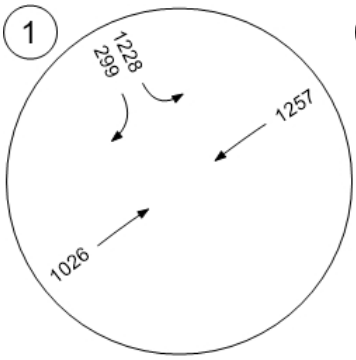
Chrysler Dr/Constitution Dr



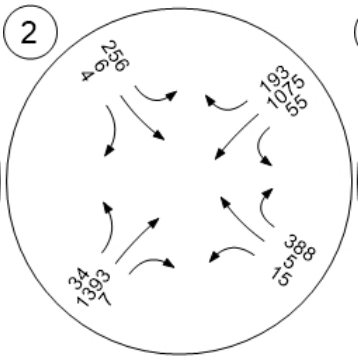
Traffic Volume - Future Total Volume



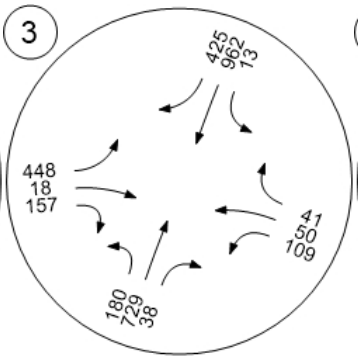
Marsh Rd (SR 84)/US 101 S



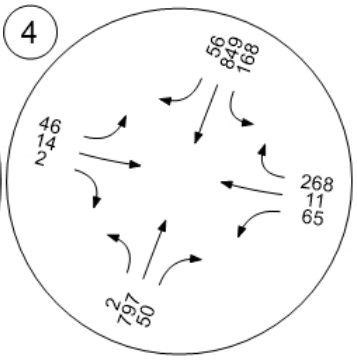
Marsh Rd/Rolison Rd-Scott D



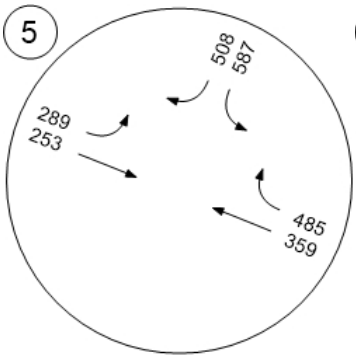
Marsh Rd/Florence St-Bohan



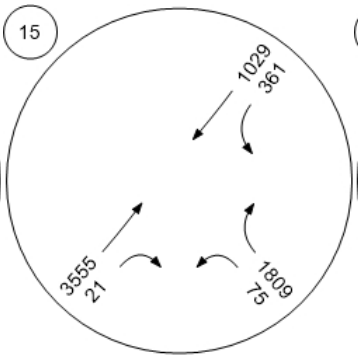
Marsh Rd/Bay Rd



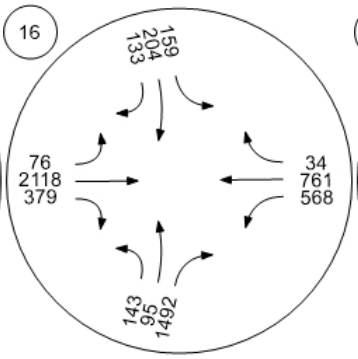
Middlefield Rd/Marsh Rd



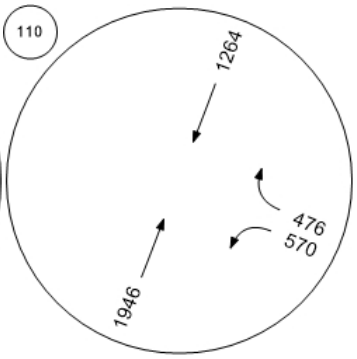
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



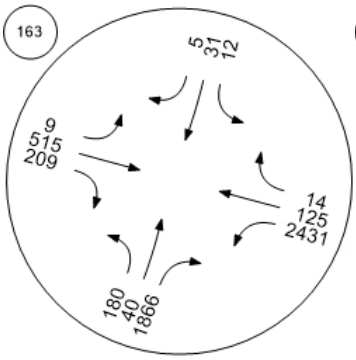
Marsh Road/101 NB Ramps



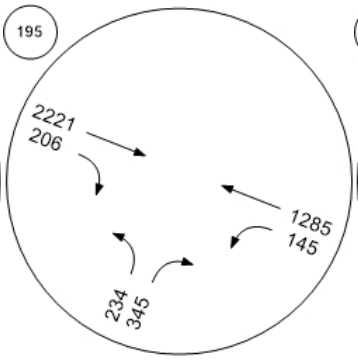
Traffic Volume - Future Total Volume



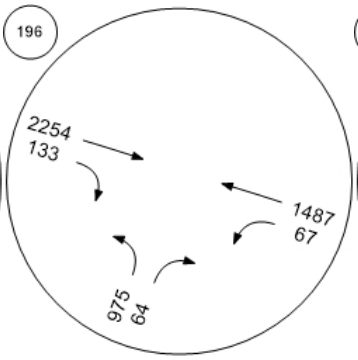
Bayfront Expy/Marsh Rd



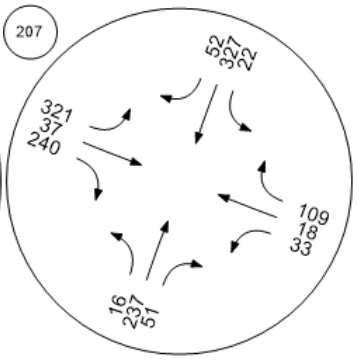
Bayfront Expy/Chilco St



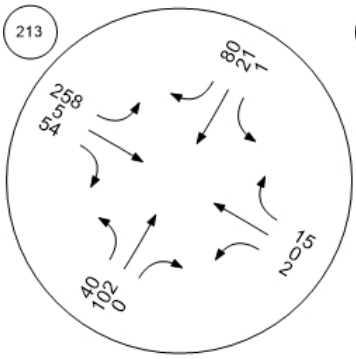
Bayfront Expy/Chrysler Drive



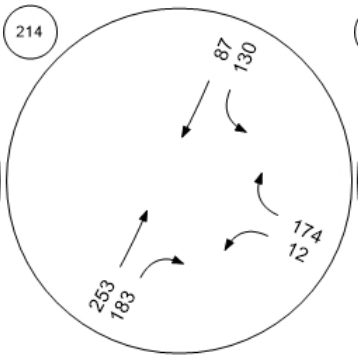
Chilco St/Constitution Dr



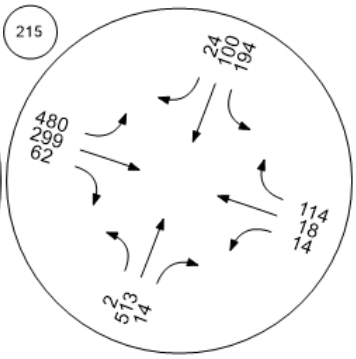
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



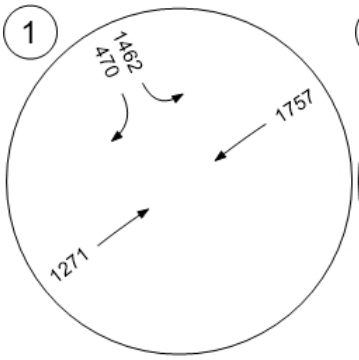
Chrysler Dr/Constitution Dr



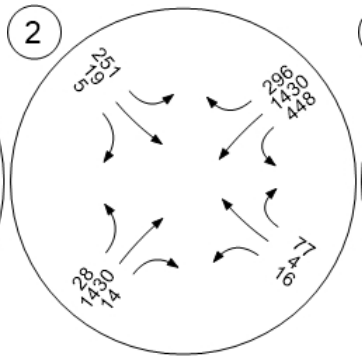
Traffic Volume - Future Total Volume



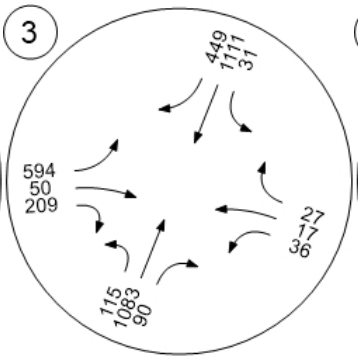
Marsh Rd (SR 84)/US 101 S



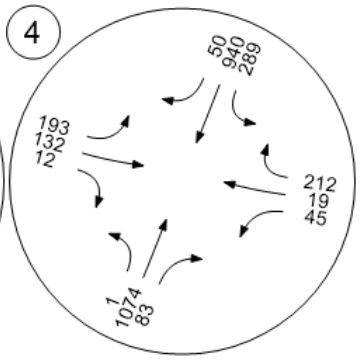
Marsh Rd/Rolison Rd-Scott D



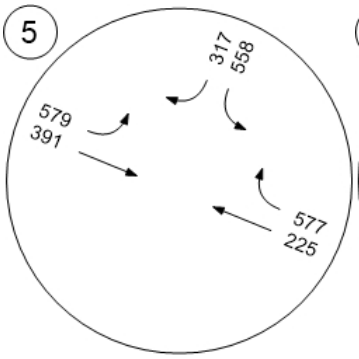
Marsh Rd/Florence St-Bohan



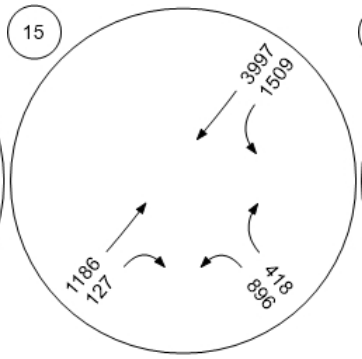
Marsh Rd/Bay Rd



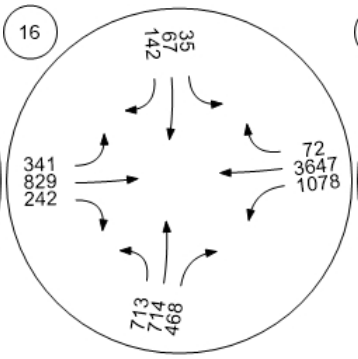
Middlefield Rd/Marsh Rd



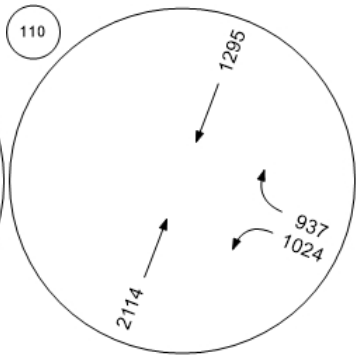
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



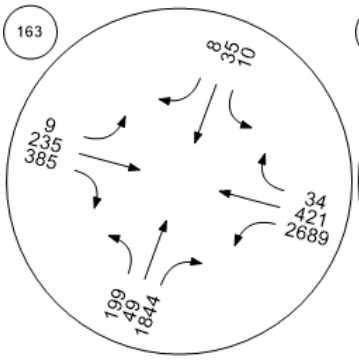
Marsh Road and US 101 NB



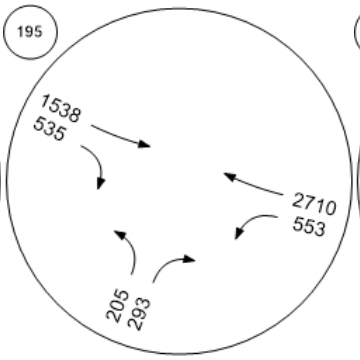
Traffic Volume - Future Total Volume



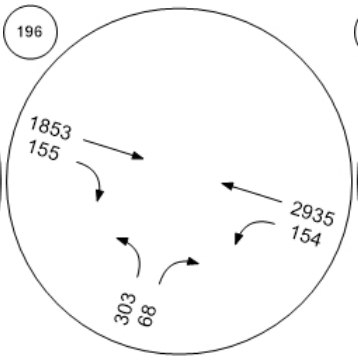
Bayfront Expy/Marsh Rd



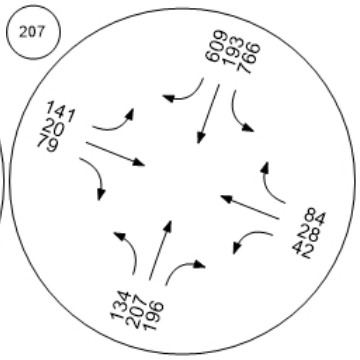
Bayfront Expy/Chilco St



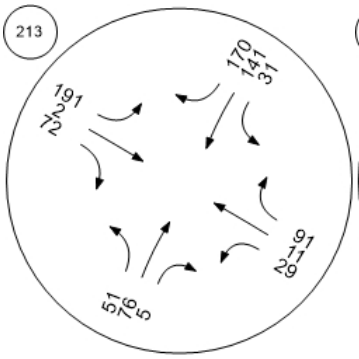
Bayfront Expy/Chrysler Drive



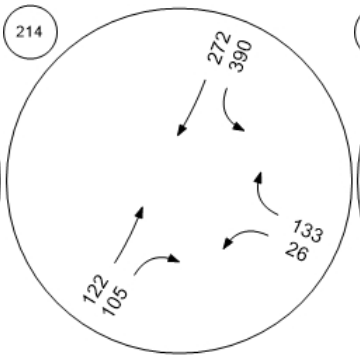
Chilco St/Constitution Dr



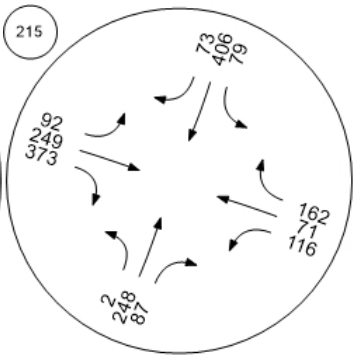
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



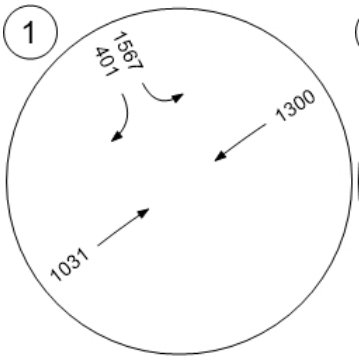
Chrysler Dr/Constitution Dr



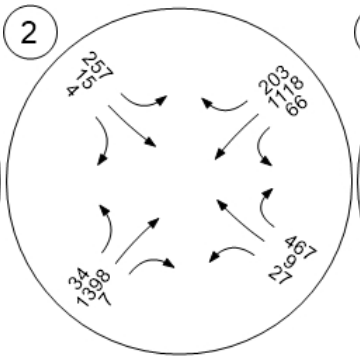
Traffic Volume - Future Total Volume



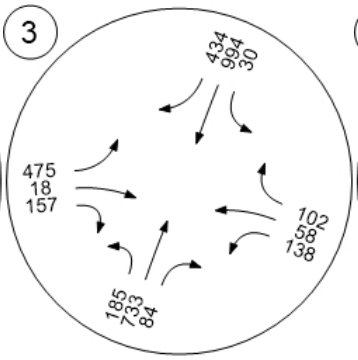
Marsh Rd (SR 84)/US 101 S



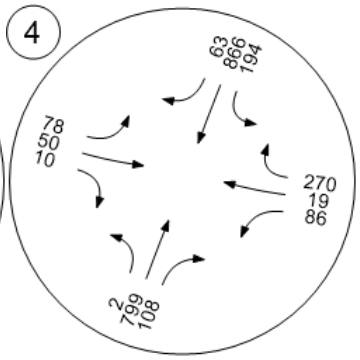
Marsh Rd/Rolison Rd-Scott D



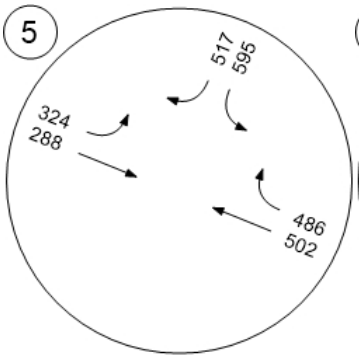
Marsh Rd/Florence St-Bohan



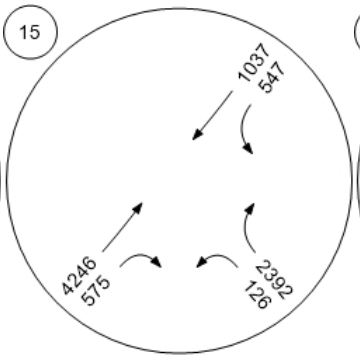
Marsh Rd/Bay Rd



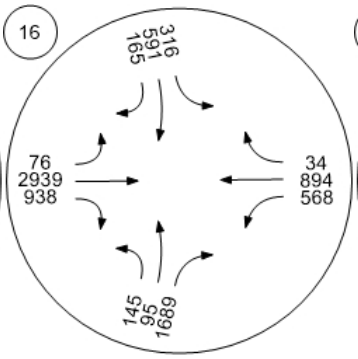
Middlefield Rd/Marsh Rd



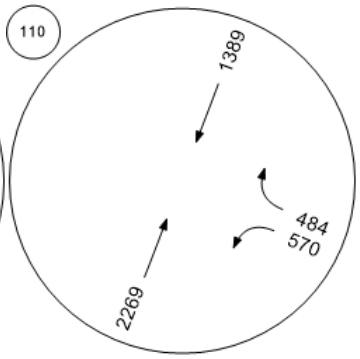
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



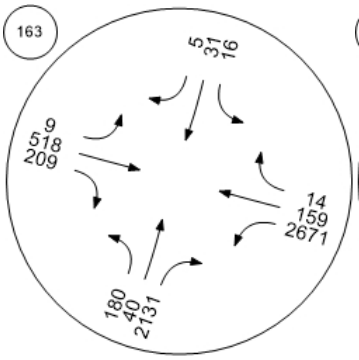
Marsh Road/101 NB Ramps



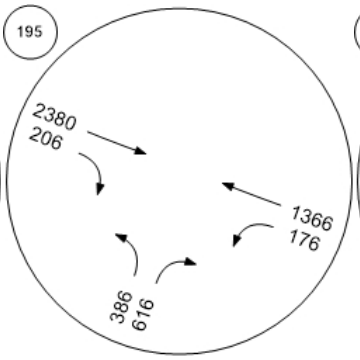
Traffic Volume - Future Total Volume



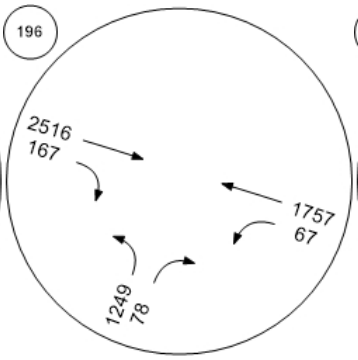
Bayfront Expy/Marsh Rd



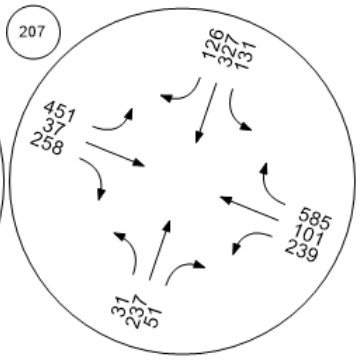
Bayfront Expy/Chilco St



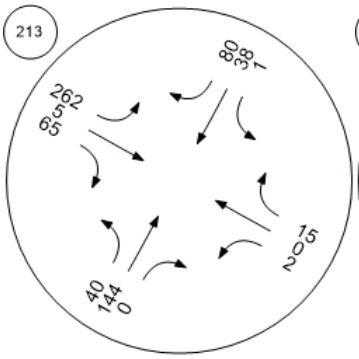
Bayfront Expy/Chrysler Drive



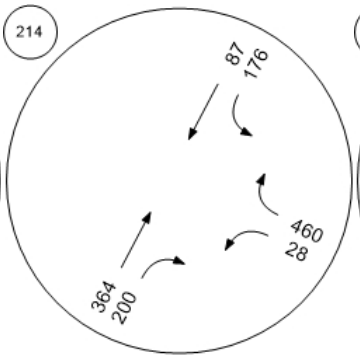
Chilco St/Constitution Dr



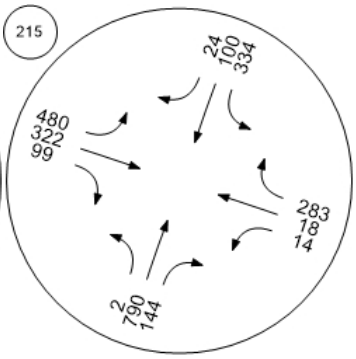
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



Chrysler Dr/Constitution Dr

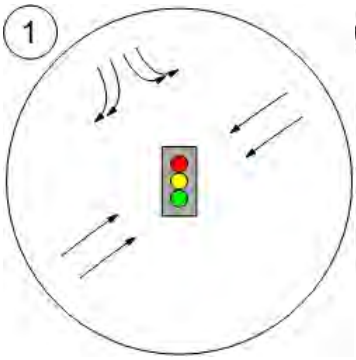


Attachment 2. Intersection Lane Configurations – All Scenarios

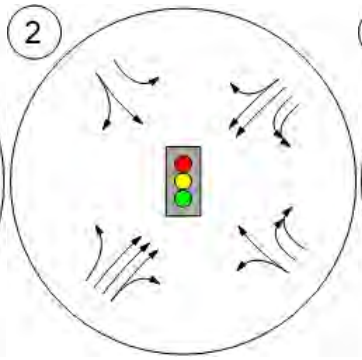
Lane Configuration and Traffic Control (Existing Conditions)



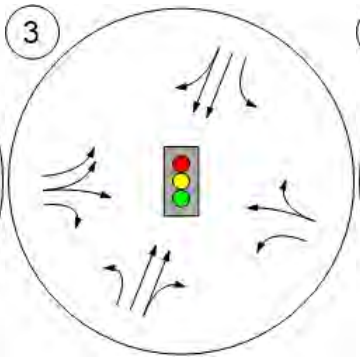
Marsh Rd (SR 84)/US 101 S



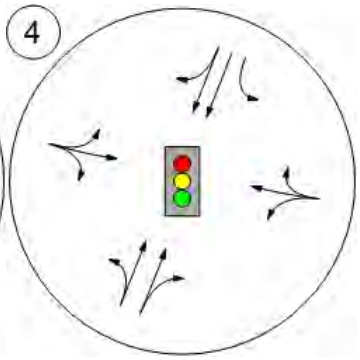
Marsh Rd/Rolison Rd-Scott D



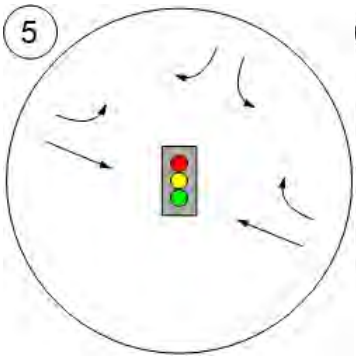
Marsh Rd/Florence St-Bohan



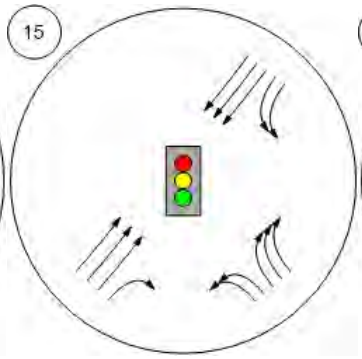
Marsh Rd/Bay Rd



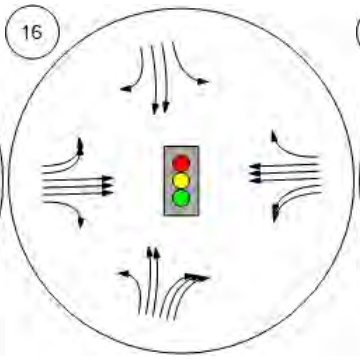
Middlefield Rd/Marsh Rd



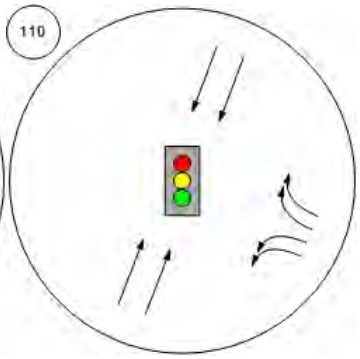
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



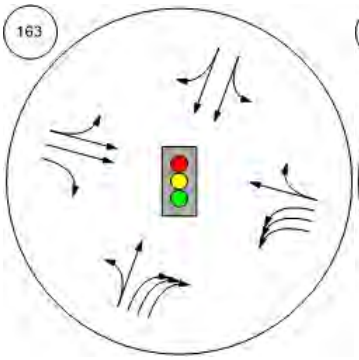
Marsh Road and US 101 NB



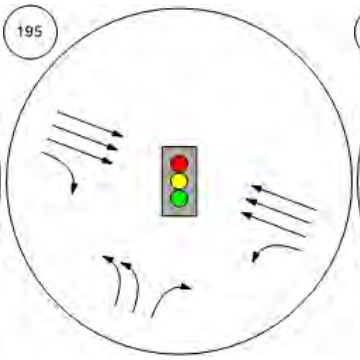
Lane Configuration and Traffic Control (Existing Conditions)



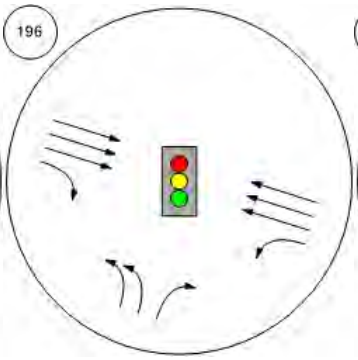
Bayfront Expy/Marsh Rd



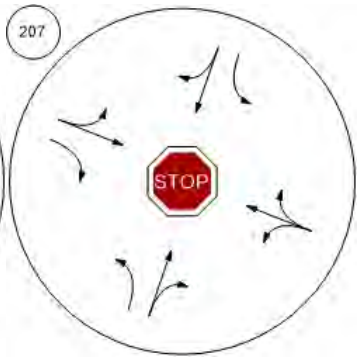
Bayfront Expy/Chilco St



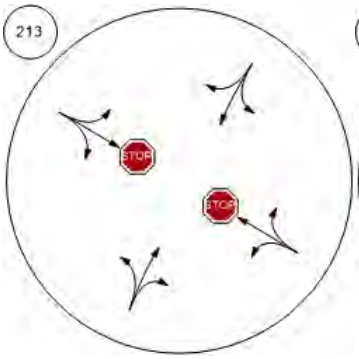
Bayfront Expy/Chrysler Drive



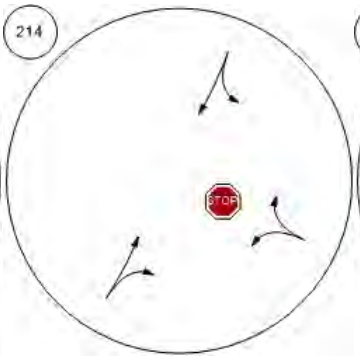
Chilco St/Constitution Dr



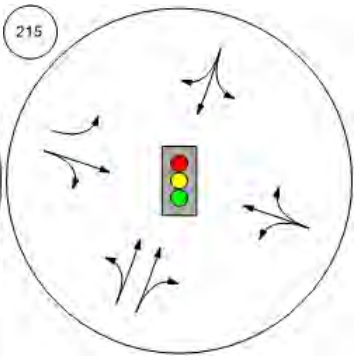
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



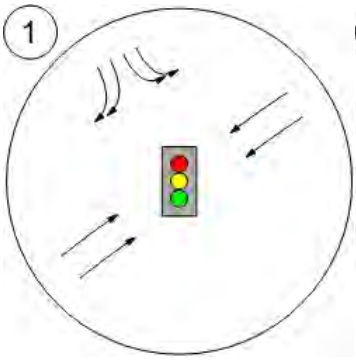
Chrysler Dr/Constitution Dr



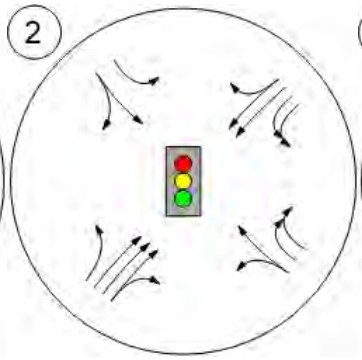
Lane Configuration and Traffic Control (Near Term Conditions)



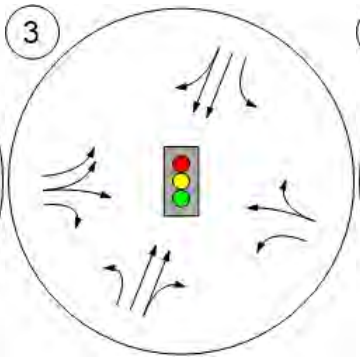
Marsh Rd (SR 84)/US 101 S



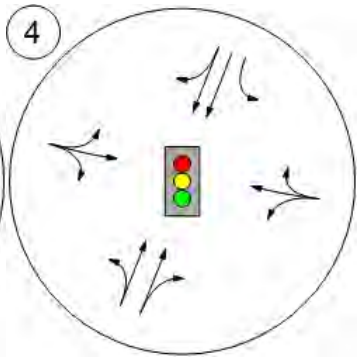
Marsh Rd/Rolison Rd-Scott D



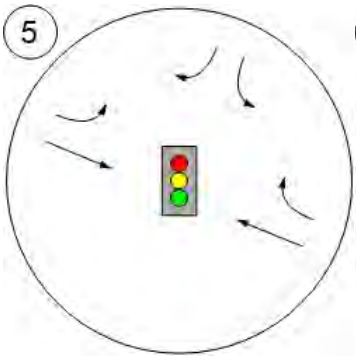
Marsh Rd/Florence St-Bohan



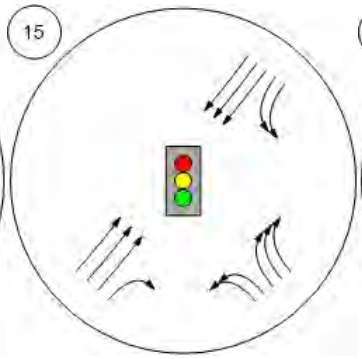
Marsh Rd/Bay Rd



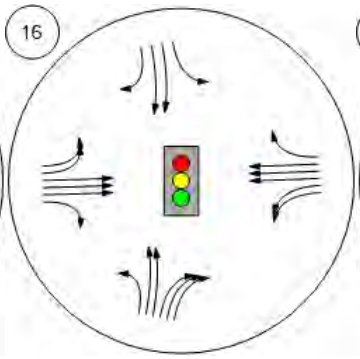
Middlefield Rd/Marsh Rd



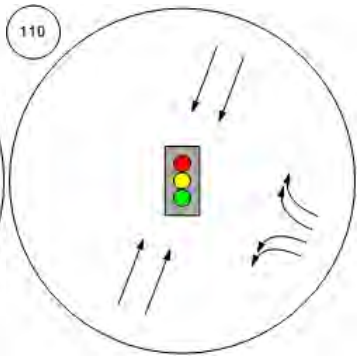
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



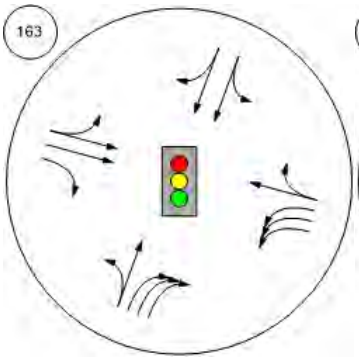
Marsh Road and US 101 NB



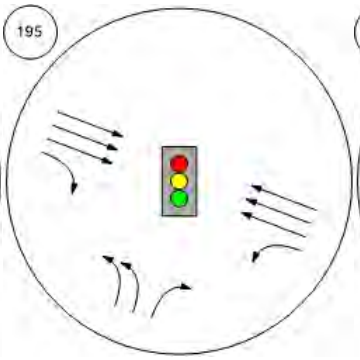
Lane Configuration and Traffic Control (Near Term Conditions)



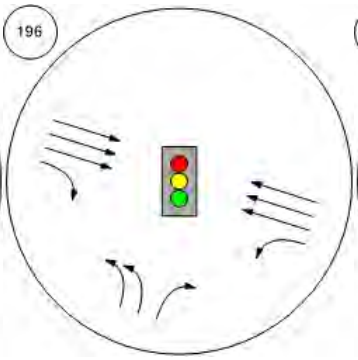
Bayfront Expy/Marsh Rd



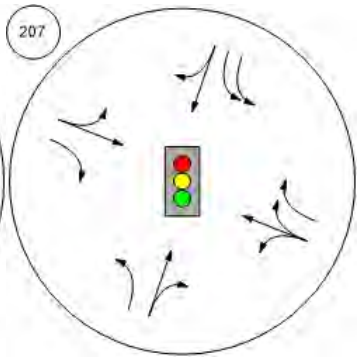
Bayfront Expy/Chilco St



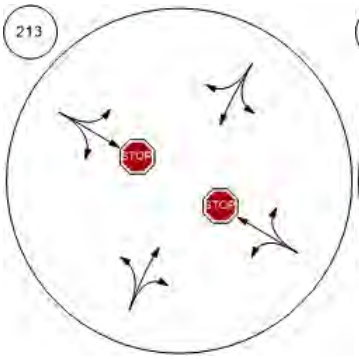
Bayfront Expy/Chrysler Drive



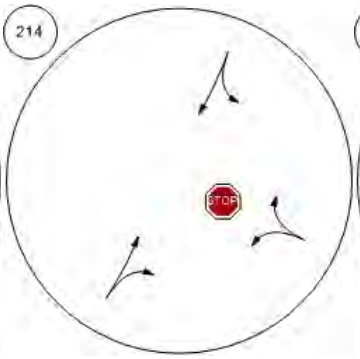
Chilco St/Constitution Dr



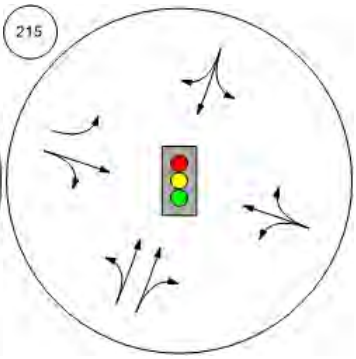
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



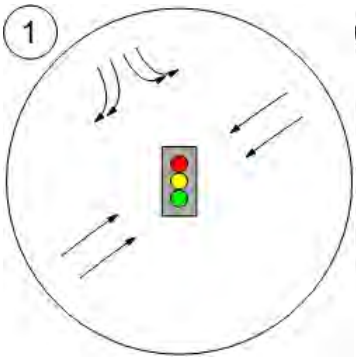
Chrysler Dr/Constitution Dr



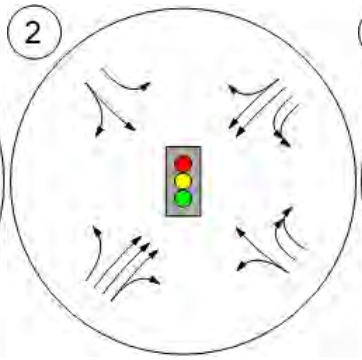
Lane Configuration and Traffic Control (Cumulative Conditions)



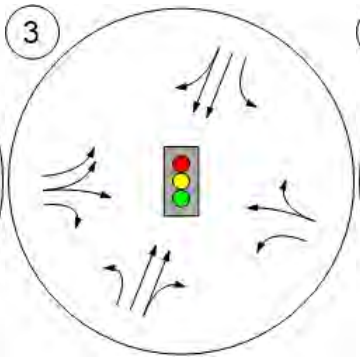
Marsh Rd (SR 84)/US 101 S



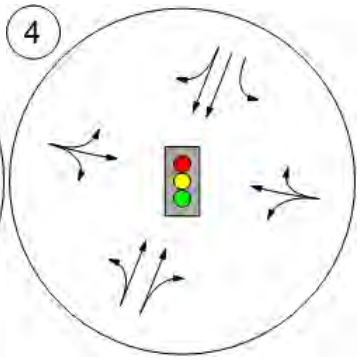
Marsh Rd/Rolison Rd-Scott D



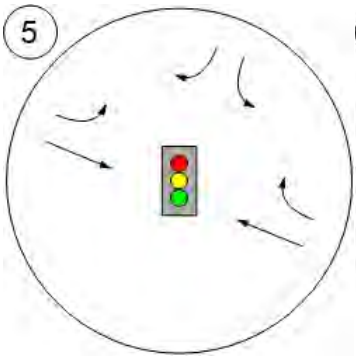
Marsh Rd/Florence St-Bohan



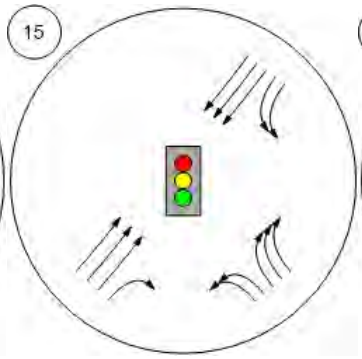
Marsh Rd/Bay Rd



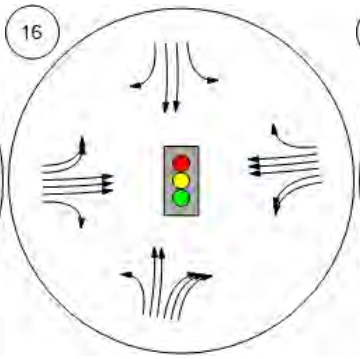
Middlefield Rd/Marsh Rd



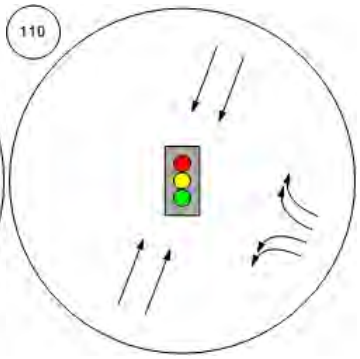
Bayfront Expy (SR 84)/Univer



Bayfront Expy (SR 84)/Willow



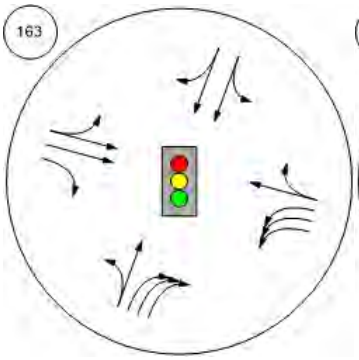
Marsh Road and US 101 NB



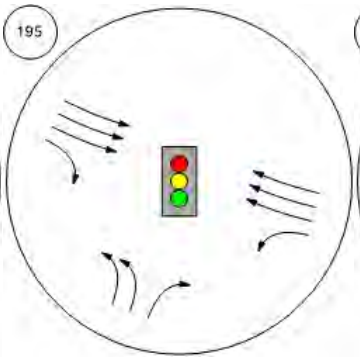
Lane Configuration and Traffic Control (Cumulative Conditions)



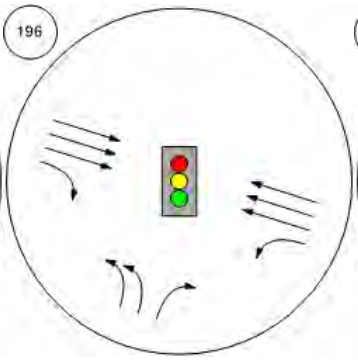
Bayfront Expy/Marsh Rd



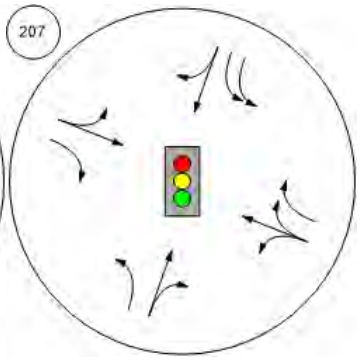
Bayfront Expy/Chilco St



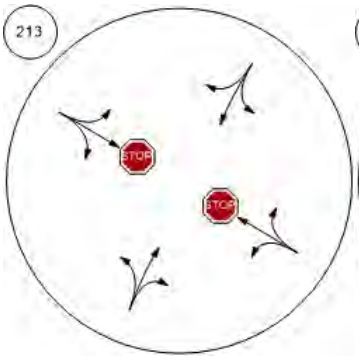
Bayfront Expy/Chrysler Drive



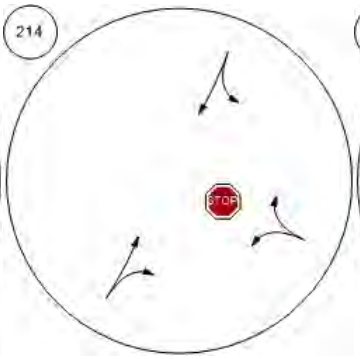
Chilco St/Constitution Dr



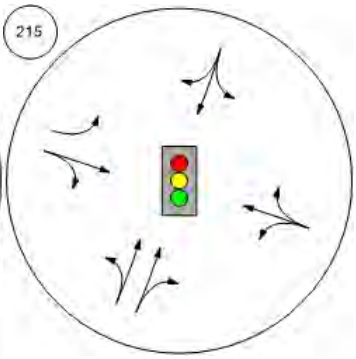
Chrysler Dr/Independence Dr



Chrysler Dr/Jefferson Dr



Chrysler Dr/Constitution Dr



Attachment 3. Intersection Level of Service Results

Existing Conditions

Vistro File: H:\...\Existing Conditions_AM.vistro
Report File: H:\...\Existing_AM.pdf
Scenario 16 Existing AM (2019 vols)
9/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.838	18.1	B
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.696	18.5	B
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.711	35.3	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.641	19.7	B
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	EB Left	0.855	35.0	D
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Left	0.727	11.4	B
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Thru	0.967	106.0	F
110	Marsh Road and US 101 NB Ramps	Signalized	HCM 6th Edition	NWB Right	0.727	15.8	B
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.792	56.9	E
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	0.808	12.7	B
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.621	8.4	A
207	Chilco St/Constitution Dr	All-way stop	HCM 6th Edition	SB Right	0.985	32.1	D
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.011	44.0	E
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.084	18.6	C
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Thru	0.846	50.6	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Vistro File: H:\...\Existing Conditions_PM.vistro
Report File: H:\...\Existing_PM.pdf
Scenario 16 Existing PM (2019 vols)
9/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.701	17.0	B
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.460	15.3	B
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.682	34.6	C
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.634	18.6	B
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	EB Left	0.849	37.9	D
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Right	1.043	94.1	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Right	1.249	168.1	F
110	Marsh Road/101 NB Ramps	Signalized	HCM 6th Edition	WB Left	0.771	13.3	B
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.765	36.5	D
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	0.862	16.0	B
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.779	13.1	B
207	Chilco St/Constitution Dr	All-way stop	HCM 6th Edition	SB Thru	0.916	32.5	D
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.011	17.9	C
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.041	19.0	C
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	WB Right	0.666	28.0	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Attachment 3. Intersection Level of Service Results

Near-Term (2022) Conditions

Vistro File: H:\...\Existing Conditions_AM.vistro
Report File: H:\...\Near Term_AM.pdf
Scenario 18 Near Term AM (2019 vols)
9/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.935	22.9	C
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.724	20.0	B
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.768	38.3	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.722	22.7	C
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	EB Left	0.990	73.8	E
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Left	0.815	12.7	B
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Left	1.229	193.1	F
110	Marsh Road and US 101 NB Ramps	Signalized	HCM 6th Edition	NB Thru	0.999	25.3	C
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.827	59.7	E
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	0.839	21.9	C
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.690	9.5	A
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	NB Left	0.711	33.8	C
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.012	69.3	F
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.118	23.2	C
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Thru	1.029	111.1	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Vistro File: H:\...\Existing Conditions_PM.vistro
Report File: H:\...\Near Term_PM.pdf
Scenario 18 Near Term PM (2019 vols)
9/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.793	17.7	B
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.542	15.1	B
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.772	37.0	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.650	18.4	B
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	WB Right	0.956	44.2	D
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Right	1.097	113.1	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Right	1.317	180.9	F
110	Marsh Road/101 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.808	13.3	B
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.898	37.4	D
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	0.942	25.3	C
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.863	20.1	C
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	EB Left	0.776	50.0	D
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.011	18.3	C
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.046	20.1	C
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Left	0.909	39.8	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Attachment 3. Intersection Level of Service Results

Cumulative (2040) Conditions

Vistro File: H:\...\2040(c)_AM.vistro
Report File: H:\...\Cumulative_AM.pdf

Scenario 17 115 Indep - Cum No Proj AM
9/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	1.042	36.5	D
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.807	32.8	C
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.793	39.9	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	NB Right	0.834	28.6	C
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	EB Left	1.041	81.0	F
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Left	1.171	101.1	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Thru	1.573	326.6	F
110	Marsh Road and US 101 NB Ramps	Signalized	HCM 6th Edition	NB Thru	1.069	34.6	C
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	1.059	99.1	F
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	WB Left	1.139	61.6	E
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.777	10.9	B
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	SB Right	0.863	85.5	F
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Left	1.218	271.6	F
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.266	44.8	E
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	WB Right	3.769	356.6	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Vistro File: H:\...\2040(c)_PM.vistro
Report File: H:\...\Cumulative_PM.pdf

Scenario 17 115 Indep - Cum No Proj PM
9/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.917	38.9	D
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.666	22.9	C
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.835	45.9	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.712	19.8	B
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	WB Right	0.974	52.8	D
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Right	1.394	215.3	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	SB Thru	2.073	370.7	F
110	Marsh Road/101 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.914	16.6	B
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.935	36.5	D
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	1.173	67.4	E
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	NB Left	0.994	56.5	E
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	EB Left	1.498	252.3	F
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.011	21.6	C
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.171	132.9	F
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Left	2.468	222.8	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Attachment 3. Intersection Level of Service Results

Near-Term (2022) Plus Project Conditions

Vistro File: H:\...\Existing Conditions_AM.vistro
Report File: H:\...\Near Term Plus Project_AM.pdf
Scenario 19 Near Term Plus Project AM (2019 vols)
9/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.937	22.9	C
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.726	20.0	C
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.771	38.4	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.722	22.7	C
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	EB Left	0.991	73.9	E
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Left	0.814	12.8	B
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Left	1.228	192.2	F
110	Marsh Road and US 101 NB Ramps	Signalized	HCM 6th Edition	NB Thru	0.999	25.2	C
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.836	59.9	E
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	0.838	22.2	C
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.702	9.9	A
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	NB Left	0.711	33.7	C
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.012	117.7	F
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.125	24.4	C
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Thru	1.049	114.5	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Vistro File: H:\...\Existing Conditions_PM.vistro
Report File: H:\...\Near Term Plus Project_PM.pdf
Scenario 19 Near Term Plus Project PM (2019 vols)
9/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.799	17.9	B
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.542	15.1	B
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.773	37.1	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.652	18.5	B
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	WB Right	0.957	44.5	D
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Right	1.098	113.2	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Right	1.318	180.9	F
110	Marsh Road/101 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.821	13.6	B
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.900	38.0	D
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	0.943	25.3	C
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.875	21.0	C
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	SB Thru	0.779	51.1	D
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.011	19.7	C
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.048	20.8	C
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Left	0.953	45.5	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Attachment 3. Intersection Level of Service Results

Near-Term (2022) Plus Project Conditions, With Modifications

Option 1: Chrysler Dr/Constitution Dr: Mitigation Near Term Plus Project AM

Number	215											
Intersection	Chrysler Dr/Constitution Dr											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	Chrysler Drive						Constitution Drive					
Approach	Southbound			Eastbound			Westbound			Northeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	79	368	19	15	234	211	36	20	100	2	153	19
Total Analysis Volume [veh/h]	88	413	81	102	277	286	39	79	111	2	263	22

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Isolated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss
Signal Group	0	8	0	0	6	0	0	2	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	46	0	0	25	0	0	19	0	0	46	0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.36	0.36	0.24	0.24	0.24	0.24	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.10	0.32	0.08	0.16	0.20	0.21	0.11	0.11
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3			3	3	
s, saturation flow rate [veh/h]	893	1539	1357	1699	1412	1069	1335	1297
c, Capacity [veh/h]	326	558	326	408	339	256	532	470
X, volume / capacity	0.27	0.89	0.31	0.68	0.84	0.89	0.27	0.30
d, Delay for Lane Group [s/veh]	23.58	35.37	24.28	28.21	33.23	38.94	17.46	17.72
Lane Group LOS	C	D	C	C	C	D	B	B
Critical Lane Group	No	Yes	No	No	Yes	Yes	No	No

50th-Percentile Queue Length [veh/ln]	1.28	9.62	1.50	4.57	5.24	4.61	1.73	1.73
50th-Percentile Queue Length [ft/ln]	32.04	240.51	37.39	114.14	130.96	115.16	43.25	43.32
95th-Percentile Queue Length [veh/ln]	2.31	14.71	2.69	8.07	8.99	8.13	3.11	3.12
95th-Percentile Queue Length [ft/ln]	57.66	367.68	67.30	201.75	224.79	203.15	77.86	77.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.58	35.37	35.37	24.28	28.21	33.23	38.94	38.94	38.94	17.46	17.58	17.72
Movement LOS	C	D	D	C	C	C	D	D	D	B	B	B
Critical Movement	No	No	No	No	No	No	No	No	Yes	No	No	No
d_A, Approach Delay [s/veh]	33.59			29.77			38.94			17.59		
Approach LOS	C			C			D			B		
d_I, Intersection Delay [s/veh]	30.24											
Intersection LOS	C											
Intersection V/C	0.738											

Option 1: Chrysler Dr/Independence Dr: Mitigation Near Term Plus Project AM

Number	213											
Intersection	Chrysler Dr/Independence Dr											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name	Chrysler Drive			Chrysler Drive						Independence Drive		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	51	29	0	31	134	168	1	0	2	124	2	24
Total Analysis Volume [veh/h]	71	53	0	43	192	224	1	0	3	265	3	36

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	634	700	630	646

Movement, Approach, & Intersection Results

Average Lane Delay [s/veh]	10.06	17.38	8.75	13.42
95th-Percentile Queue Length [veh]	0.72	4.91	0.02	2.52
95th-Percentile Queue Length [ft]	18.04	122.78	0.48	62.90
Approach Delay [s/veh]	10.06	17.38	8.75	13.42
Approach LOS	B	C	A	B
Intersection Delay [s/veh]	14.97			
Intersection LOS	B			

Option 1: Bayfront Expy/Marsh Rd: Mitigation Near Term Plus Project AM

Number	163											
Intersection	Bayfront Expy/Marsh Rd											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name				Marsh Road			Haven Avenue			Bayfront Expressway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	162	27	1502	10	30	7	8	196	296	1931	371	34
Total Analysis Volume [veh/h]	174	28	1921	10	31	7	8	216	317	2171	399	35

Intersection Settings

Cycle Length [s]	160											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	12.00											
Control Type	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	2	3	3	7	4	6	4	1	4	1	2	8
Auxiliary Signal Groups		3	2,3									
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	10	6	6	0	4	10	4	12	4	12	10	0
Maximum Green [s]	0	0	0	0	0	10	0	0	0	0	0	0
Amber [s]	4.7	3.6	3.6	0.0	3.6	3.6	3.6	3.6	3.6	3.6	4.7	0.0
All red [s]	1.0	1.0	1.0	0.0	0.5	0.5	0.5	0.0	0.5	0.0	1.0	0.0
Split [s]	82	11	11	0	32	25	32	35	32	35	82	0
Walk [s]	5	0	0	0	5	10	5	0	5	0	5	0
Pedestrian Clearance [s]	16	0	0	0	22	10	22	0	22	0	16	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall		No	No		No			No			Yes	
Maximum Recall		No	No		No			No			No	
Pedestrian Recall		No	No		Yes			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.11	0.62	0.18	0.18	0.15	0.15	0.15	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.11	0.47	0.01	0.01	0.12	0.13	0.13	0.43	0.24
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3			3	
s, saturation flow rate [veh/h]	1822	4117	1863	1610	1623	1238	1424	5075	1789
c, Capacity [veh/h]	206	2476	339	293	237	180	208	2533	893
X, volume / capacity	0.98	0.78	0.07	0.08	0.83	0.88	0.90	0.86	0.49
d, Delay for Lane Group [s/veh]	128.11	26.18	54.31	54.36	77.35	89.09	88.26	39.10	28.40
Lane Group LOS	F	C	D	D	E	F	F	D	C
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	Yes	No

50th-Percentile Queue Length [veh/ln]	11.59	18.30	0.86	0.78	8.52	7.53	8.69	25.43	11.56
50th-Percentile Queue Length [ft/ln]	289.80	457.42	21.43	19.47	212.96	188.36	217.29	635.63	289.06
95th-Percentile Queue Length [veh/ln]	17.18	25.31	1.54	1.40	13.31	12.04	13.53	33.69	17.14
95th-Percentile Queue Length [ft/ln]	429.39	632.80	38.58	35.04	332.63	300.90	338.16	842.37	428.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	128.11	128.11	26.18	54.31	54.33	54.36	77.35	78.90	88.58	39.10	28.40	28.40
Movement LOS	F	F	C	D	D	D	E	E	F	D	C	C
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	35.87			54.33			84.56			37.32		
Approach LOS	D			D			F			D		
d_I, Intersection Delay [s/veh]	41.70											
Intersection LOS	D											
Intersection V/C	0.755											

Option 1: Chrysler Dr/Constitution Dr: Mitigation Near Term Plus Project PM

Number	215											
Intersection	Chrysler Dr/Constitution Dr											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name				Chrysler Drive						Constitution Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	2	490	14	194	84	3	128	205	53	13	6	114
Total Analysis Volume [veh/h]	2	513	14	194	100	24	480	299	62	14	18	114

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Isolated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	0	4	0	0	8	0	0	6	0	0	2	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	41	0	0	41	0	0	27	0	0	22	0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.36	0.36	0.36	0.36	0.33	0.33	0.33	0.18
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.25	0.07	0.30	0.18	0.05	0.16
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3			3
s, saturation flow rate [veh/h]	1709	1539	789	1654	1609	1686	1326	905
c, Capacity [veh/h]	654	553	245	594	531	557	438	161
X, volume / capacity	0.43	0.45	0.79	0.21	0.90	0.54	0.14	0.91
d, Delay for Lane Group [s/veh]	24.11	24.79	59.45	20.80	37.46	25.37	21.34	53.36
Lane Group LOS	C	C	E	C	D	C	C	D
Critical Lane Group	No	No	Yes	No	Yes	No	No	Yes

50th-Percentile Queue Length [veh/ln]	4.72	4.35	5.82	1.89	10.77	5.17	0.92	3.84
50th-Percentile Queue Length [ft/ln]	118.12	108.74	145.54	47.29	269.25	129.21	23.01	96.03
95th-Percentile Queue Length [veh/ln]	8.29	7.77	9.78	3.40	16.15	8.90	1.66	6.91
95th-Percentile Queue Length [ft/ln]	207.24	194.24	244.47	85.12	403.81	222.42	41.42	172.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.11	24.43	24.79	59.45	20.80	20.80	37.46	25.37	21.34	53.36	53.36	53.36
Movement LOS	C	C	C	E	C	C	D	C	C	D	D	D
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	24.44			44.38			31.97			53.36		
Approach LOS	C			D			C			D		
d_I, Intersection Delay [s/veh]	33.65											
Intersection LOS	C											
Intersection V/C	0.705											

Option 1: Chrysler Dr/Independence Dr: Mitigation Near Term Plus Project PM

Number	213											
Intersection	Chrysler Dr/Independence Dr											
Control Type	All-way stop											
Analysis Method	HCM 6th Edition											
Name	Chrysler Drive									Independence Drive		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	37	101	0	1	19	65	2	0	15	244	5	53
Total Analysis Volume [veh/h]	49	124	0	1	26	98	2	0	18	315	6	66

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	691	760	769	745

Movement, Approach, & Intersection Results

Average Lane Delay [s/veh]	9.93	8.68	7.80	12.94
95th-Percentile Queue Length [veh]	0.99	0.59	0.08	3.04
95th-Percentile Queue Length [ft]	24.64	14.68	2.00	75.95
Approach Delay [s/veh]	9.93	8.68	7.80	12.94
Approach LOS	A	A	A	B
Intersection Delay [s/veh]	11.30			
Intersection LOS	B			

Option 1: Bayfront Expy/Marsh Rd: Mitigation Near Term Plus Project PM

Number	163											
Intersection	Bayfront Expy/Marsh Rd											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name				Marsh Road			Haven Avenue			Bayfront Expressway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	179	40	1834	12	31	5	9	505	208	1822	119	14
Total Analysis Volume [veh/h]	188	42	1944	13	32	5	9	536	218	2532	130	15

Intersection Settings

Cycle Length [s]	160											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	12.00											
Control Type	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	2	3	3	6	4	6	4	1	4	1	2	8
Auxiliary Signal Groups			2,3									
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	10	6	6	10	4	10	4	12	4	12	10	0
Maximum Green [s]	0	0	0	10	0	10	0	0	0	0	0	0
Amber [s]	4.7	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	4.7	0.0
All red [s]	1.0	1.0	1.0	0.5	0.5	0.5	0.5	0.0	0.5	0.0	1.0	0.0
Split [s]	82	11	11	0	32	0	32	35	32	35	82	0
Walk [s]	5	0	0	10	5	10	5	0	5	0	5	0
Pedestrian Clearance [s]	16	0	0	10	22	10	22	0	22	0	16	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0
Minimum Recall		No	No		No			No			Yes	
Maximum Recall		No	No		No			No			No	
Pedestrian Recall		No	No		No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.08	0.80	0.06	0.06	0.17	0.17	0.17	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.13	0.46	0.02	0.01	0.15	0.16	0.14	0.49	0.09
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3			3	
s, saturation flow rate [veh/h]	1825	4190	1707	1588	1891	1724	1551	5150	1647
c, Capacity [veh/h]	155	3239	137	97	319	291	262	3222	1030
X, volume / capacity	1.49	0.60	0.20	0.23	0.87	0.92	0.83	0.79	0.14
d, Delay for Lane Group [s/veh]	323.51	8.52	71.86	72.00	78.63	89.24	76.22	24.08	12.59
Lane Group LOS	F	A	E	E	E	F	E	C	B
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	Yes	No

50th-Percentile Queue Length [veh/ln]	17.14	8.96	1.10	0.89	12.27	12.74	9.49	23.41	2.27
50th-Percentile Queue Length [ft/ln]	428.60	224.01	27.52	22.30	306.86	318.49	237.26	585.15	56.65
95th-Percentile Queue Length [veh/ln]	27.12	13.87	1.98	1.61	18.02	18.59	14.54	31.34	4.08
95th-Percentile Queue Length [ft/ln]	678.02	346.74	49.54	40.15	450.51	464.83	363.56	783.51	101.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	323.51	323.51	8.52	71.86	71.94	72.00	78.63	83.94	76.22	24.08	12.59	12.59
Movement LOS	F	F	A	E	E	E	E	F	E	C	B	B
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	41.84			71.92			81.67			23.46		
Approach LOS	D			E			F			C		
d_I, Intersection Delay [s/veh]	38.78											
Intersection LOS	D											
Intersection V/C	0.902											

Attachment 3. Intersection Level of Service Results

Cumulative (2040) Plus Project Conditions

Vistro File: H:\...\2040(c)_AM.vistro
Report File: H:\...\Cumulative Plus Project_AM.pdf
Scenario 16 115 Indep - Cum Plus Proj AM
9/30/2020

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	1.044	36.7	D
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.810	32.9	C
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.795	40.0	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	NB Right	0.835	28.6	C
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	EB Left	1.042	81.2	F
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Left	1.171	101.0	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	NB Thru	1.572	325.5	F
110	Marsh Road and US 101 NB Ramps	Signalized	HCM 6th Edition	NB Thru	1.068	34.5	C
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	1.068	101.8	F
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	WB Left	1.139	61.6	E
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	WB Left	0.791	12.0	B
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	SB Right	0.862	85.3	F
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Left	1.504	394.4	F
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.284	48.3	E
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	WB Right	3.817	361.5	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Vistro File: H:\...\2040(c)_PM.vistro
Report File: H:\...\Cumulative Plus Project_PM.pdf

Scenario 16 115 Indep - Cum Plus Proj PM
9/30/2020

Intersection Analysis Summary

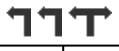
ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 6th Edition	SEB Left	0.924	41.1	D
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 6th Edition	NEB Left	0.667	22.9	C
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 6th Edition	NB Left	0.836	46.1	D
4	Marsh Rd/Bay Rd	Signalized	HCM 6th Edition	SB Left	0.714	19.9	B
5	Middlefield Rd/Marsh Rd	Signalized	HCM 6th Edition	WB Right	0.975	53.4	D
15	Bayfront Expy (SR 84) /University Ave (SR 109)	Signalized	HCM 6th Edition	NWB Right	1.394	215.2	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 6th Edition	SB Thru	2.077	372.4	F
110	Marsh Road/101 NB Ramps	Signalized	HCM 6th Edition	WB Right	0.927	17.5	B
163	Bayfront Expy/Marsh Rd	Signalized	HCM 6th Edition	NB Left	0.938	37.1	D
195	Bayfront Expy/Chilco St	Signalized	HCM 6th Edition	NB Right	1.174	67.2	E
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 6th Edition	NB Left	1.009	59.8	E
207	Chilco St/Constitution Dr	Signalized	HCM 6th Edition	EB Left	1.498	252.2	F
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 6th Edition	SEB Thru	0.011	23.8	C
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 6th Edition	NWB Left	0.179	141.8	F
215	Chrysler Dr/Constitution Dr	Signalized	HCM 6th Edition	SB Left	2.569	242.7	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Attachment 3. Intersection Level of Service Results

Cumulative (2040) Plus Project Conditions, With Modifications

Option 1: Bayfront Expy/Chrysler Drive: Mitigation Cumulative Plus Project AM

Number	196					
Intersection	Bayfront Expy/Chrysler Drive					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name	Chrysler Drive		Bayfront Expy		Bayfront Expy	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Base Volume Input [veh/h]	298	71	1817	156	191	2914
Total Analysis Volume [veh/h]	312	70	1910	160	159	3026

Intersection Settings

Cycle Length [s]	90					
Coordination Type	Free Running					
Actuation Type	Fully actuated					
Lost time [s]	9.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Protected	Permissive
Signal Group	4	7	6	0	5	2
Auxiliary Signal Groups						
Lead / Lag	Lag	-	-	-	Lead	-
Minimum Green [s]	5	5	10	0	7	10
Maximum Green [s]	25	30	50	0	20	50
Amber [s]	4.1	3.0	5.2	0.0	3.6	5.2
All red [s]	0.5	1.0	1.0	0.0	0.5	1.0
Split [s]	0	0	0	0	0	0
Walk [s]	7	0	7	0	0	0
Pedestrian Clearance [s]	26	0	21	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No		Yes		No	Yes
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

Lane Group Calculations

g / C, Green / Cycle	0.12	0.12	0.58	0.58	0.11	0.74
(v / s)_i Volume / Saturation Flow Rate	0.08	0.08	0.39	0.11	0.09	0.60
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3	
s, saturation flow rate [veh/h]	3173	1586	4959	1493	1810	5024
c, Capacity [veh/h]	371	186	2869	864	200	3729
X, volume / capacity	0.69	0.69	0.67	0.19	0.80	0.81
d, Delay for Lane Group [s/veh]	34.77	37.00	11.36	7.72	36.05	6.86
Lane Group LOS	C	D	B	A	D	A
Critical Lane Group	No	Yes	No	No	No	Yes

50th-Percentile Queue Length [veh/ln]	2.35	2.47	5.66	0.99	2.83	5.02
50th-Percentile Queue Length [ft/ln]	58.71	61.72	141.59	24.75	70.83	125.61
95th-Percentile Queue Length [veh/ln]	4.23	4.44	9.57	1.78	5.10	8.70
95th-Percentile Queue Length [ft/ln]	105.67	111.09	239.17	44.55	127.49	217.52

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.18	37.00	11.36	7.72	36.05	6.86
Movement LOS	D	D	B	A	D	A
Critical Movement	No	Yes	No	No	No	No
d_A, Approach Delay [s/veh]	35.52		11.08		8.31	
Approach LOS	D		B		A	
d_I, Intersection Delay [s/veh]	11.17					
Intersection LOS	B					
Intersection V/C	0.774					

Option 1: Chrysler Dr/Constitution Dr: Mitigation Cumulative Plus Project AM

Number	215											
Intersection	Chrysler Dr/Constitution Dr											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	Chrysler Drive			Constitution Drive			Constitution Drive			Chrysler Drive		
Approach	Southbound			Eastbound			Westbound			Northeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	79	417	99	107	250	327	119	74	162	4	231	88
Total Analysis Volume [veh/h]	88	451	81	102	277	414	129	79	180	2	276	97

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Isolated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Split	Split	Split
Signal Group	0	6	0	3	8	0	7	4	0	0	2	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	25	0	0	46	0	0	46	0	0	19	0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.06	0.34	0.10	0.16	0.29	0.41	0.13	0.14	0.14
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3			3		3	
s, saturation flow rate [veh/h]	1461	1542	1006	1699	1414	509	1341	1467	1195
c, Capacity [veh/h]	500	528	88	584	486	242	461	259	211
X, volume / capacity	0.18	1.01	1.16	0.47	0.85	0.86	0.39	0.78	0.82
d, Delay for Lane Group [s/veh]	20.24	67.80	139.58	23.05	38.86	65.61	22.25	39.39	42.36
Lane Group LOS	C	F	F	C	D	E	C	D	D
Critical Lane Group	No	Yes	No	No	No	Yes	No	No	Yes

50th-Percentile Queue Length [veh/ln]	1.24	16.21	4.22	4.41	9.27	6.51	2.78	4.37	3.92
50th-Percentile Queue Length [ft/ln]	31.09	405.16	105.55	110.15	231.87	162.68	69.40	109.18	97.88
95th-Percentile Queue Length [veh/ln]	2.24	22.92	7.60	7.85	14.27	10.69	5.00	7.79	7.05
95th-Percentile Queue Length [ft/ln]	55.96	573.00	189.99	196.21	356.74	267.26	124.92	194.86	176.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	20.24	67.80	67.80	139.58	23.05	38.86	65.61	65.61	22.25	39.39	40.21	42.36
Movement LOS	C	E	E	F	C	D	E	E	C	D	D	D
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	61.05			46.29			45.49			40.76		
Approach LOS	E			D			D			D		
d_I, Intersection Delay [s/veh]	49.40											
Intersection LOS	D											
Intersection V/C	0.898											

Option 2: Chrysler Dr/Independence Dr: Mitigation Cumulative Plus Project AM_Signal

Number	213											
Intersection	Chrysler Dr/Independence Dr											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	Chrysler Drive			Chrysler Drive						Independence Drive		
Approach	Northbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	53	67	5	31	136	199	29	11	91	176	2	72
Total Analysis Volume [veh/h]	71	106	7	43	196	236	40	15	126	265	3	100

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	8	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	53	0	0	53	0	0	37	0	0	37	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.49	0.49	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.22	0.45	0.12	0.30
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900
Arrival type	3	3	3	3
s, saturation flow rate [veh/h]	835	1046	1554	1225
c, Capacity [veh/h]	513	594	625	550
X, volume / capacity	0.36	0.80	0.29	0.67
d, Delay for Lane Group [s/veh]	7.46	16.90	11.96	15.96
Lane Group LOS	A	B	B	B
Critical Lane Group	No	Yes	No	Yes

50th-Percentile Queue Length [veh/ln]	0.87	4.25	1.28	3.36
50th-Percentile Queue Length [ft/ln]	21.66	106.18	32.12	83.95
95th-Percentile Queue Length [veh/ln]	1.56	7.63	2.31	6.04
95th-Percentile Queue Length [ft/ln]	38.98	190.68	57.81	151.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.46	7.46	7.46	16.90	16.90	16.90	11.96	11.96	11.96	15.96	15.96	15.96
Movement LOS	A	A	A	B	B	B	B	B	B	B	B	B
Critical Movement	No	No	No	No	No	Yes	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	7.46			16.90			11.96			15.96		
Approach LOS	A			B			B			B		
d_I, Intersection Delay [s/veh]	14.44											
Intersection LOS	B											
Intersection V/C	0.755											

Option 2: Chrysler Dr/Jefferson Dr: Mitigation Cumulative Plus Project AM_Signal

Number	214					
Intersection	Chrysler Dr/Jefferson Dr					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name	Chrysler Drive		Chrysler Drive		Jefferson Drive	
Approach	Southbound		Northeastbound		Northwestbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Base Volume Input [veh/h]	333	298	135	69	25	107
Total Analysis Volume [veh/h]	429	299	134	115	29	146

Intersection Settings

Cycle Length [s]	70					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	0	8	4	0	2	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	0	5	5	0	5	0
Maximum Green [s]	0	30	30	0	30	0
Amber [s]	0.0	3.0	3.0	0.0	3.0	0.0
All red [s]	0.0	1.0	1.0	0.0	1.0	0.0
Split [s]	0	49	49	0	21	0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall		No	No		No	
Maximum Recall		No	No		No	
Pedestrian Recall		No	No		No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

Lane Group Calculations

g / C, Green / Cycle	0.67	0.67	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.77	0.20	0.02	0.12
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900
Arrival type	3	3	3	
s, saturation flow rate [veh/h]	945	1255	1629	1245
c, Capacity [veh/h]	761	841	246	188
X, volume / capacity	0.96	0.30	0.12	0.78
d, Delay for Lane Group [s/veh]	35.00	3.23	16.64	25.03
Lane Group LOS	D	A	B	C
Critical Lane Group	Yes	No	No	Yes

50th-Percentile Queue Length [veh/ln]	10.26	0.42	0.25	1.66
50th-Percentile Queue Length [ft/ln]	256.49	10.44	6.19	41.47
95th-Percentile Queue Length [veh/ln]	15.51	0.75	0.45	2.99
95th-Percentile Queue Length [ft/ln]	387.82	18.78	11.14	74.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	35.00	35.00	3.23	3.23	16.64	25.03
Movement LOS	D	D	A	A	B	C
Critical Movement	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	35.00		3.23		23.64	
Approach LOS	D		A		C	
d_I, Intersection Delay [s/veh]	26.41					
Intersection LOS	C					
Intersection V/C	0.888					

Option 1: Bayfront Expy/Marsh Rd: Mitigation Cumulative Plus Project AM

Number	163											
Intersection	Bayfront Expy/Marsh Rd											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name				Marsh Road			Haven Avenue			Bayfront Expressway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	199	49	1832	10	35	8	9	212	385	2677	407	34
Total Analysis Volume [veh/h]	207	51	1921	10	36	8	9	245	401	2801	439	35

Intersection Settings

Cycle Length [s]	160											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	12.00											
Control Type	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	2	3	3	6	4	6	4	1	4	8	2	8
Auxiliary Signal Groups		3	2,3									
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	10	6	6	0	4	0	4	12	4	0	10	0
Maximum Green [s]	0	0	0	0	0	0	0	0	0	0	0	0
Amber [s]	4.7	3.6	3.6	0.0	3.6	0.0	3.6	3.6	3.6	0.0	4.7	0.0
All red [s]	1.0	1.0	1.0	0.0	0.5	0.0	0.5	0.0	0.5	0.0	1.0	0.0
Split [s]	82	11	11	0	32	0	32	35	32	0	82	0
Walk [s]	5	0	0	0	5	0	5	5	5	0	5	0
Pedestrian Clearance [s]	16	0	0	0	22	0	22	26	22	0	16	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall		No	No		No			No			Yes	
Maximum Recall		No	No		No			No			No	
Pedestrian Recall		No	No		Yes			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.09	0.60	0.18	0.18	0.18	0.18	0.18	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.14	0.47	0.02	0.02	0.15	0.16	0.16	0.55	0.26
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3			3	
s, saturation flow rate [veh/h]	1827	4119	1867	1608	1624	1221	1434	5075	1792
c, Capacity [veh/h]	166	2386	340	293	289	217	255	2534	895
X, volume / capacity	1.55	0.81	0.08	0.09	0.83	0.88	0.88	1.11	0.53
d, Delay for Lane Group [s/veh]	347.89	29.43	54.41	54.46	77.40	89.47	86.63	94.11	29.52
Lane Group LOS	F	C	D	D	E	F	F	F	C
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	Yes	No

50th-Percentile Queue Length [veh/ln]	19.59	19.57	0.97	0.88	10.58	9.13	10.53	45.32	13.03
50th-Percentile Queue Length [ft/ln]	489.73	489.28	24.16	21.93	264.51	228.36	263.22	1132.98	325.78
95th-Percentile Queue Length [veh/ln]	30.85	26.83	1.74	1.58	15.91	14.09	15.85	60.99	18.95
95th-Percentile Queue Length [ft/ln]	771.21	670.66	43.49	39.48	397.87	352.28	396.26	1524.85	473.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	347.89	347.89	29.43	54.41	54.43	54.46	77.40	78.11	87.81	94.11	29.52	29.52
Movement LOS	F	F	C	D	D	D	E	E	F	F	C	C
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	67.13			54.43			84.08			84.76		
Approach LOS	E			D			F			F		
d_I, Intersection Delay [s/veh]	78.19											
Intersection LOS	E											
Intersection V/C	0.936											

Option 1: Bayfront Expy/Chrysler Drive: Mitigation Cumulative Plus Project PM

Number	196					
Intersection	Bayfront Expy/Chrysler Drive					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name	Chrysler Drive		Bayfront Expy		Bayfront Expy	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Base Volume Input [veh/h]	1249	114	2516	167	77	1716
Total Analysis Volume [veh/h]	1274	80	2567	170	68	1793

Intersection Settings

Cycle Length [s]	90					
Coordination Type	Free Running					
Actuation Type	Fully actuated					
Lost time [s]	9.00					
Control Type	Split	Split	Permissive	Permissive	Protected	Permissive
Signal Group	4	0	6	0	5	2
Auxiliary Signal Groups						
Lead / Lag	Lag	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Maximum Green [s]	25	0	50	0	20	50
Amber [s]	4.1	0.0	5.2	0.0	3.6	5.2
All red [s]	0.5	0.0	1.0	0.0	0.5	1.0
Split [s]	0	0	0	0	0	0
Walk [s]	7	0	7	0	0	0
Pedestrian Clearance [s]	26	0	21	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Minimum Recall	No		Yes		No	Yes
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

Lane Group Calculations

g / C, Green / Cycle	0.26	0.26	0.53	0.53	0.05	0.62
(v / s)_i Volume / Saturation Flow Rate	0.26	0.26	0.51	0.11	0.04	0.36
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3	
s, saturation flow rate [veh/h]	3464	1773	5061	1569	1810	4975
c, Capacity [veh/h]	916	469	2674	829	90	3092
X, volume / capacity	0.97	0.99	0.96	0.21	0.75	0.58
d, Delay for Lane Group [s/veh]	38.51	70.18	22.57	11.82	49.02	10.66
Lane Group LOS	D	E	C	B	D	B
Critical Lane Group	No	Yes	Yes	No	Yes	No

50th-Percentile Queue Length [veh/ln]	10.48	15.10	15.60	1.69	1.63	5.98
50th-Percentile Queue Length [ft/ln]	262.02	377.57	389.99	42.15	40.72	149.48
95th-Percentile Queue Length [veh/ln]	15.79	21.48	22.08	3.03	2.93	9.99
95th-Percentile Queue Length [ft/ln]	394.76	536.91	551.92	75.86	73.30	249.74

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.03	70.18	22.57	11.82	49.02	10.66
Movement LOS	D	E	C	B	D	B
Critical Movement	No	Yes	No	No	No	No
d_A, Approach Delay [s/veh]	49.38		21.90		12.06	
Approach LOS	D		C		B	
d_I, Intersection Delay [s/veh]	25.07					
Intersection LOS	C					
Intersection V/C	0.892					

Option 1: Chrysler Dr/Constitution Dr: Mitigation Cumulative Plus Project PM

Number	215											
Intersection	Chrysler Dr/Constitution Dr											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	Chrysler Drive			Chrysler Drive			Constitution Drive			Constitution Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	3	762	147	334	99	35	544	325	82	15	19	283
Total Analysis Volume [veh/h]	2	790	144	334	100	24	480	322	99	14	18	283

Intersection Settings

Cycle Length [s]	90											
Coordination Type	Time of Day Pattern Isolated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	8	0	5	6	0	0	2	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	4	0	0	4	0	4	4	0	0	4	0
Maximum Green [s]	0	26	0	0	46	0	16	26	0	0	21	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	41	0	0	41	0	11	27	0	0	22	0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.41	0.41	0.41	0.41	0.25	0.25	0.25	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.29	0.30	0.62	0.08	0.30	0.19	0.08	0.03	0.20
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3			3	
s, saturation flow rate [veh/h]	1704	1467	541	1651	1609	1686	1313	1012	1384
c, Capacity [veh/h]	743	605	159	681	410	429	334	202	277
X, volume / capacity	0.68	0.72	2.10	0.18	1.17	0.75	0.30	0.16	1.02
d, Delay for Lane Group [s/veh]	26.93	29.21	556.16	17.40	132.87	35.73	27.54	30.12	86.51
Lane Group LOS	C	C	F	B	F	D	C	C	F
Critical Lane Group	No	No	Yes	No	Yes	No	No	No	Yes

50th-Percentile Queue Length [veh/ln]	9.43	8.47	26.28	1.70	19.95	6.84	1.73	0.59	9.80
50th-Percentile Queue Length [ft/ln]	235.77	211.84	657.05	42.42	498.66	170.98	43.26	14.65	245.09
95th-Percentile Queue Length [veh/ln]	14.47	13.25	46.46	3.05	29.77	11.13	3.11	1.05	15.11
95th-Percentile Queue Length [ft/ln]	361.68	331.19	1161.57	76.35	744.27	278.20	77.86	26.37	377.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.93	27.77	29.21	556.16	17.40	17.40	132.87	35.73	27.54	30.12	30.12	86.51
Movement LOS	C	C	C	F	B	B	F	D	C	C	C	F
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	27.99			410.29			86.58			80.78		
Approach LOS	C			F			F			F		
d_I, Intersection Delay [s/veh]	121.67											
Intersection LOS	F											
Intersection V/C	1.120											

Option 2: Chrysler Dr/Independence Dr: Mitigation Cumulative Plus Project PM_Signal

Number	213											
Intersection	Chrysler Dr/Independence Dr											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name	Chrysler Drive									Independence Drive		
Approach	Northeastbound			Southwestbound			Northwestbound			Southeastbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	41	139	0	1	28	92	2	0	15	316	5	67
Total Analysis Volume [veh/h]	49	176	0	1	46	98	2	0	18	320	6	79

Intersection Settings

Cycle Length [s]	110											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											
Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	4	0	0	8	0	0	2	0	0	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	28	0	0	28	0	0	82	0	0	82	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.20	0.20	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.14	0.09	0.01	0.29
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900
Arrival type	3	3	3	3
s, saturation flow rate [veh/h]	1650	1634	1545	1413
c, Capacity [veh/h]	567	522	779	867
X, volume / capacity	0.40	0.28	0.03	0.47
d, Delay for Lane Group [s/veh]	7.24	6.77	3.76	5.39
Lane Group LOS	A	A	A	A
Critical Lane Group	Yes	No	No	Yes

50th-Percentile Queue Length [veh/ln]	0.37	0.23	0.01	0.27
50th-Percentile Queue Length [ft/ln]	9.29	5.66	0.24	6.79
95th-Percentile Queue Length [veh/ln]	0.67	0.41	0.02	0.49
95th-Percentile Queue Length [ft/ln]	16.71	10.19	0.43	12.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.24	7.24	7.24	6.77	6.77	6.77	3.76	3.76	3.76	5.39	5.39	5.39
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
Critical Movement	No	Yes	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	7.24			6.77			3.76			5.39		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	6.12											
Intersection LOS	A											
Intersection V/C	0.423											

Option 2: Chrysler Dr/Jefferson Dr: Mitigation Cumulative Plus Project PM_Signal

Number	214					
Intersection	Chrysler Dr/Jefferson Dr					
Control Type	Signalized					
Analysis Method	HCM 6th Edition					
Name			Chrysler Drive		Jefferson Drive	
Approach	Northeastbound		Southwestbound		Northwestbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Base Volume Input [veh/h]	428	185	151	94	23	371
Total Analysis Volume [veh/h]	428	235	207	102	33	541

Intersection Settings

Cycle Length [s]	100					
Coordination Type	Time of Day Pattern Coordinated					
Actuation Type	Fully actuated					
Lost time [s]	0.00					
Control Type	Permissive	Permissive	Permissive	Permissive	Split	Split
Signal Group	4	0	0	8	2	0
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	Lead	-
Minimum Green [s]	5	0	0	5	5	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	78	0	0	78	22	0
Walk [s]	5	0	0	5	5	0
Pedestrian Clearance [s]	10	0	0	10	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Pedestrian Signal Group	0					
Pedestrian Walk [s]	0					
Pedestrian Clearance [s]	0					

Lane Group Calculations

g / C, Green / Cycle	0.47	0.47	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.41	0.84	0.02	0.38
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900
Arrival type	3	3	3	
s, saturation flow rate [veh/h]	1599	367	1629	1428
c, Capacity [veh/h]	751	266	660	579
X, volume / capacity	0.88	1.16	0.05	0.94
d, Delay for Lane Group [s/veh]	26.25	130.59	11.57	35.57
Lane Group LOS	C	F	B	D
Critical Lane Group	No	Yes	No	Yes

50th-Percentile Queue Length [veh/ln]	9.69	11.77	0.26	9.47
50th-Percentile Queue Length [ft/ln]	242.36	294.30	6.60	236.80
95th-Percentile Queue Length [veh/ln]	14.80	19.10	0.48	14.52
95th-Percentile Queue Length [ft/ln]	370.01	477.45	11.88	362.98

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.25	26.25	130.59	130.59	11.57	35.57
Movement LOS	C	C	F	F	B	D
Critical Movement	No	No	Yes	No	No	No
d_A, Approach Delay [s/veh]	26.25		130.59		34.19	
Approach LOS	C		F		C	
d_I, Intersection Delay [s/veh]	50.05					
Intersection LOS	D					
Intersection V/C	1.222					

Generated with PTV VISTRO

Version 2020 (SP 0-7)

Option 1: Bayfront Expy/Marsh Rd: Mitigation Cumulative Plus Project PM

Number	163											
Intersection	Bayfront Expy/Marsh Rd											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name				Marsh Road			Haven Avenue			Bayfront Expressway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	180	40	2131	16	31	5	9	518	209	2657	132	14
Total Analysis Volume [veh/h]	188	42	2220	17	32	5	9	540	218	2782	166	15

Intersection Settings

Cycle Length [s]	160											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	12.00											
Control Type	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss	Split	Split	Split	Split	Split	Split
Signal Group	2	3	3	6	4	6	4	1	4	8	2	8
Auxiliary Signal Groups			2,3									
Lead / Lag	Lag	-	-	-	-	-	Lag	-	-	-	-	-
Minimum Green [s]	10	6	6	0	4	0	4	12	4	0	10	0
Maximum Green [s]	0	0	0	0	0	0	0	0	0	0	0	0
Amber [s]	4.7	3.6	3.6	0.0	3.6	0.0	3.6	3.6	3.6	0.0	4.7	0.0
All red [s]	1.0	1.0	1.0	0.0	0.5	0.0	0.5	0.0	0.5	0.0	1.0	0.0
Split [s]	82	11	11	0	32	0	32	35	32	0	82	0
Walk [s]	5	0	0	0	5	0	5	0	5	0	5	0
Pedestrian Clearance [s]	16	0	0	0	22	0	22	0	22	0	16	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall		No	No		No			No			Yes	
Maximum Recall		No	No		No			No			No	
Pedestrian Recall		No	No		No			No			No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.08	0.79	0.04	0.04	0.17	0.17	0.17	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.13	0.53	0.02	0.01	0.15	0.16	0.14	0.54	0.11
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3			3	
s, saturation flow rate [veh/h]	1825	4190	1522	1652	1891	1724	1587	5150	1657
c, Capacity [veh/h]	152	3233	101	72	322	293	270	3311	1066
X, volume / capacity	1.51	0.69	0.30	0.33	0.86	0.92	0.81	0.84	0.17
d, Delay for Lane Group [s/veh]	333.66	10.08	75.29	75.29	78.37	89.60	73.53	24.93	11.79
Lane Group LOS	F	B	E	E	E	F	E	C	B
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	Yes	No

50th-Percentile Queue Length [veh/ln]	17.31	11.80	1.23	0.98	12.32	12.89	9.32	26.98	2.74
50th-Percentile Queue Length [ft/ln]	432.74	294.97	30.85	24.57	308.09	322.36	232.91	674.52	68.39
95th-Percentile Queue Length [veh/ln]	27.42	17.43	2.22	1.77	18.08	18.78	14.32	35.50	4.92
95th-Percentile Queue Length [ft/ln]	685.51	435.80	55.53	44.23	452.02	469.58	358.06	887.49	123.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	333.66	333.66	10.08	75.29	75.29	75.29	78.37	84.00	73.53	24.93	11.79	11.79
Movement LOS	F	F	B	E	E	E	E	F	E	C	B	B
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	40.46			75.29			80.96			24.13		
Approach LOS	D			E			F			C		
d_I, Intersection Delay [s/veh]	37.98											
Intersection LOS	D											
Intersection V/C	0.939											

APPENDIX F

AIR QUALITY/GREENHOUSE GAS EMISSIONS DATA

This page intentionally left blank

Menlo Portal Project

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	34.71	1000sqft	0.02	34,706.00	0
Unenclosed Parking with Elevator	417.00	Space	1.00	136,054.00	0
City Park	1.18	Acre	1.18	51,319.00	0
Apartments Mid Rise	335.00	Dwelling Unit	1.00	327,970.00	958

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity based on 5-year average (PG&E, 2015)

Land Use - The propsed project would develop the project site with a 327,970-gross-square-foot (gsf), multi-family apartment building with approximately 335 dwelling units, an approximately 34,706 gsf commercial office building, as well as associated open space, circulation and parking, and infrastructure improvements.

Construction Phase - Construction is expected to begin May 2021 and end summer 2024. Phasing based on assumptions provided by Project Applicant. Architectural Coating and Paving phases are default duration.

Grading - A total of 5,000 cubic yards of soils would be imported.

Demolition - Approximately 64,832 building square footage to be demolished.

Trips and VMT - For soil import haul trips, assuming 16 cubic yards of material per load consistent with CalEEMod defaults.

Vehicle Trips - Based on trip generation prepared for the project.

Woodstoves - Assuming no hearth as the proposed project would not increase the demand for natural gas as the City's REACH codes would require the buildings to be all electric.

Stationary Sources - Emergency Generators and Fire Pumps - Assuming the emergency generators would run 50 hours per year for testing and emergency use.

Construction Off-road Equipment Mitigation - Assuming compliance with BAAQMD Basic Construction Mitigation Measures and tier 2 construction equipment

Energy Mitigation - Assuming compliance with 2019 Title 24 standards, installation of high efficiency lighting, on-site renewable energy generating 10 percent of electricity use, and energy-efficient appliances.

Water Mitigation - Assuming low-flow appliances.

Waste Mitigation - Consistent with the CalRecycle Waste Diversion and Recycling Mandate which will reduce solid waste production by 75 percent.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	230.00	887.00
tblConstructionPhase	NumDays	20.00	53.00
tblConstructionPhase	NumDays	8.00	38.00
tblConstructionPhase	NumDays	8.00	40.00
tblConstructionPhase	NumDays	5.00	26.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblFireplaces	NumberGas	50.25	0.00
tblFireplaces	NumberNoFireplace	13.40	335.00
tblFireplaces	NumberWood	56.95	0.00
tblGrading	AcresOfGrading	19.00	3.20
tblGrading	AcresOfGrading	20.00	3.20
tblGrading	MaterialImported	0.00	5,000.00
tblLandUse	LandUseSquareFeet	34,710.00	34,706.00
tblLandUse	LandUseSquareFeet	166,800.00	136,054.00
tblLandUse	LandUseSquareFeet	51,400.80	51,319.00
tblLandUse	LandUseSquareFeet	335,000.00	327,970.00
tblLandUse	LotAcreage	0.80	0.02
tblLandUse	LotAcreage	3.75	1.00
tblLandUse	LotAcreage	8.82	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	335.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.14
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	ST_TR	6.39	4.87
tblVehicleTrips	ST_TR	22.75	0.00

tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	5.86	4.87
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	6.65	4.87
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	11.03	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4371	4.1314	3.2136	7.7600e-003	0.7249	0.1784	0.9033	0.3227	0.1658	0.4884	0.0000	696.9576	696.9576	0.1201	0.0000	699.9602
2022	0.4486	3.6588	3.9048	0.0109	0.4832	0.1315	0.6147	0.1303	0.1237	0.2539	0.0000	985.3563	985.3563	0.1076	0.0000	988.0454
2023	0.4084	3.1888	3.7595	0.0107	0.4817	0.1127	0.5944	0.1299	0.1060	0.2359	0.0000	961.5231	961.5231	0.1039	0.0000	964.1207
2024	2.6906	1.3563	1.6792	4.6500e-003	0.2084	0.0458	0.2542	0.0562	0.0430	0.0992	0.0000	419.2815	419.2815	0.0479	0.0000	420.4792
Maximum	**2.6906**	**4.1314**	**3.9048**	**0.0109**	**0.7249**	**0.1784**	**0.9033**	**0.3227**	**0.1658**	**0.4884**	**0.0000**	**985.3563**	**985.3563**	**0.1201**	**0.0000**	**988.0454**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2482	4.5369	3.5267	7.7600e-003	0.4470	0.1285	0.5755	0.1778	0.1283	0.3061	0.0000	696.9572	696.9572	0.1201	0.0000	699.9597
2022	0.3507	4.8992	4.1412	0.0109	0.4832	0.1462	0.6295	0.1303	0.1459	0.2762	0.0000	985.3558	985.3558	0.1076	0.0000	988.0450
2023	0.3317	4.6193	4.0138	0.0107	0.4817	0.1445	0.6262	0.1299	0.1443	0.2741	0.0000	961.5227	961.5227	0.1039	0.0000	964.1203
2024	2.6633	2.0990	1.8030	4.6500e-003	0.2084	0.0666	0.2749	0.0562	0.0665	0.1226	0.0000	419.2813	419.2813	0.0479	0.0000	420.4790
Maximum	**2.6633**	**4.8992**	**4.1412**	**0.0109**	**0.4832**	**0.1462**	**0.6295**	**0.1778**	**0.1459**	**0.3061**	**0.0000**	**985.3558**	**985.3558**	**0.1201**	**0.0000**	**988.0450**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	**9.81**	**-30.98**	**-7.39**	**0.00**	**14.64**	**-3.73**	**11.01**	**22.68**	**-10.60**	**9.13**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-3-2021	8-2-2021	1.9156	1.7859
2	8-3-2021	11-2-2021	1.8798	2.0915
3	11-3-2021	2-2-2022	1.1057	1.3432
4	2-3-2022	5-2-2022	1.0030	1.2819
5	5-3-2022	8-2-2022	1.0303	1.3186
6	8-3-2022	11-2-2022	1.0339	1.3223
7	11-3-2022	2-2-2023	0.9954	1.3031
8	2-3-2023	5-2-2023	0.8821	1.2131

9	5-3-2023	8-2-2023	0.9065	1.2486
10	8-3-2023	11-2-2023	0.9095	1.2516
11	11-3-2023	2-2-2024	0.8976	1.2545
12	2-3-2024	5-2-2024	0.8450	1.2199
13	5-3-2024	8-2-2024	2.7622	2.8580
		Highest	2.7622	2.8580

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7790	0.0326	2.7297	9.1000e-004		0.0528	0.0528		0.0528	0.0528	5.2249	4.0712	9.2961	0.0284	0.0000	10.0048
Energy	0.0194	0.1677	0.0850	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	506.7758	506.7758	0.0315	9.2600e-003	510.3228
Mobile	0.3489	1.5878	3.9434	0.0152	1.4021	0.0124	1.4145	0.3763	0.0116	0.3878	0.0000	1,397.1281	1,397.1281	0.0475	0.0000	1,398.3167
Stationary	0.0137	0.0384	0.0350	7.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	6.3784	6.3784	8.9000e-004	0.0000	6.4007
Waste						0.0000	0.0000		0.0000	0.0000	37.8538	0.0000	37.8538	2.2371	0.0000	93.7811
Water						0.0000	0.0000		0.0000	0.0000	8.8818	32.4830	41.3648	0.9151	0.0221	70.8380
Total	**2.1610**	**1.8264**	**6.7932**	**0.0172**	**1.4021**	**0.0806**	**1.4827**	**0.3763**	**0.0798**	**0.4561**	**51.9604**	**1,946.8365**	**1,998.7969**	**3.2604**	**0.0314**	**2,089.6641**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7527	0.0287	2.4905	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0712	4.0712	3.9200e-003	0.0000	4.1692
Energy	0.0184	0.1589	0.0803	1.0000e-003		0.0127	0.0127		0.0127	0.0127	0.0000	479.3587	479.3587	0.0297	8.7600e-003	482.7132
Mobile	0.3319	1.4856	3.5483	0.0133	1.2114	0.0109	1.2223	0.3251	0.0102	0.3353	0.0000	1,221.6554	1,221.6554	0.0429	0.0000	1,222.7267
Stationary	0.0137	0.0384	0.0350	7.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	6.3784	6.3784	8.9000e-004	0.0000	6.4007
Waste						0.0000	0.0000		0.0000	0.0000	9.4634	0.0000	9.4634	0.5593	0.0000	23.4453
Water						0.0000	0.0000		0.0000	0.0000	7.1054	27.9645	35.0699	0.7323	0.0177	58.6636
Total	**2.1167**	**1.7115**	**6.1542**	**0.0145**	**1.2114**	**0.0394**	**1.2508**	**0.3251**	**0.0387**	**0.3638**	**16.5688**	**1,739.4282**	**1,755.9970**	**1.3689**	**0.0265**	**1,798.1187**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	2.05	6.29	9.41	15.96	13.60	51.09	15.64	13.60	51.50	20.23	68.11	10.65	12.15	58.01	15.58	13.95

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/3/2021	7/2/2021	6	53	
2	Site Preparation	Site Preparation	7/5/2021	8/3/2021	6	26	
3	Rough Grading	Grading	7/5/2021	8/17/2021	6	38	
4	Fine Grading	Grading	8/2/2021	9/16/2021	6	40	
5	Building Construction	Building Construction	8/2/2021	5/31/2024	6	887	
6	Paving	Paving	6/3/2024	6/22/2024	6	18	
7	Architectural Coating	Architectural Coating	6/3/2024	6/22/2024	6	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1

Residential Indoor: 664,139; Residential Outdoor: 221,380; Non-Residential Indoor: 52,059; Non-Residential Outdoor: 17,353; Striped Parking Area: 8,163 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Rough Grading	Excavators	1	8.00	158	0.38
Rough Grading	Graders	1	8.00	187	0.41
Rough Grading	Rubber Tired Dozers	1	8.00	247	0.40
Rough Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Fine Grading	Excavators	1	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	295.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	6	15.00	0.00	625.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	331.00	72.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	66.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0319	0.0000	0.0319	4.8300e-003	0.0000	4.8300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0839	0.8332	0.5715	1.0300e-003		0.0411	0.0411		0.0382	0.0382	0.0000	90.1021	90.1021	0.0254	0.0000	90.7361
Total	**0.0839**	**0.8332**	**0.5715**	**1.0300e-003**	**0.0319**	**0.0411**	**0.0730**	**4.8300e-003**	**0.0382**	**0.0430**	**0.0000**	**90.1021**	**90.1021**	**0.0254**	**0.0000**	**90.7361**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1600e-003	0.0388	8.4800e-003	1.1000e-004	2.4900e-003	1.2000e-004	2.6100e-003	6.9000e-004	1.2000e-004	8.0000e-004	0.0000	11.1590	11.1590	5.7000e-004	0.0000	11.1733
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	8.4000e-004	8.9200e-003	3.0000e-005	3.1400e-003	2.0000e-005	3.1600e-003	8.4000e-004	2.0000e-005	8.5000e-004	0.0000	2.6553	2.6553	6.0000e-005	0.0000	2.6568
Total	**2.3800e-003**	**0.0407**	**0.0174**	**1.4000e-004**	**5.6300e-003**	**1.4000e-004**	**5.7700e-003**	**1.5300e-003**	**1.4000e-004**	**1.6500e-003**	**0.0000**	**13.8143**	**13.8143**	**6.3000e-004**	**0.0000**	**13.8300**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0144	0.0000	0.0144	2.1700e-003	0.0000	2.1700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0334	0.8656	0.6539	1.0300e-003		0.0242	0.0242		0.0242	0.0242	0.0000	90.1020	90.1020	0.0254	0.0000	90.7360
Total	**0.0334**	**0.8656**	**0.6539**	**1.0300e-003**	**0.0144**	**0.0242**	**0.0386**	**2.1700e-003**	**0.0242**	**0.0264**	**0.0000**	**90.1020**	**90.1020**	**0.0254**	**0.0000**	**90.7360**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1600e-003	0.0368	8.4800e-003	1.1000e-004	2.4900e-003	1.2000e-004	2.6100e-003	6.9000e-004	1.2000e-004	8.0000e-004	0.0000	11.1590	11.1590	5.7000e-004	0.0000	11.1734
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	8.4000e-004	8.9200e-003	3.0000e-005	3.1400e-003	2.0000e-005	3.1600e-003	8.4000e-004	2.0000e-005	8.5000e-004	0.0000	2.6553	2.6553	6.0000e-005	0.0000	2.6568
Total	**2.3800e-003**	**0.0417**	**0.0174**	**1.4000e-004**	**5.6300e-003**	**1.4000e-004**	**5.7700e-003**	**1.5300e-003**	**1.4000e-004**	**1.6500e-003**	**0.0000**	**13.8143**	**13.8143**	**6.3000e-004**	**0.0000**	**13.8300**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2349	0.0000	0.2349	0.1291	0.0000	0.1291	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0506	0.5265	0.2750	4.9000e-004		0.0266	0.0266		0.0245	0.0245	0.0000	43.4664	43.4664	0.0141	0.0000	43.8179
Total	**0.0506**	**0.5265**	**0.2750**	**4.9000e-004**	**0.2349**	**0.0266**	**0.2614**	**0.1291**	**0.0245**	**0.1536**	**0.0000**	**43.4664**	**43.4664**	**0.0141**	**0.0000**	**43.8179**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.0000e-004	5.2500e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5631	1.5631	4.0000e-005	0.0000	1.5640
Total	**7.2000e-004**	**5.0000e-004**	**5.2500e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.5631**	**1.5631**	**4.0000e-005**	**0.0000**	**1.5640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1057	0.0000	0.1057	0.0581	0.0000	0.0581	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0157	0.4384	0.2985	4.9000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	43.4664	43.4664	0.0141	0.0000	43.8178
Total	**0.0157**	**0.4384**	**0.2985**	**4.9000e-004**	**0.1057**	**0.0123**	**0.1180**	**0.0581**	**0.0123**	**0.0704**	**0.0000**	**43.4664**	**43.4664**	**0.0141**	**0.0000**	**43.8178**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.0000e-004	5.2500e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5631	1.5631	4.0000e-005	0.0000	1.5640
Total	**7.2000e-004**	**5.0000e-004**	**5.2500e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.5631**	**1.5631**	**4.0000e-005**	**0.0000**	**1.5640**

3.4 Rough Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1164	0.0000	0.1164	0.0631	0.0000	0.0631	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0435	0.4700	0.3013	5.6000e-004		0.0220	0.0220		0.0203	0.0203	0.0000	49.5020	49.5020	0.0160	0.0000	49.9023
Total	**0.0435**	**0.4700**	**0.3013**	**5.6000e-004**	**0.1164**	**0.0220**	**0.1384**	**0.0631**	**0.0203**	**0.0834**	**0.0000**	**49.5020**	**49.5020**	**0.0160**	**0.0000**	**49.9023**

3.4 Rough Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4600e-003	0.0843	0.0180	2.4000e-004	5.2800e-003	2.6000e-004	5.5400e-003	1.4500e-003	2.5000e-004	1.7000e-003	0.0000	23.6420	23.6420	1.2100e-003	0.0000	23.6721
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	6.0000e-004	6.3900e-003	2.0000e-005	2.2500e-003	1.0000e-005	2.2700e-003	6.0000e-004	1.0000e-005	6.1000e-004	0.0000	1.9038	1.9038	4.0000e-005	0.0000	1.9048
Total	**3.3300e-003**	**0.0849**	**0.0244**	**2.6000e-004**	**7.5300e-003**	**2.7000e-004**	**7.8100e-003**	**2.0500e-003**	**2.6000e-004**	**2.3100e-003**	**0.0000**	**25.5457**	**25.5457**	**1.2500e-003**	**0.0000**	**25.5770**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0524	0.0000	0.0524	0.0284	0.0000	0.0284	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.4963	0.3608	5.6000e-004		0.0147	0.0147		0.0147	0.0147	0.0000	49.5020	49.5020	0.0160	0.0000	49.9022
Total	**0.0192**	**0.4963**	**0.3608**	**5.6000e-004**	**0.0524**	**0.0147**	**0.0671**	**0.0284**	**0.0147**	**0.0431**	**0.0000**	**49.5020**	**49.5020**	**0.0160**	**0.0000**	**49.9022**

3.4 Rough Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4600e-003	0.0843	0.0180	2.4000e-004	5.2800e-003	2.6000e-004	5.5400e-003	1.4500e-003	2.5000e-004	1.7000e-003	0.0000	23.6420	23.6420	1.2100e-003	0.0000	23.6721
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	6.0000e-004	6.3900e-003	2.0000e-005	2.2500e-003	1.0000e-005	2.2700e-003	6.0000e-004	1.0000e-005	6.1000e-004	0.0000	1.9038	1.9038	4.0000e-005	0.0000	1.9048
Total	**3.3300e-003**	**0.0849**	**0.0244**	**2.6000e-004**	**7.5300e-003**	**2.7000e-004**	**7.8100e-003**	**2.0500e-003**	**2.6000e-004**	**2.3100e-003**	**0.0000**	**25.5457**	**25.5457**	**1.2500e-003**	**0.0000**	**25.5770**

3.5 Fine Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1221	0.0000	0.1221	0.0664	0.0000	0.0664	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0458	0.4947	0.3172	5.9000e-004		0.0232	0.0232		0.0213	0.0213	0.0000	52.1074	52.1074	0.0169	0.0000	52.5287
Total	**0.0458**	**0.4947**	**0.3172**	**5.9000e-004**	**0.1221**	**0.0232**	**0.1453**	**0.0664**	**0.0213**	**0.0877**	**0.0000**	**52.1074**	**52.1074**	**0.0169**	**0.0000**	**52.5287**

3.5 Fine Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	6.4000e-004	6.7300e-003	2.0000e-005	2.3700e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	2.0040	2.0040	4.0000e-005	0.0000	2.0051
Total	**9.2000e-004**	**6.4000e-004**	**6.7300e-003**	**2.0000e-005**	**2.3700e-003**	**2.0000e-005**	**2.3900e-003**	**6.3000e-004**	**1.0000e-005**	**6.4000e-004**	**0.0000**	**2.0040**	**2.0040**	**4.0000e-005**	**0.0000**	**2.0051**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0550	0.0000	0.0550	0.0299	0.0000	0.0299	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0202	0.5256	0.3798	5.9000e-004		0.0155	0.0155		0.0155	0.0155	0.0000	52.1073	52.1073	0.0169	0.0000	52.5287
Total	**0.0202**	**0.5256**	**0.3798**	**5.9000e-004**	**0.0550**	**0.0155**	**0.0704**	**0.0299**	**0.0155**	**0.0453**	**0.0000**	**52.1073**	**52.1073**	**0.0169**	**0.0000**	**52.5287**

3.5 Fine Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	6.4000e-004	6.7300e-003	2.0000e-005	2.3700e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	2.0040	2.0040	4.0000e-005	0.0000	2.0051
Total	**9.2000e-004**	**6.4000e-004**	**6.7300e-003**	**2.0000e-005**	**2.3700e-003**	**2.0000e-005**	**2.3900e-003**	**6.3000e-004**	**1.0000e-005**	**6.4000e-004**	**0.0000**	**2.0040**	**2.0040**	**4.0000e-005**	**0.0000**	**2.0051**

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1245	1.1418	1.0857	1.7600e-003		0.0628	0.0628		0.0590	0.0590	0.0000	151.7224	151.7224	0.0366	0.0000	152.6375
Total	**0.1245**	**1.1418**	**1.0857**	**1.7600e-003**		**0.0628**	**0.0628**		**0.0590**	**0.0590**	**0.0000**	**151.7224**	**151.7224**	**0.0366**	**0.0000**	**152.6375**

3.6 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0150	0.4926	0.1230	1.2700e-003	0.0309	1.0700e-003	0.0320	8.9400e-003	1.0200e-003	9.9700e-003	0.0000	122.3066	122.3066	6.0100e-003	0.0000	122.4569
Worker	0.0665	0.0459	0.4863	1.6000e-003	0.1713	1.1200e-003	0.1724	0.0456	1.0300e-003	0.0466	0.0000	144.8236	144.8236	3.2500e-003	0.0000	144.9048
Total	**0.0815**	**0.5385**	**0.6092**	**2.8700e-003**	**0.2023**	**2.1900e-003**	**0.2044**	**0.0545**	**2.0500e-003**	**0.0566**	**0.0000**	**267.1302**	**267.1302**	**9.2600e-003**	**0.0000**	**267.3617**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0708	1.5428	1.1707	1.7600e-003		0.0592	0.0592		0.0592	0.0592	0.0000	151.7222	151.7222	0.0366	0.0000	152.6373
Total	**0.0708**	**1.5428**	**1.1707**	**1.7600e-003**		**0.0592**	**0.0592**		**0.0592**	**0.0592**	**0.0000**	**151.7222**	**151.7222**	**0.0366**	**0.0000**	**152.6373**

3.6 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0150	0.4926	0.1230	1.2700e-003	0.0309	1.0700e-003	0.0320	8.9400e-003	1.0200e-003	9.9700e-003	0.0000	122.3066	122.3066	6.0100e-003	0.0000	122.4569
Worker	0.0665	0.0459	0.4863	1.6000e-003	0.1713	1.1200e-003	0.1724	0.0456	1.0300e-003	0.0466	0.0000	144.8236	144.8236	3.2500e-003	0.0000	144.9048
Total	**0.0815**	**0.5385**	**0.6092**	**2.8700e-003**	**0.2023**	**2.1900e-003**	**0.2044**	**0.0545**	**2.0500e-003**	**0.0566**	**0.0000**	**267.1302**	**267.1302**	**9.2600e-003**	**0.0000**	**267.3617**

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2670	2.4439	2.5609	4.2200e-003		0.1266	0.1266		0.1191	0.1191	0.0000	362.6500	362.6500	0.0869	0.0000	364.8220
Total	**0.2670**	**2.4439**	**2.5609**	**4.2200e-003**		**0.1266**	**0.1266**		**0.1191**	**0.1191**	**0.0000**	**362.6500**	**362.6500**	**0.0869**	**0.0000**	**364.8220**

3.6 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0334	1.1146	0.2762	3.0100e-003	0.0739	2.2200e-003	0.0761	0.0214	2.1200e-003	0.0235	0.0000	289.3633	289.3633	0.0137	0.0000	289.7066
Worker	0.1482	0.0963	1.0677	3.6800e-003	0.4093	2.6200e-003	0.4119	0.1089	2.4100e-003	0.1113	0.0000	333.3429	333.3429	6.9600e-003	0.0000	333.5169
Total	**0.1816**	**1.2130**	**1.3439**	**6.6900e-003**	**0.4832**	**4.8400e-003**	**0.4881**	**0.1303**	**4.5300e-003**	**0.1348**	**0.0000**	**622.7063**	**622.7063**	**0.0207**	**0.0000**	**623.2234**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1692	3.6863	2.7972	4.2200e-003		0.1414	0.1414		0.1414	0.1414	0.0000	362.6496	362.6496	0.0869	0.0000	364.8216
Total	**0.1692**	**3.6863**	**2.7972**	**4.2200e-003**		**0.1414**	**0.1414**		**0.1414**	**0.1414**	**0.0000**	**362.6496**	**362.6496**	**0.0869**	**0.0000**	**364.8216**

3.6 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0334	1.1146	0.2762	3.0100e-003	0.0739	2.2200e-003	0.0761	0.0214	2.1200e-003	0.0235	0.0000	289.3633	289.3633	0.0137	0.0000	289.7066
Worker	0.1482	0.0963	1.0677	3.6800e-003	0.4093	2.6200e-003	0.4119	0.1089	2.4100e-003	0.1113	0.0000	333.3429	333.3429	6.9600e-003	0.0000	333.5169
Total	**0.1816**	**1.2110**	**1.3439**	**6.6900e-003**	**0.4832**	**4.8400e-003**	**0.4881**	**0.1303**	**4.5300e-003**	**0.1348**	**0.0000**	**622.7063**	**622.7063**	**0.0207**	**0.0000**	**623.2234**

3.6 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2454	2.2440	2.5341	4.2000e-003		0.1092	0.1092		0.1027	0.1027	0.0000	361.6154	361.6154	0.0860	0.0000	363.7660
Total	**0.2454**	**2.2440**	**2.5341**	**4.2000e-003**		**0.1092**	**0.1092**		**0.1027**	**0.1027**	**0.0000**	**361.6154**	**361.6154**	**0.0860**	**0.0000**	**363.7660**

3.6 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0250	0.8567	0.2465	2.9100e-003	0.0737	9.9000e-004	0.0747	0.0213	9.4000e-004	0.0223	0.0000	280.3552	280.3552	0.0117	0.0000	280.6468
Worker	0.1381	0.0881	0.9790	3.5300e-003	0.4080	2.5500e-003	0.4106	0.1086	2.3500e-003	0.1109	0.0000	319.5525	319.5525	6.2200e-003	0.0000	319.7080
Total	**0.1631**	**0.9448**	**1.2255**	**6.4400e-003**	**0.4817**	**3.5400e-003**	**0.4852**	**0.1299**	**3.2900e-003**	**0.1332**	**0.0000**	**599.9077**	**599.9077**	**0.0179**	**0.0000**	**600.3547**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1686	3.6745	2.7883	4.2000e-003		0.1410	0.1410		0.1410	0.1410	0.0000	361.6150	361.6150	0.0860	0.0000	363.7655
Total	**0.1686**	**3.6745**	**2.7883**	**4.2000e-003**		**0.1410**	**0.1410**		**0.1410**	**0.1410**	**0.0000**	**361.6150**	**361.6150**	**0.0860**	**0.0000**	**363.7655**

3.6 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0250	0.8567	0.2465	2.9100e-003	0.0737	9.9000e-004	0.0747	0.0213	9.4000e-004	0.0223	0.0000	280.3552	280.3552	0.0117	0.0000	280.6488
Worker	0.1381	0.0881	0.9790	3.5300e-003	0.4080	2.5500e-003	0.4106	0.1086	2.3500e-003	0.1109	0.0000	319.5525	319.5525	6.2200e-003	0.0000	319.7080
Total	**0.1631**	**0.9448**	**1.2255**	**6.4400e-003**	**0.4817**	**3.5400e-003**	**0.4852**	**0.1299**	**3.2900e-003**	**0.1332**	**0.0000**	**599.9077**	**599.9077**	**0.0179**	**0.0000**	**600.3567**

3.6 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0964	0.8806	1.0589	1.7700e-003		0.0402	0.0402		0.0378	0.0378	0.0000	151.8612	151.8612	0.0359	0.0000	152.7589
Total	**0.0964**	**0.8806**	**1.0589**	**1.7700e-003**		**0.0402**	**0.0402**		**0.0378**	**0.0378**	**0.0000**	**151.8612**	**151.8612**	**0.0359**	**0.0000**	**152.7589**

3.6 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0101	0.3557	0.0996	1.2100e-003	0.0309	4.1000e-004	0.0313	8.9500e-003	3.9000e-004	9.3300e-003	0.0000	116.9188	116.9188	4.8000e-003	0.0000	117.0387
Worker	0.0545	0.0334	0.3808	1.4200e-003	0.1713	1.0500e-003	0.1724	0.0456	9.7000e-004	0.0465	0.0000	128.8610	128.8610	2.3500e-003	0.0000	128.9198
Total	**0.0646**	**0.3891**	**0.4804**	**2.6300e-003**	**0.2023**	**1.4600e-003**	**0.2037**	**0.0545**	**1.3600e-003**	**0.0559**	**0.0000**	**245.7798**	**245.7798**	**7.1500e-003**	**0.0000**	**245.9585**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0708	1.5428	1.1707	1.7700e-003		0.0592	0.0592		0.0592	0.0592	0.0000	151.8610	151.8610	0.0359	0.0000	152.7588
Total	**0.0708**	**1.5428**	**1.1707**	**1.7700e-003**		**0.0592**	**0.0592**		**0.0592**	**0.0592**	**0.0000**	**151.8610**	**151.8610**	**0.0359**	**0.0000**	**152.7588**

3.6 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0101	0.3557	0.0996	1.2100e-003	0.0309	4.1000e-004	0.0313	8.9500e-003	3.9000e-004	9.3300e-003	0.0000	116.9188	116.9188	4.8000e-003	0.0000	117.0387
Worker	0.0545	0.0334	0.3808	1.4200e-003	0.1713	1.0500e-003	0.1724	0.0456	9.7000e-004	0.0465	0.0000	128.8610	128.8610	2.3500e-003	0.0000	128.9198
Total	**0.0646**	**0.3891**	**0.4804**	**2.6300e-003**	**0.2023**	**1.4600e-003**	**0.2037**	**0.0545**	**1.3600e-003**	**0.0559**	**0.0000**	**245.7798**	**245.7798**	**7.1500e-003**	**0.0000**	**245.9585**

3.7 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.9300e-003	0.0745	0.1100	1.7000e-004		3.5900e-003	3.5900e-003		3.3200e-003	3.3200e-003	0.0000	14.7423	14.7423	4.6300e-003	0.0000	14.8581
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9300e-003**	**0.0745**	**0.1100**	**1.7000e-004**		**3.5900e-003**	**3.5900e-003**		**3.3200e-003**	**3.3200e-003**	**0.0000**	**14.7423**	**14.7423**	**4.6300e-003**	**0.0000**	**14.8581**

3.7 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.8000e-004	3.1600e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0699	1.0699	2.0000e-005	0.0000	1.0703
Total	**4.5000e-004**	**2.8000e-004**	**3.1600e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4300e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0699**	**1.0699**	**2.0000e-005**	**0.0000**	**1.0703**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7700e-003	0.1448	0.1218	1.7000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	14.7423	14.7423	4.6300e-003	0.0000	14.8581
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7700e-003**	**0.1448**	**0.1218**	**1.7000e-004**		**5.0400e-003**	**5.0400e-003**		**5.0400e-003**	**5.0400e-003**	**0.0000**	**14.7423**	**14.7423**	**4.6300e-003**	**0.0000**	**14.8581**

3.7 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.8000e-004	3.1600e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0699	1.0699	2.0000e-005	0.0000	1.0703
Total	**4.5000e-004**	**2.8000e-004**	**3.1600e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4300e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0699**	**1.0699**	**2.0000e-005**	**0.0000**	**1.0703**

3.8 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5181					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	**2.5197**	**0.0110**	**0.0163**	**3.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3012**

3.8 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	9.2000e-004	0.0104	4.0000e-005	4.6900e-003	3.0000e-005	4.7200e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.5305	3.5305	6.0000e-005	0.0000	3.5321
Total	**1.4900e-003**	**9.2000e-004**	**0.0104**	**4.0000e-005**	**4.6900e-003**	**3.0000e-005**	**4.7200e-003**	**1.2500e-003**	**3.0000e-005**	**1.2800e-003**	**0.0000**	**3.5305**	**3.5305**	**6.0000e-005**	**0.0000**	**3.5321**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5181					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0300e-003	0.0212	0.0165	3.0000e-005		8.6000e-004	8.6000e-004		8.6000e-004	8.6000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	**2.5191**	**0.0212**	**0.0165**	**3.0000e-005**		**8.6000e-004**	**8.6000e-004**		**8.6000e-004**	**8.6000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3012**

3.8 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	9.2000e-004	0.0104	4.0000e-005	4.6900e-003	3.0000e-005	4.7200e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.5305	3.5305	6.0000e-005	0.0000	3.5321
Total	**1.4900e-003**	**9.2000e-004**	**0.0104**	**4.0000e-005**	**4.6900e-003**	**3.0000e-005**	**4.7200e-003**	**1.2500e-003**	**3.0000e-005**	**1.2800e-003**	**0.0000**	**3.5305**	**3.5305**	**6.0000e-005**	**0.0000**	**3.5321**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Unbundle Parking Cost

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3319	1.4856	3.5483	0.0133	1.2114	0.0109	1.2223	0.3251	0.0102	0.3353	0.0000	1,221.6554	1,221.6554	0.0429	0.0000	1,222.7267
Unmitigated	0.3489	1.5878	3.9434	0.0152	1.4021	0.0124	1.4145	0.3763	0.0116	0.3878	0.0000	1,397.1281	1,397.1281	0.0475	0.0000	1,398.3167

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,631.45	1,631.45	1631.45	3,768,009	3,255,587
City Park	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,631.45	1,631.45	1,631.45	3,768,009	3,255,587

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
City Park	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
General Office Building	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
Unenclosed Parking with Elevator	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	297.5137	297.5137	0.0262	5.4300e-003	299.7876
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	314.9030	314.9030	0.0278	5.7500e-003	317.3098
NaturalGas Mitigated	0.0184	0.1569	0.0803	1.0000e-003		0.0127	0.0127		0.0127	0.0127	0.0000	181.8450	181.8450	3.4900e-003	3.3300e-003	182.9257
NaturalGas Unmitigated	0.0194	0.1677	0.0850	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	191.8728	191.8728	3.6800e-003	3.5200e-003	193.0130

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.92469e+006	0.0158	0.1348	0.0574	8.6000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	156.0728	156.0728	2.9900e-003	2.8600e-003	157.0003
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	670867	3.6200e-003	0.0329	0.0276	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003	0.0000	35.8000	35.8000	6.9000e-004	6.6000e-004	36.0128
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0194**	**0.1677**	**0.0850**	**1.0600e-003**		**0.0134**	**0.0134**		**0.0134**	**0.0134**	**0.0000**	**191.8728**	**191.8728**	**3.6800e-003**	**3.5200e-003**	**193.0130**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.78129e+006	0.0150	0.1282	0.0545	8.2000e-004		0.0104	0.0104		0.0104	0.0104	0.0000	148.4201	148.4201	2.8400e-003	2.7200e-003	149.3021
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	626360	3.3800e-003	0.0307	0.0258	1.8000e-004		2.3300e-003	2.3300e-003		2.3300e-003	2.3300e-003	0.0000	33.4250	33.4250	6.4000e-004	6.1000e-004	33.6238
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0184**	**0.1589**	**0.0803**	**1.0000e-003**		**0.0127**	**0.0127**		**0.0127**	**0.0127**	**0.0000**	**181.8450**	**181.8450**	**3.4800e-003**	**3.3300e-003**	**182.9256**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.41437e+006	210.9403	0.0186	3.8500e-003	212.5525
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	433131	64.5977	5.7000e-003	1.1800e-003	65.0914
Unenclosed Parking with Elevator	263945	39.3650	3.4700e-003	7.2000e-004	39.6659
Total		**314.9030**	**0.0278**	**5.7500e-003**	**317.3098**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.34397e+006	200.4436	0.0177	3.6600e-003	201.9725
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	410748	61.2591	5.4000e-003	1.1200e-003	61.7273
Unenclosed Parking with Elevator	240135	35.8141	3.1600e-003	6.5000e-004	36.0878
Total		**297.5137**	**0.0262**	**5.4300e-003**	**299.7876**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7527	0.0287	2.4905	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0712	4.0712	3.9200e-003	0.0000	4.1692
Unmitigated	1.7790	0.0326	2.7297	9.1000e-004		0.0528	0.0528		0.0528	0.0528	5.2249	4.0712	9.2961	0.0284	0.0000	10.0048

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2518					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4257					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0263	3.9000e-003	0.2392	7.8000e-004		0.0390	0.0390		0.0390	0.0390	5.2249	0.0000	5.2249	0.0244	0.0000	5.8355
Landscaping	0.0751	0.0287	2.4905	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0712	4.0712	3.9200e-003	0.0000	4.1692
Total	**1.7790**	**0.0326**	**2.7297**	**9.1000e-004**		**0.0528**	**0.0528**		**0.0528**	**0.0528**	**5.2249**	**4.0712**	**9.2961**	**0.0284**	**0.0000**	**10.0048**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2518					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4257					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0751	0.0287	2.4905	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0712	4.0712	3.9200e-003	0.0000	4.1692
Total	**1.7527**	**0.0287**	**2.4905**	**1.3000e-004**		**0.0138**	**0.0138**		**0.0138**	**0.0138**	**0.0000**	**4.0712**	**4.0712**	**3.9200e-003**	**0.0000**	**4.1692**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	35.0699	0.7323	0.0177	58.6636
Unmitigated	41.3648	0.9151	0.0221	70.8380

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	21.8266 / 13.7602	31.7215	0.7134	0.0173	54.6959
City Park	0 / 1.40595	0.7339	6.0000e-005	1.0000e-005	0.7395
General Office Building	6.16914 / 3.78106	8.9094	0.2016	4.8700e-003	15.4025
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**41.3648**	**0.9151**	**0.0221**	**70.8380**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	17.4613 / 13.7602	26.8137	0.5709	0.0138	45.2043
City Park	0 / 1.40595	0.7339	6.0000e-005	1.0000e-005	0.7395
General Office Building	4.93531 / 3.78108	7.5223	0.1613	3.9100e-003	12.7198
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**35.0699**	**0.7323**	**0.0177**	**58.6636**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	9.4634	0.5593	0.0000	23.4453
Unmitigated	37.8538	2.2371	0.0000	93.7811

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	154.1	31.2809	1.8487	0.0000	77.4971
City Park	0.1	0.0203	1.2000e-003	0.0000	0.0503
General Office Building	32.28	6.5526	0.3872	0.0000	16.2337
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**37.8538**	**2.2371**	**0.0000**	**93.7811**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	38.525	7.8202	0.4622	0.0000	19.3743
City Park	0.025	5.0700e-003	3.0000e-004	0.0000	0.0126
General Office Building	8.07	1.6381	0.0968	0.0000	4.0584
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**9.4634**	**0.5593**	**0.0000**	**23.4453**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.14	50	335	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (300 - 600 HP)	0.0137	0.0384	0.0350	7.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	6.3784	6.3784	8.9000e-004	0.0000	6.4007
Total	**0.0137**	**0.0384**	**0.0350**	**7.0000e-005**		**2.0200e-003**	**2.0200e-003**		**2.0200e-003**	**2.0200e-003**	**0.0000**	**6.3784**	**6.3784**	**8.9000e-004**	**0.0000**	**6.4007**

11.0 Vegetation

Menlo Portal Project

Bay Area AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	34.71	1000sqft	0.02	34,706.00	0
Unenclosed Parking with Elevator	417.00	Space	1.00	136,054.00	0
City Park	1.18	Acre	1.18	51,319.00	0
Apartments Mid Rise	335.00	Dwelling Unit	1.00	327,970.00	958

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity based on 5-year average (PG&E, 2015)

Land Use - The propsed project would develop the project site with a 327,970-gross-square-foot (gsf), multi-family apartment building with approximately 335 dwelling units, an approximately 34,706 gsf commercial office building, as well as associated open space, circulation and parking, and infrastructure improvements.

Construction Phase - Construction is expected to begin May 2021 and end summer 2024. Phasing based on assumptions provided by Project Applicant. Architectural Coating and Paving phases are default duration.

Grading - A total of 5,000 cubic yards of soils would be imported.

Demolition - Approximately 64,832 building square footage to be demolished.

Trips and VMT - For soil import haul trips, assuming 16 cubic yards of material per load consistent with CalEEMod defaults.

Vehicle Trips - Based on trip generation prepared for the project.

Woodstoves - Assuming no hearth as the proposed project would not increase the demand for natural gas as the City's REACH codes would require the buildings to be all electric.

Stationary Sources - Emergency Generators and Fire Pumps - Assuming the emergency generators would run 50 hours per year for testing and emergency use.

Construction Off-road Equipment Mitigation - Assuming compliance with BAAQMD Basic Construction Mitigation Measures and tier 2 construction equipment

Energy Mitigation - Assuming compliance with 2019 Title 24 standards, installation of high efficiency lighting, on-site renewable energy generating 10 percent of electricity use, and energy-efficient appliances.

Water Mitigation - Assuming low-flow appliances.

Waste Mitigation - Consistent with the CalRecycle Waste Diversion and Recycling Mandate which will reduce solid waste production by 75 percent.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	230.00	887.00
tblConstructionPhase	NumDays	20.00	53.00
tblConstructionPhase	NumDays	8.00	38.00
tblConstructionPhase	NumDays	8.00	40.00
tblConstructionPhase	NumDays	5.00	26.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblFireplaces	NumberGas	50.25	0.00
tblFireplaces	NumberNoFireplace	13.40	335.00
tblFireplaces	NumberWood	56.95	0.00
tblGrading	AcresOfGrading	19.00	3.20
tblGrading	AcresOfGrading	20.00	3.20
tblGrading	MaterialImported	0.00	5,000.00
tblLandUse	LandUseSquareFeet	34,710.00	34,706.00
tblLandUse	LandUseSquareFeet	166,800.00	136,054.00
tblLandUse	LandUseSquareFeet	51,400.80	51,319.00
tblLandUse	LandUseSquareFeet	335,000.00	327,970.00
tblLandUse	LotAcreage	0.80	0.02
tblLandUse	LotAcreage	3.75	1.00
tblLandUse	LotAcreage	8.82	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	335.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.14
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	ST_TR	6.39	4.87
tblVehicleTrips	ST_TR	22.75	0.00

tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	5.86	4.87
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	6.65	4.87
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	11.03	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	11.9398	119.9073	81.4258	0.1869	34.1876	5.3723	39.5598	17.6171	4.9629	22.5800	0.0000	18,446.3363	18,446.3363	3.8990	0.0000	18,543.8114
2022	2.9051	23.2252	25.5052	0.0717	3.2065	0.8397	4.0462	0.8615	0.7899	1.6515	0.0000	7,139.7577	7,139.7577	0.7579	0.0000	7,158.7059
2023	2.6536	20.3361	24.6390	0.0702	3.2065	0.7223	3.9288	0.8615	0.6794	1.5410	0.0000	6,985.8707	6,985.8707	0.7349	0.0000	7,004.2430
2024	281.0721	19.2862	24.0114	0.0691	3.2065	0.6355	3.8420	0.8615	0.5975	1.4591	0.0000	6,876.4778	6,876.4778	0.7252	0.0000	6,894.6076
Maximum	**281.0721**	**119.9073**	**81.4258**	**0.1869**	**34.1876**	**5.3723**	**39.5598**	**17.6171**	**4.9629**	**22.5800**	**0.0000**	**18,446.3363**	**18,446.3363**	**3.8990**	**0.0000**	**18,543.8114**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.8792	122.3387	90.7964	0.1869	17.5229	3.4440	20.9669	8.5024	3.4412	11.9436	0.0000	18,446.3363	18,446.3363	3.8990	0.0000	18,543.8114
2022	2.2797	31.1640	27.0156	0.0717	3.2065	0.9342	4.1407	0.8615	0.9323	1.7938	0.0000	7,139.7577	7,139.7577	0.7579	0.0000	7,158.7059
2023	2.1617	29.5056	26.2688	0.0702	3.2065	0.9261	4.1326	0.8615	0.9245	1.7861	0.0000	6,985.8707	6,985.8707	0.7349	0.0000	7,004.2430
2024	280.8763	29.3968	25.7183	0.0691	3.2065	0.9257	4.1322	0.8615	0.9242	1.7857	0.0000	6,876.4778	6,876.4778	0.7252	0.0000	6,894.6076
Maximum	**280.8763**	**122.3387**	**90.7964**	**0.1869**	**17.5229**	**3.4440**	**20.9669**	**8.5024**	**3.4412**	**11.9436**	**0.0000**	**18,446.3363**	**18,446.3363**	**3.8990**	**0.0000**	**18,543.8114**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	**2.47**	**-16.22**	**-9.14**	**0.00**	**38.04**	**17.70**	**35.04**	**45.12**	**11.49**	**36.44**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.7575	0.8714	61.5531	0.1120		5.6803	5.6803		5.6803	5.6803	815.7890	49.8641	865.6531	3.8617	0.0000	962.1945
Energy	0.1062	0.9186	0.4656	5.7900e-003		0.0734	0.0734		0.0734	0.0734		1,158.9238	1,158.9238	0.0222	0.0213	1,165.8107
Mobile	2.2073	8.4731	22.5882	0.0883	8.0037	0.0680	8.0717	2.1410	0.0634	2.2044		8,945.5585	8,945.5585	0.2895		8,952.7949
Stationary	0.0770	0.2151	0.1963	3.7000e-004		0.0113	0.0113		0.0113	0.0113		39.3732	39.3732	5.5200e-003		39.5112
Total	**16.1480**	**10.4783**	**84.8032**	**0.2065**	**8.0037**	**5.8330**	**13.8367**	**2.1410**	**5.8284**	**7.9694**	**815.7890**	**10,193.7197**	**11,009.5086**	**4.1789**	**0.0213**	**11,120.3113**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.0268	0.3187	27.6725	1.4600e-003		0.1533	0.1533		0.1533	0.1533	0.0000	49.8641	49.8641	0.0480	0.0000	51.0643
Energy	0.1007	0.8705	0.4401	5.4900e-003		0.0696	0.0696		0.0696	0.0696		1,098.3553	1,098.3553	0.0211	0.0201	1,104.8623
Mobile	2.1121	7.9464	20.1403	0.0772	6.9152	0.0599	6.9751	1.8498	0.0559	1.9057		7,820.5594	7,820.5594	0.2599		7,827.0556
Stationary	0.0770	0.2151	0.1963	3.7000e-004		0.0113	0.0113		0.0113	0.0113		39.3732	39.3732	5.5200e-003		39.5112
Total	**12.3165**	**9.3507**	**48.4492**	**0.0845**	**6.9152**	**0.2941**	**7.2093**	**1.8498**	**0.2900**	**2.1399**	**0.0000**	**9,008.1521**	**9,008.1521**	**0.3344**	**0.0201**	**9,022.5134**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**23.73**	**10.76**	**42.87**	**59.07**	**13.60**	**94.96**	**47.90**	**13.60**	**95.02**	**73.15**	**100.00**	**11.63**	**18.18**	**92.00**	**5.22**	**18.86**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/3/2021	7/2/2021	6	53	
2	Site Preparation	Site Preparation	7/5/2021	8/3/2021	6	26	
3	Rough Grading	Grading	7/5/2021	8/17/2021	6	38	
4	Fine Grading	Grading	8/2/2021	9/16/2021	6	40	
5	Building Construction	Building Construction	8/2/2021	5/31/2024	6	887	
6	Paving	Paving	6/3/2024	6/22/2024	6	18	
7	Architectural Coating	Architectural Coating	6/3/2024	6/22/2024	6	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1

Residential Indoor: 664,139; Residential Outdoor: 221,380; Non-Residential Indoor: 52,059; Non-Residential Outdoor: 17,353; Striped Parking Area: 8,163 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Rough Grading	Excavators	1	8.00	158	0.38
Rough Grading	Graders	1	8.00	187	0.41
Rough Grading	Rubber Tired Dozers	1	8.00	247	0.40
Rough Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Fine Grading	Excavators	1	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	295.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	6	15.00	0.00	625.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	331.00	72.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	66.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2041	0.0000	1.2041	0.1823	0.0000	0.1823			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**1.2041**	**1.5513**	**2.7555**	**0.1823**	**1.4411**	**1.6234**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0434	1.4728	0.3105	4.3700e-003	0.0972	4.6200e-003	0.1019	0.0267	4.4200e-003	0.0311		467.4969	467.4969	0.0232		468.0769
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0262	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0916**	**1.5010**	**0.6789**	**5.5600e-003**	**0.2205**	**5.4000e-003**	**0.2259**	**0.0593**	**5.1300e-003**	**0.0645**		**586.2909**	**586.2909**	**0.0259**		**586.9372**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5419	0.0000	0.5419	0.0820	0.0000	0.0820			0.0000			0.0000
Off-Road	1.2617	32.6638	24.6739	0.0388		0.9135	0.9135		0.9135	0.9135	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**1.2617**	**32.6638**	**24.6739**	**0.0388**	**0.5419**	**0.9135**	**1.4554**	**0.0820**	**0.9135**	**0.9956**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0434	1.4728	0.3105	4.3700e-003	0.0972	4.6200e-003	0.1019	0.0267	4.4200e-003	0.0311		467.4969	467.4969	0.0232		468.0769
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0916**	**1.5010**	**0.6789**	**5.5600e-003**	**0.2205**	**5.4000e-003**	**0.2259**	**0.0593**	**5.1300e-003**	**0.0645**		**586.2909**	**586.2909**	**0.0259**		**586.9372**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.0579**	**0.0338**	**0.4421**	**1.4300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**142.5527**	**142.5527**	**3.1900e-003**		**142.6324**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	1.2097	33.7214	22.9600	0.0380		0.9462	0.9462		0.9462	0.9462	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**1.2097**	**33.7214**	**22.9600**	**0.0380**	**8.1298**	**0.9462**	**9.0760**	**4.4688**	**0.9462**	**5.4150**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0579	0.0338	0.4421	1.4300e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		142.5527	142.5527	3.1900e-003		142.6324
Total	**0.0579**	**0.0338**	**0.4421**	**1.4300e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**142.5527**	**142.5527**	**3.1900e-003**		**142.6324**

3.4 Rough Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1263	0.0000	6.1263	3.3221	0.0000	3.3221			0.0000			0.0000
Off-Road	2.2903	24.7357	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7357**	**15.8575**	**0.0296**	**6.1263**	**1.1599**	**7.2862**	**3.3221**	**1.0671**	**4.3892**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Rough Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1281	4.3520	0.9174	0.0129	0.2874	0.0136	0.3010	0.0788	0.0131	0.0918		1,381.4305	1,381.4305	0.0686		1,383.1442
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0262	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.1763**	**4.3802**	**1.2859**	**0.0141**	**0.4106**	**0.0144**	**0.4250**	**0.1114**	**0.0138**	**0.1252**		**1,500.2244**	**1,500.2244**	**0.0712**		**1,502.0045**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7568	0.0000	2.7568	1.4950	0.0000	1.4950			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0296		0.7725	0.7725		0.7725	0.7725	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**1.0093**	**26.2791**	**18.9906**	**0.0296**	**2.7568**	**0.7725**	**3.5293**	**1.4950**	**0.7725**	**2.2674**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Rough Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1281	4.3520	0.9174	0.0129	0.2874	0.0136	0.3010	0.0788	0.0131	0.0918		1,381.4305	1,381.4305	0.0686		1,383.1442
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.1763**	**4.3802**	**1.2859**	**0.0141**	**0.4106**	**0.0144**	**0.4250**	**0.1114**	**0.0138**	**0.1252**		**1,500.2244**	**1,500.2244**	**0.0712**		**1,502.0045**

3.5 Fine Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1069	0.0000	6.1069	3.3194	0.0000	3.3194			0.0000			0.0000
Off-Road	2.2903	24.7357	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7357**	**15.8575**	**0.0296**	**6.1069**	**1.1599**	**7.2668**	**3.3194**	**1.0671**	**4.3865**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.5 Fine Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7481	0.0000	2.7481	1.4937	0.0000	1.4937			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0296		0.7725	0.7725		0.7725	0.7725	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**1.0093**	**26.2791**	**18.9906**	**0.0296**	**2.7481**	**0.7725**	**3.5206**	**1.4937**	**0.7725**	**2.2662**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.5 Fine Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0482	0.0282	0.3685	1.1900e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		118.7939	118.7939	2.6600e-003		118.8603
Total	**0.0482**	**0.0282**	**0.3685**	**1.1900e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**118.7939**	**118.7939**	**2.6600e-003**		**118.8603**

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.6 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2233	7.4406	1.7546	0.0196	0.4874	0.0161	0.5035	0.1403	0.0154	0.1557		2,080.5015	2,080.5015	0.0977		2,082.9427
Worker	1.0643	0.6220	8.1304	0.0263	2.7191	0.0171	2.7362	0.7212	0.0158	0.7370		2,621.3860	2,621.3860	0.0586		2,622.8510
Total	**1.2876**	**8.0626**	**9.8850**	**0.0459**	**3.2065**	**0.0332**	**3.2397**	**0.8615**	**0.0312**	**0.8927**		**4,701.8875**	**4,701.8875**	**0.1563**		**4,705.7936**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.6 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2233	7.4406	1.7546	0.0196	0.4874	0.0161	0.5035	0.1403	0.0154	0.1557		2,080.5015	2,080.5015	0.0977		2,082.9427
Worker	1.0643	0.6220	8.1304	0.0263	2.7191	0.0171	2.7362	0.7212	0.0159	0.7370		2,621.3860	2,621.3860	0.0586		2,622.8510
Total	**1.2876**	**8.0626**	**9.8850**	**0.0459**	**3.2065**	**0.0332**	**3.2397**	**0.8615**	**0.0312**	**0.8927**		**4,701.8875**	**4,701.8875**	**0.1563**		**4,705.7936**

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.6 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2083	7.0517	1.6501	0.0194	0.4874	0.0140	0.5014	0.1403	0.0134	0.1537		2,060.2404	2,060.2404	0.0934		2,062.5745
Worker	0.9906	0.5579	7.4917	0.0253	2.7191	0.0167	2.7358	0.7212	0.0154	0.7366		2,525.1837	2,525.1837	0.0526		2,526.4692
Total	**1.1989**	**7.6096**	**9.1418**	**0.0448**	**3.2065**	**0.0307**	**3.2372**	**0.8615**	**0.0288**	**0.8903**		**4,585.4241**	**4,585.4241**	**0.1460**		**4,589.0737**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.6 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2083	7.0517	1.6501	0.0194	0.4874	0.0140	0.5014	0.1403	0.0134	0.1537		2,060.2404	2,060.2404	0.0934		2,062.5745
Worker	0.9906	0.5579	7.4917	0.0253	2.7191	0.0167	2.7358	0.7212	0.0154	0.7366		2,525.1837	2,525.1837	0.0526		2,526.4992
Total	**1.1989**	**7.6096**	**9.1418**	**0.0448**	**3.2065**	**0.0307**	**3.2372**	**0.8615**	**0.0288**	**0.8903**		**4,585.4241**	**4,585.4241**	**0.1460**		**4,589.0737**

3.6 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.6 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1561	5.4455	1.4855	0.0189	0.4874	6.2000e-003	0.4936	0.1403	5.9300e-003	0.1462		2,002.2834	2,002.2834	0.0798		2,004.2783
Worker	0.9248	0.5018	6.9095	0.0244	2.7191	0.0164	2.7355	0.7212	0.0151	0.7363		2,428.3774	2,428.3774	0.0473		2,429.5587
Total	**1.0808**	**5.9512**	**8.3950**	**0.0432**	**3.2065**	**0.0226**	**3.2291**	**0.8615**	**0.0210**	**0.8825**		**4,430.6608**	**4,430.6608**	**0.1271**		**4,433.8369**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.6 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1561	5.4485	1.4855	0.0189	0.4874	6.2000e-003	0.4936	0.1403	5.9300e-003	0.1462		2,002.283 4	2,002.283 4	0.0798		2,004.278 3
Worker	0.9248	0.5018	6.9095	0.0244	2.7191	0.0164	2.7355	0.7212	0.0151	0.7363		2,428.377 4	2,428.377 4	0.0473		2,429.558 7
Total	**1.0808**	**5.9512**	**8.3950**	**0.0432**	**3.2065**	**0.0226**	**3.2291**	**0.8615**	**0.0210**	**0.8825**		**4,430.660 8**	**4,430.660 8**	**0.1271**		**4,433.836 9**

3.6 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.698 9	2,555.698 9	0.6044		2,570.807 7
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.698 9**	**2,555.698 9**	**0.6044**		**2,570.807 7**

3.6 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1510	5.3851	1.4312	0.0187	0.4874	6.1000e-003	0.4935	0.1403	5.8300e-003	0.1461		1,988.606 0	1,988.606 0	0.0782		1,990.561 9
Worker	0.8676	0.4533	6.4134	0.0234	2.7191	0.0161	2.7351	0.7212	0.0148	0.7360		2,332.172 9	2,332.172 9	0.0426		2,333.238 1
Total	**1.0186**	**5.8424**	**7.8446**	**0.0421**	**3.2065**	**0.0222**	**3.2287**	**0.8615**	**0.0206**	**0.8822**		**4,320.778 9**	**4,320.778 9**	**0.1209**		**4,323.799 9**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0270		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.698 9	2,555.698 9	0.6044		2,570.807 7
Total	**1.0809**	**23.5544**	**17.8738**	**0.0270**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,555.698 9**	**2,555.698 9**	**0.6044**		**2,570.807 7**

3.6 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1510	5.3851	1.4312	0.0187	0.4874	6.1000e-003	0.4935	0.1403	5.8300e-003	0.1461		1,988.6060	1,988.6060	0.0782		1,990.5619
Worker	0.8876	0.4593	6.4134	0.0234	2.7191	0.0161	2.7351	0.7212	0.0148	0.7360		2,332.1729	2,332.1729	0.0426		2,333.2381
Total	**1.0186**	**5.8424**	**7.8446**	**0.0421**	**3.2065**	**0.0222**	**3.2287**	**0.8615**	**0.0206**	**0.8822**		**4,320.7789**	**4,320.7789**	**0.1209**		**4,323.7999**

3.7 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8814**	**8.2730**	**12.2210**	**0.0189**		**0.3987**	**0.3987**		**0.3685**	**0.3685**		**1,805.6205**	**1,805.6205**	**0.5673**		**1,819.8039**

3.7 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0524	0.0274	0.3875	1.4100e-003	0.1643	9.7000e-004	0.1653	0.0436	8.9000e-004	0.0445		140.9168	140.9168	2.5700e-003		140.9812
Total	**0.0524**	**0.0274**	**0.3875**	**1.4100e-003**	**0.1643**	**9.7000e-004**	**0.1653**	**0.0436**	**8.9000e-004**	**0.0445**		**140.9168**	**140.9168**	**2.5700e-003**		**140.9812**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7524	16.0849	13.5323	0.0189		0.5601	0.5601		0.5601	0.5601	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7524**	**16.0849**	**13.5323**	**0.0189**		**0.5601**	**0.5601**		**0.5601**	**0.5601**	**0.0000**	**1,805.6205**	**1,805.6205**	**0.5673**		**1,819.8039**

3.7 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0524	0.0274	0.3875	1.4100e-003	0.1643	9.7000e-004	0.1653	0.0436	8.9000e-004	0.0445		140.9168	140.9168	2.5700e-003		140.9812
Total	**0.0524**	**0.0274**	**0.3875**	**1.4100e-003**	**0.1643**	**9.7000e-004**	**0.1653**	**0.0436**	**8.9000e-004**	**0.0445**		**140.9168**	**140.9168**	**2.5700e-003**		**140.9812**

3.8 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	279.7846					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**279.9653**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.8 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1730	0.0904	1.2788	4.6600e-003	0.5422	3.2000e-003	0.5454	0.1438	2.9500e-003	0.1468		465.0254	465.0254	8.5000e-003		465.2378
Total	**0.1730**	**0.0904**	**1.2788**	**4.6600e-003**	**0.5422**	**3.2000e-003**	**0.5454**	**0.1438**	**2.9500e-003**	**0.1468**		**465.0254**	**465.0254**	**8.5000e-003**		**465.2378**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	279.7846					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**279.8985**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.8 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1730	0.0904	1.2788	4.8600e-003	0.5422	3.2000e-003	0.5454	0.1438	2.9500e-003	0.1468		465.0254	465.0254	8.5000e-003		465.2378
Total	**0.1730**	**0.0904**	**1.2788**	**4.6600e-003**	**0.5422**	**3.2000e-003**	**0.5454**	**0.1438**	**2.9500e-003**	**0.1468**		**465.0254**	**465.0254**	**8.5000e-003**		**465.2378**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Unbundle Parking Cost

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.1121	7.9464	20.1403	0.0772	6.9152	0.0599	6.9751	1.8498	0.0559	1.9057		7,820.5594	7,820.5594	0.2599		7,827.0556
Unmitigated	2.2073	8.4731	22.5882	0.0883	8.0037	0.0680	8.0717	2.1410	0.0634	2.2044		8,945.5585	8,945.5585	0.2895		8,952.7949

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,631.45	1,631.45	1631.45	3,768,009	3,255,587
City Park	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,631.45	1,631.45	1,631.45	3,768,009	3,255,587

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
City Park	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
General Office Building	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
Unenclosed Parking with Elevator	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1007	0.8705	0.4401	5.4900e-003		0.0696	0.0696		0.0696	0.0696		1,098.3553	1,098.3553	0.0211	0.0201	1,104.8823
NaturalGas Unmitigated	0.1062	0.9186	0.4656	5.7900e-003		0.0734	0.0734		0.0734	0.0734		1,158.9238	1,158.9238	0.0222	0.0213	1,165.8107

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	8012.86	0.0864	0.7384	0.3142	4.7100e-003		0.0597	0.0597		0.0597	0.0597		942.6895	942.6895	0.0181	0.0173	948.2914
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1837.99	0.0198	0.1802	0.1514	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.2343	216.2343	4.1400e-003	3.9600e-003	217.5193
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1062**	**0.9186**	**0.4656**	**5.7900e-003**		**0.0734**	**0.0734**		**0.0734**	**0.0734**		**1,158.9238**	**1,158.9238**	**0.0222**	**0.0212**	**1,165.8107**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	7.61996	0.0822	0.7022	0.2988	4.4800e-003		0.0568	0.0568		0.0568	0.0568		896.4665	896.4665	0.0172	0.0164	901.7937
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.71605	0.0185	0.1682	0.1413	1.0100e-003		0.0128	0.0128		0.0128	0.0128		201.8888	201.8888	3.8700e-003	3.7000e-003	203.0885
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1007**	**0.8705**	**0.4401**	**5.4900e-003**		**0.0696**	**0.0696**		**0.0696**	**0.0696**		**1,098.3553**	**1,098.3553**	**0.0211**	**0.0201**	**1,104.8823**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.0268	0.3187	27.6725	1.4600e-003		0.1533	0.1533		0.1533	0.1533	0.0000	49.8641	49.8641	0.0480	0.0000	51.0643
Unmitigated	13.7575	0.8714	61.5531	0.1120		5.6803	5.6803		5.6803	5.6803	815.7890	49.8641	865.6531	3.8617	0.0000	962.1945

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.3798					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.8121					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3.7307	0.5527	33.8807	0.1105		5.5270	5.5270		5.5270	5.5270	815.7890	0.0000	815.7890	3.8137	0.0000	911.1302
Landscaping	0.8349	0.3187	27.6725	1.4600e-003		0.1533	0.1533		0.1533	0.1533		49.8641	49.8641	0.0480		51.0643
Total	**13.7575**	**0.8714**	**61.5531**	**0.1120**		**5.6803**	**5.6803**		**5.6803**	**5.6803**	**815.7890**	**49.8641**	**865.6531**	**3.8617**	**0.0000**	**962.1945**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.3798					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.8121					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.8349	0.3187	27.6725	1.4600e-003		0.1533	0.1533		0.1533	0.1533		49.8641	49.8641	0.0480		51.0643
Total	**10.0268**	**0.3187**	**27.6725**	**1.4600e-003**		**0.1533**	**0.1533**		**0.1533**	**0.1533**	**0.0000**	**49.8641**	**49.8641**	**0.0480**	**0.0000**	**51.0643**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet
Install Low Flow Kitchen Faucet
Install Low Flow Toilet
Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.14	50	335	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (300 - 600 HP)	0.0770	0.2151	0.1963	3.7000e-004		0.0113	0.0113		0.0113	0.0113		39.3732	39.3732	5.5200e-003		39.5112
Total	**0.0770**	**0.2151**	**0.1963**	**3.7000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**		**39.3732**	**39.3732**	**5.5200e-003**		**39.5112**

11.0 Vegetation

Menlo Portal Project
Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	34.71	1000sqft	0.02	34,706.00	0
Unenclosed Parking with Elevator	417.00	Space	1.00	136,054.00	0
City Park	1.18	Acre	1.18	51,319.00	0
Apartments Mid Rise	335.00	Dwelling Unit	1.00	327,970.00	958

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity based on 5-year average (PG&E, 2015)

Land Use - The propsed project would develop the project site with a 327,970-gross-square-foot (gsf), multi-family apartment building with approximately 335 dwelling units, an approximately 34,706 gsf commercial office building, as well as associated open space, circulation and parking, and infrastructure improvements.

Construction Phase - Construction is expected to begin May 2021 and end summer 2024. Phasing based on assumptions provided by Project Applicant. Architectural Coating and Paving phases are default duration.

Grading - A total of 5,000 cubic yards of soils would be imported.

Demolition - Approximately 64,832 building square footage to be demolished.

Trips and VMT - For soil import haul trips, assuming 16 cubic yards of material per load consistent with CalEEMod defaults.

Vehicle Trips - Based on trip generation prepared for the project.

Woodstoves - Assuming no hearth as the proposed project would not increase the demand for natural gas as the City's REACH codes would require the buildings to be all electric.

Stationary Sources - Emergency Generators and Fire Pumps - Assuming the emergency generators would run 50 hours per year for testing and emergency use.

Construction Off-road Equipment Mitigation - Assuming compliance with BAAQMD Basic Construction Mitigation Measures and tier 2 construction equipment

Energy Mitigation - Assuming compliance with 2019 Title 24 standards, installation of high efficiency lighting, on-site renewable energy generating 10 percent of electricity use, and energy-efficient appliances.

Water Mitigation - Assuming low-flow appliances.

Waste Mitigation - Consistent with the CalRecycle Waste Diversion and Recycling Mandate which will reduce solid waste production by 75 percent.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	230.00	887.00
tblConstructionPhase	NumDays	20.00	53.00
tblConstructionPhase	NumDays	8.00	38.00
tblConstructionPhase	NumDays	8.00	40.00
tblConstructionPhase	NumDays	5.00	26.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblFireplaces	NumberGas	50.25	0.00
tblFireplaces	NumberNoFireplace	13.40	335.00
tblFireplaces	NumberWood	56.95	0.00
tblGrading	AcresOfGrading	19.00	3.20
tblGrading	AcresOfGrading	30.00	3.20
tblGrading	MaterialImported	0.00	5,000.00
tblLandUse	LandUseSquareFeet	34,710.00	34,706.00
tblLandUse	LandUseSquareFeet	166,800.00	136,054.00
tblLandUse	LandUseSquareFeet	51,400.80	51,319.00
tblLandUse	LandUseSquareFeet	335,000.00	327,970.00
tblLandUse	LotAcreage	0.80	0.02
tblLandUse	LotAcreage	3.75	1.00
tblLandUse	LotAcreage	8.82	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.6
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	335.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.14
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	ST_TR	6.39	4.87
tblVehicleTrips	ST_TR	22.75	0.00

tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	5.86	4.87
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	6.65	4.87
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	11.03	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	12.0288	120.2405	81.1558	0.1838	34.1876	5.3731	39.5607	17.6171	4.9637	22.5808	0.0000	18,133.6137	18,133.6137	3.9058	0.0000	18,231.2586
2022	2.9791	23.4094	25.2395	0.0692	3.2065	0.8402	4.0467	0.8615	0.7904	1.6519	0.0000	6,888.2153	6,888.2153	0.7618	0.0000	6,907.2598
2023	2.7243	20.4802	24.3383	0.0678	3.2085	0.7226	3.9291	0.8615	0.6797	1.5412	0.0000	6,744.0421	6,744.0421	0.7373	0.0000	6,762.4744
2024	281.0879	19.4180	23.7185	0.0668	3.2065	0.6357	3.8422	0.8615	0.5978	1.4593	0.0000	6,643.0488	6,643.0488	0.7276	0.0000	6,661.2388
Maximum	**281.0879**	**120.2405**	**81.1558**	**0.1838**	**34.1876**	**5.3731**	**39.5607**	**17.6171**	**4.9637**	**22.5808**	**0.0000**	**18,133.6137**	**18,133.6137**	**3.9058**	**0.0000**	**18,231.2586**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.9683	122.6720	90.5264	0.1838	17.5229	3.4448	20.9677	8.5024	3.4420	11.9443	0.0000	18,133.6137	18,133.6137	3.9058	0.0000	18,231.2586
2022	2.3538	31.3481	26.7499	0.0692	3.2065	0.9347	4.1412	0.8615	0.9328	1.7943	0.0000	6,888.2153	6,888.2153	0.7618	0.0000	6,907.2598
2023	2.2324	29.6497	25.9681	0.0678	3.2065	0.9264	4.1329	0.8615	0.9248	1.7864	0.0000	6,744.0421	6,744.0421	0.7373	0.0000	6,762.4744
2024	280.8921	29.5286	25.4255	0.0668	3.2065	0.9260	4.1325	0.8615	0.9244	1.7859	0.0000	6,643.0488	6,643.0488	0.7276	0.0000	6,661.2388
Maximum	**280.8921**	**122.6720**	**90.5264**	**0.1838**	**17.5229**	**3.4448**	**20.9677**	**8.5024**	**3.4420**	**11.9443**	**0.0000**	**18,133.6137**	**18,133.6137**	**3.9058**	**0.0000**	**18,231.2586**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	2.47	-16.15	-9.21	0.00	38.04	17.69	35.04	45.12	11.48	36.43	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	13.7575	0.8714	61.5531	0.1120		5.6803	5.6803		5.6803	5.6803	815.7890	49.8641	865.6531	3.8617	0.0000	962.1945
Energy	0.1062	0.9186	0.4656	5.7900e-003		0.0734	0.0734		0.0734	0.0734		1,158.9238	1,158.9238	0.0222	0.0213	1,165.8107
Mobile	1.8959	8.8799	22.6496	0.0827	8.0037	0.0683	8.0720	2.1410	0.0637	2.2047		8,381.8372	8,381.8372	0.2951		8,389.2142
Stationary	0.0770	0.2151	0.1963	3.7000e-004		0.0113	0.0113		0.0113	0.0113		39.3732	39.3732	5.5200e-003		39.5112
Total	**15.8366**	**10.8851**	**84.8646**	**0.2009**	**8.0037**	**5.8333**	**13.8370**	**2.1410**	**5.8287**	**7.9697**	**815.7890**	**9,629.9983**	**10,445.7873**	**4.1845**	**0.0213**	**10,556.7306**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.0268	0.3187	27.6725	1.4600e-003		0.1533	0.1533		0.1533	0.1533	0.0000	49.8641	49.8641	0.0480	0.0000	51.0643
Energy	0.1007	0.8705	0.4401	5.4900e-003		0.0696	0.0696		0.0696	0.0696		1,098.3553	1,098.3553	0.0211	0.0201	1,104.8823
Mobile	1.8019	8.2941	20.4700	0.0723	6.9152	0.0802	6.9754	1.8498	0.0562	1.9060		7,325.3007	7,325.3007	0.2667		7,331.9672
Stationary	0.0770	0.2151	0.1963	3.7000e-004		0.0113	0.0113		0.0113	0.0113		39.3732	39.3732	5.5200e-003		39.5112
Total	**12.0063**	**9.6984**	**48.7788**	**0.0796**	**6.9152**	**0.2944**	**7.2096**	**1.8498**	**0.2903**	**2.1402**	**0.0000**	**8,512.8933**	**8,512.8933**	**0.3412**	**0.0201**	**8,527.4250**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	24.19	10.90	42.52	60.38	13.60	94.95	47.90	13.60	95.02	73.15	100.00	11.60	18.50	91.85	5.22	19.22

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/3/2021	7/2/2021	6	53	
2	Site Preparation	Site Preparation	7/5/2021	8/3/2021	6	26	
3	Rough Grading	Grading	7/5/2021	8/17/2021	6	38	
4	Fine Grading	Grading	8/2/2021	9/16/2021	6	40	
5	Building Construction	Building Construction	8/2/2021	5/31/2024	6	887	
6	Paving	Paving	6/3/2024	6/22/2024	6	18	
7	Architectural Coating	Architectural Coating	6/3/2024	6/22/2024	6	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1

Residential Indoor: 664,139; Residential Outdoor: 221,380; Non-Residential Indoor: 52,059; Non-Residential Outdoor: 17,353; Striped Parking Area: 8,163 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Rough Grading	Excavators	1	8.00	158	0.38
Rough Grading	Graders	1	8.00	187	0.41
Rough Grading	Rubber Tired Dozers	1	8.00	247	0.40
Rough Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Fine Grading	Excavators	1	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	295.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	6	15.00	0.00	625.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	331.00	72.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	66.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.2041	0.0000	1.2041	0.1823	0.0000	0.1823			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**1.2041**	**1.5513**	**2.7555**	**0.1823**	**1.4411**	**1.6234**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0445	1.5072	0.3333	4.2900e-003	0.0972	4.7000e-003	0.1019	0.0267	4.5000e-003	0.0312		459.5936	459.5936	0.0243		460.2018
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0956**	**1.5420**	**0.6780**	**5.3900e-003**	**0.2205**	**5.4800e-003**	**0.2259**	**0.0593**	**5.2100e-003**	**0.0646**		**569.0241**	**569.0241**	**0.0268**		**569.6942**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5419	0.0000	0.5419	0.0820	0.0000	0.0820			0.0000			0.0000
Off-Road	1.2617	32.6638	24.6739	0.0388		0.9135	0.9135		0.9135	0.9135	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**1.2617**	**32.6638**	**24.6739**	**0.0388**	**0.5419**	**0.9135**	**1.4554**	**0.0820**	**0.9135**	**0.9956**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0445	1.5072	0.3333	4.2900e-003	0.0972	4.7000e-003	0.1019	0.0267	4.5000e-003	0.0312		459.5936	459.5936	0.0243		460.2018
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0956**	**1.5420**	**0.6780**	**5.3900e-003**	**0.2205**	**5.4800e-003**	**0.2259**	**0.0593**	**5.2100e-003**	**0.0646**		**569.0241**	**569.0241**	**0.0268**		**569.6942**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.0613**	**0.0418**	**0.4137**	**1.3200e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**131.3166**	**131.3166**	**2.9700e-003**		**131.3909**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	1.2097	33.7214	22.9600	0.0380		0.9462	0.9462		0.9462	0.9462	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**1.2097**	**33.7214**	**22.9600**	**0.0380**	**8.1298**	**0.9462**	**9.0760**	**4.4688**	**0.9462**	**5.4150**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0613	0.0418	0.4137	1.3200e-003	0.1479	9.3000e-004	0.1488	0.0392	8.6000e-004	0.0401		131.3166	131.3166	2.9700e-003		131.3909
Total	**0.0613**	**0.0418**	**0.4137**	**1.3200e-003**	**0.1479**	**9.3000e-004**	**0.1488**	**0.0392**	**8.6000e-004**	**0.0401**		**131.3166**	**131.3166**	**2.9700e-003**		**131.3909**

3.4 Rough Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1263	0.0000	6.1263	3.3221	0.0000	3.3221			0.0000			0.0000
Off-Road	2.2903	24.7357	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7357**	**15.8575**	**0.0296**	**6.1263**	**1.1599**	**7.2862**	**3.3221**	**1.0671**	**4.3892**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Rough Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1316	4.4537	0.9849	0.0127	0.2874	0.0139	0.3012	0.0788	0.0133	0.0920		1,358.0766	1,358.0766	0.0719		1,359.8736
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.1827**	**4.4886**	**1.3296**	**0.0138**	**0.4106**	**0.0147**	**0.4252**	**0.1114**	**0.0140**	**0.1254**		**1,467.5071**	**1,467.5071**	**0.0744**		**1,469.3660**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7568	0.0000	2.7568	1.4950	0.0000	1.4950			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0296		0.7725	0.7725		0.7725	0.7725	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**1.0093**	**26.2791**	**18.9906**	**0.0296**	**2.7568**	**0.7725**	**3.5293**	**1.4950**	**0.7725**	**2.2674**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Rough Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1316	4.4537	0.9849	0.0127	0.2874	0.0139	0.3012	0.0788	0.0133	0.0920		1,358.0766	1,358.0766	0.0719		1,359.8736
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.1827**	**4.4886**	**1.3296**	**0.0138**	**0.4106**	**0.0147**	**0.4252**	**0.1114**	**0.0140**	**0.1254**		**1,467.5071**	**1,467.5071**	**0.0744**		**1,469.3660**

3.5 Fine Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.1069	0.0000	6.1069	3.3194	0.0000	3.3194			0.0000			0.0000
Off-Road	2.2903	24.7357	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7357**	**15.8575**	**0.0296**	**6.1069**	**1.1599**	**7.2668**	**3.3194**	**1.0671**	**4.3865**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.5 Fine Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7481	0.0000	2.7481	1.4937	0.0000	1.4937			0.0000			0.0000
Off-Road	1.0093	26.2791	18.9906	0.0296		0.7725	0.7725		0.7725	0.7725	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**1.0093**	**26.2791**	**18.9906**	**0.0296**	**2.7481**	**0.7725**	**3.5206**	**1.4937**	**0.7725**	**2.2662**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.5 Fine Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0511	0.0348	0.3447	1.1000e-003	0.1232	7.8000e-004	0.1240	0.0327	7.1000e-004	0.0334		109.4305	109.4305	2.4800e-003		109.4924
Total	**0.0511**	**0.0348**	**0.3447**	**1.1000e-003**	**0.1232**	**7.8000e-004**	**0.1240**	**0.0327**	**7.1000e-004**	**0.0334**		**109.4305**	**109.4305**	**2.4800e-003**		**109.4924**

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.6 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2365	7.5046	2.0167	0.0191	0.4874	0.0167	0.5041	0.1403	0.0160	0.1563		2,027.7155	2,027.7155	0.1056		2,030.3545
Worker	1.1275	0.7663	7.6068	0.0242	2.7191	0.0171	2.7362	0.7212	0.0158	0.7370		2,414.7663	2,414.7663	0.0546		2,416.1323
Total	**1.3640**	**8.2728**	**9.6234**	**0.0434**	**3.2065**	**0.0338**	**3.2403**	**0.8615**	**0.0317**	**0.8932**		**4,442.4817**	**4,442.4817**	**0.1603**		**4,446.4868**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.6 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2365	7.5046	2.0167	0.0191	0.4874	0.0167	0.5041	0.1403	0.0160	0.1563		2,027.7155	2,027.7155	0.1056		2,030.3545
Worker	1.1275	0.7663	7.6068	0.0242	2.7191	0.0171	2.7362	0.7212	0.0158	0.7370		2,414.7663	2,414.7663	0.0546		2,416.1323
Total	**1.3640**	**8.2728**	**9.6234**	**0.0434**	**3.2065**	**0.0338**	**3.2403**	**0.8615**	**0.0317**	**0.8932**		**4,442.4817**	**4,442.4817**	**0.1603**		**4,446.4868**

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.6 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2206	7.1049	1.8958	0.0189	0.4874	0.0145	0.5019	0.1403	0.0139	0.1542		2,007.6401	2,007.6401	0.1009		2,010.1630
Worker	1.0523	0.6889	6.9804	0.0233	2.7191	0.0167	2.7358	0.7212	0.0154	0.7366		2,326.2416	2,326.2416	0.0489		2,327.4646
Total	**1.2729**	**7.7937**	**8.8761**	**0.0423**	**3.2065**	**0.0312**	**3.2377**	**0.8615**	**0.0292**	**0.8908**		**4,333.8817**	**4,333.8817**	**0.1498**		**4,337.6276**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.6 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2206	7.1049	1.8958	0.0189	0.4874	0.0145	0.5019	0.1403	0.0139	0.1542		2,007.6401	2,007.6401	0.1009		2,010.1630
Worker	1.0523	0.6889	6.9804	0.0233	2.7191	0.0167	2.7358	0.7212	0.0154	0.7366		2,326.2416	2,326.2416	0.0489		2,327.4646
Total	**1.2729**	**7.7937**	**8.8761**	**0.0423**	**3.2065**	**0.0312**	**3.2377**	**0.8615**	**0.0292**	**0.8908**		**4,333.8817**	**4,333.8817**	**0.1498**		**4,337.6276**

3.6 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.6 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1658	5.4761	1.6834	0.0184	0.4874	6.4800e-003	0.4939	0.1403	6.1900e-003	0.1465		1,951.6755	1,951.6755	0.0857		1,953.8173
Worker	0.9857	0.6153	6.4109	0.0224	2.7191	0.0164	2.7355	0.7212	0.0151	0.7363		2,237.1567	2,237.1567	0.0438		2,238.2511
Total	**1.1516**	**6.0913**	**8.0943**	**0.0408**	**3.2065**	**0.0229**	**3.2293**	**0.8615**	**0.0213**	**0.8828**		**4,188.8322**	**4,188.8322**	**0.1295**		**4,192.0684**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.0809**	**23.5544**	**17.8738**	**0.0269**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.6 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1658	5.4761	1.6834	0.0184	0.4874	6.4800e-003	0.4939	0.1403	6.1900e-003	0.1465		1,951.6755	1,951.6755	0.0857		1,953.8173
Worker	0.9857	0.6153	6.4109	0.0224	2.7191	0.0164	2.7355	0.7212	0.0151	0.7363		2,237.1567	2,237.1567	0.0438		2,238.2511
Total	**1.1516**	**6.0913**	**8.0943**	**0.0408**	**3.2065**	**0.0229**	**3.2293**	**0.8615**	**0.0213**	**0.8828**		**4,188.8322**	**4,188.8322**	**0.1295**		**4,192.0684**

3.6 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.4716**	**13.4438**	**16.1668**	**0.0270**		**0.6133**	**0.6133**		**0.5769**	**0.5769**		**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.6 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1603	5.4149	1.6201	0.0183	0.4874	6.3500e-003	0.4938	0.1403	6.0600e-003	0.1464		1,938.7291	1,938.7291	0.0839		1,940.8264
Worker	0.9285	0.5593	5.9316	0.0215	2.7191	0.0161	2.7351	0.7212	0.0148	0.7360		2,148.6207	2,148.6207	0.0394		2,149.6047
Total	**1.0887**	**5.9742**	**7.5517**	**0.0398**	**3.2065**	**0.0224**	**3.2289**	**0.8615**	**0.0208**	**0.8824**		**4,087.3499**	**4,087.3499**	**0.1233**		**4,090.4311**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0809	23.5544	17.8738	0.0270		0.9036	0.9036		0.9036	0.9036	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	**1.0809**	**23.5544**	**17.8738**	**0.0270**		**0.9036**	**0.9036**		**0.9036**	**0.9036**	**0.0000**	**2,555.6989**	**2,555.6989**	**0.6044**		**2,570.8077**

3.6 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1603	5.4149	1.6201	0.0183	0.4874	6.3500e-003	0.4938	0.1403	6.0600e-003	0.1464		1,938.7291	1,938.7291	0.0839		1,940.8264
Worker	0.9285	0.5593	5.9316	0.0215	2.7191	0.0161	2.7351	0.7212	0.0148	0.7360		2,148.6207	2,148.6207	0.0394		2,149.6047
Total	**1.0887**	**5.9742**	**7.5517**	**0.0398**	**3.2065**	**0.0224**	**3.2289**	**0.8615**	**0.0208**	**0.8824**		**4,087.3499**	**4,087.3499**	**0.1233**		**4,090.4311**

3.7 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8814**	**8.2730**	**12.2210**	**0.0189**		**0.3987**	**0.3987**		**0.3685**	**0.3685**		**1,805.6205**	**1,805.6205**	**0.5673**		**1,819.8039**

3.7 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0338	0.3584	1.3000e-003	0.1643	9.7000e-004	0.1653	0.0436	8.9000e-004	0.0445		129.8260	129.8260	2.3800e-003		129.8855
Total	**0.0561**	**0.0338**	**0.3584**	**1.3000e-003**	**0.1643**	**9.7000e-004**	**0.1653**	**0.0436**	**8.9000e-004**	**0.0445**		**129.8260**	**129.8260**	**2.3800e-003**		**129.8855**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7524	16.0849	13.5323	0.0189		0.5601	0.5601		0.5601	0.5601	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7524**	**16.0849**	**13.5323**	**0.0189**		**0.5601**	**0.5601**		**0.5601**	**0.5601**	**0.0000**	**1,805.6205**	**1,805.6205**	**0.5673**		**1,819.8039**

3.7 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0561	0.0338	0.3584	1.3000e-003	0.1643	9.7000e-004	0.1653	0.0436	8.9000e-004	0.0445		129.8260	129.8260	2.3800e-003		129.8855
Total	**0.0561**	**0.0338**	**0.3584**	**1.3000e-003**	**0.1643**	**9.7000e-004**	**0.1653**	**0.0436**	**8.9000e-004**	**0.0445**		**129.8260**	**129.8260**	**2.3800e-003**		**129.8855**

3.8 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	279.7846					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**279.9653**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.8 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1851	0.1115	1.1827	4.3000e-003	0.5422	3.2000e-003	0.5454	0.1438	2.9500e-003	0.1468		428.4259	428.4259	7.8500e-003		428.6221
Total	**0.1851**	**0.1115**	**1.1827**	**4.3000e-003**	**0.5422**	**3.2000e-003**	**0.5454**	**0.1438**	**2.9500e-003**	**0.1468**		**428.4259**	**428.4259**	**7.8500e-003**		**428.6221**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	279.7846					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**279.8985**	**2.3524**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.8 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1851	0.1115	1.1827	4.3000e-003	0.5422	3.2000e-003	0.5454	0.1438	2.9500e-003	0.1468		428.4259	428.4259	7.8500e-003		428.6221
Total	**0.1851**	**0.1115**	**1.1827**	**4.3000e-003**	**0.5422**	**3.2000e-003**	**0.5454**	**0.1438**	**2.9500e-003**	**0.1468**		**428.4259**	**428.4259**	**7.8500e-003**		**428.6221**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Unbundle Parking Cost

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.8019	8.2941	20.4700	0.0723	6.9152	0.0602	6.9754	1.8498	0.0562	1.9060		7,325.3007	7,325.3007	0.2667		7,331.9672
Unmitigated	1.8959	8.8759	22.6496	0.0827	8.0037	0.0683	8.0720	2.1410	0.0637	2.2047		8,381.6372	8,381.6372	0.2951		8,389.2142

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,631.45	1,631.45	1631.45	3,768,009	3,255,587
City Park	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,631.45	1,631.45	1,631.45	3,768,009	3,255,587

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
City Park	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
General Office Building	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
Unenclosed Parking with Elevator	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1007	0.8705	0.4401	5.4900e-003		0.0696	0.0696		0.0696	0.0696		1,098.3553	1,098.3553	0.0211	0.0201	1,104.8823
NaturalGas Unmitigated	0.1062	0.9186	0.4656	5.7900e-003		0.0734	0.0734		0.0734	0.0734		1,158.9238	1,158.9238	0.0222	0.0213	1,165.8107

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day											lb/day				
Apartments Mid Rise	8012.86	0.0864	0.7384	0.3142	4.7100e-003		0.0597	0.0597		0.0597	0.0597		942.6895	942.6895	0.0181	0.0173	948.2914
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1837.99	0.0198	0.1802	0.1514	1.0800e-003		0.0137	0.0137		0.0137	0.0137		216.2343	216.2343	4.1400e-003	3.9600e-003	217.5193
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1062**	**0.9186**	**0.4656**	**5.7900e-003**		**0.0734**	**0.0734**		**0.0734**	**0.0734**		**1,158.9238**	**1,158.9238**	**0.0222**	**0.0212**	**1,165.8107**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day											lb/day				
Apartments Mid Rise	7.61996	0.0822	0.7022	0.2988	4.4800e-003		0.0568	0.0568		0.0568	0.0568		896.4665	896.4665	0.0172	0.0164	901.7937
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.71605	0.0185	0.1682	0.1413	1.0100e-003		0.0128	0.0128		0.0128	0.0128		201.8888	201.8888	3.8700e-003	3.7000e-003	203.0885
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1007**	**0.8705**	**0.4401**	**5.4900e-003**		**0.0696**	**0.0696**		**0.0696**	**0.0696**		**1,098.3553**	**1,098.3553**	**0.0211**	**0.0201**	**1,104.8823**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	10.0268	0.3187	27.6725	1.4600e-003		0.1533	0.1533		0.1533	0.1533	0.0000	49.8641	49.8641	0.0480	0.0000	51.0643
Unmitigated	13.7575	0.8714	61.5531	0.1120		5.6803	5.6803		5.6803	5.6803	815.7890	49.8641	865.6531	3.8617	0.0000	962.1945

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.3798					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.8121					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3.7307	0.5527	33.8807	0.1105		5.5270	5.5270		5.5270	5.5270	815.7890	0.0000	815.7890	3.8137	0.0000	911.1302
Landscaping	0.8349	0.3187	27.6725	1.4600e-003		0.1533	0.1533		0.1533	0.1533		49.8641	49.8641	0.0480		51.0643
Total	13.7575	0.8714	61.5531	0.1120		5.6803	5.6803		5.6803	5.6803	815.7890	49.8641	865.6531	3.8617	0.0000	962.1945

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.3798					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.8121					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.8349	0.3187	27.6725	1.4600e-003		0.1533	0.1533		0.1533	0.1533		49.8641	49.8641	0.0480		51.0643
Total	10.0268	0.3187	27.6725	1.4600e-003		0.1533	0.1533		0.1533	0.1533	0.0000	49.8641	49.8641	0.0480	0.0000	51.0643

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.14	50	335	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (300 - 600 HP)	0.0770	0.2151	0.1963	3.7000e-004		0.0113	0.0113		0.0113	0.0113		39.3732	39.3732	5.5200e-003		39.5112
Total	**0.0770**	**0.2151**	**0.1963**	**3.7000e-004**		**0.0113**	**0.0113**		**0.0113**	**0.0113**		**39.3732**	**39.3732**	**5.5200e-003**		**39.5112**

11.0 Vegetation

Menlo Portal Project - Mitigated

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	34.71	1000sqft	0.02	34,706.00	0
Unenclosed Parking with Elevator	417.00	Space	1.00	136,054.00	0
City Park	1.18	Acre	1.18	51,319.00	0
Apartments Mid Rise	335.00	Dwelling Unit	1.00	327,970.00	958

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity based on 5-year average (PG&E, 2015)

Land Use - The propsed project would develop the project site with a 327,970-gross-square-foot (gsf), multi-family apartment building with approximately 335 dwelling units, an approximately 34,706 gsf commercial office building, as well as associated open space, circulation and parking, and infrastructure improvements.

Construction Phase - Construction is expected to begin May 2021 and end summer 2024. Phasing based on assumptions provided by Project Applicant. Architectural Coating and Paving phases are default duration.

Grading - A total of 5,000 cubic yards of soils would be imported.

Demolition - Approximately 64,832 building square footage to be demolished.

Trips and VMT - For soil import haul trips, assuming 16 cubic yards of material per load consistent with CalEEMod defaults.

Vehicle Trips - Based on trip generation prepared for the project.

Woodstoves - Assuming no hearth as the proposed project would not increase the demand for natural gas as the City's REACH codes would require the buildings to be all electric.

Stationary Sources - Emergency Generators and Fire Pumps - Assuming the emergency generators would run 50 hours per year for testing and emergency use.

Construction Off-road Equipment Mitigation - Assuming compliance with BAAQMD Basic Construction Mitigation Measures and tier 2 construction equipment with level 3 diesel particulate filters mitigation

Energy Mitigation - Assuming compliance with 2019 Title 24 standards, installation of high efficiency lighting, on-site renewable energy generating 10 percent of electricity use, and energy-efficient appliances.

Water Mitigation - Assuming low-flow appliances.

Waste Mitigation - Consistent with the CalRecycle Waste Diversion and Recycling Mandate which will reduce solid waste production by 75 percent.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	230.00	887.00
tblConstructionPhase	NumDays	20.00	53.00
tblConstructionPhase	NumDays	8.00	38.00
tblConstructionPhase	NumDays	8.00	40.00
tblConstructionPhase	NumDays	5.00	26.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblFireplaces	NumberGas	50.25	0.00
tblFireplaces	NumberNoFireplace	13.40	335.00
tblFireplaces	NumberWood	56.95	0.00
tblGrading	AcresOfGrading	19.00	3.20
tblGrading	AcresOfGrading	20.00	3.20
tblGrading	MaterialImported	0.00	5,000.00
tblLandUse	LandUseSquareFeet	34,710.00	34,706.00
tblLandUse	LandUseSquareFeet	166,800.00	136,054.00

tblLandUse	LandUseSquareFeet	51,400.80	51,319.00
tblLandUse	LandUseSquareFeet	335,000.00	327,970.00
tblLandUse	LotAcreage	0.80	0.02
tblLandUse	LotAcreage	3.75	1.00
tblLandUse	LotAcreage	8.82	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	335.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.14
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	ST_TR	6.39	4.87
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	5.86	4.87
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	6.65	4.87
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	11.03	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4371	4.1314	3.2136	7.7600e-003	0.7249	0.1784	0.9033	0.3227	0.1658	0.4884	0.0000	696.9576	696.9576	0.1201	0.0000	699.9602
2022	0.4486	3.6568	3.9048	0.0109	0.4832	0.1315	0.6147	0.1303	0.1237	0.2539	0.0000	985.3563	985.3563	0.1076	0.0000	988.0454
2023	0.4084	3.1888	3.7595	0.0107	0.4817	0.1127	0.5944	0.1299	0.1060	0.2359	0.0000	961.5231	961.5231	0.1039	0.0000	964.1207
2024	2.6906	1.3563	1.6792	4.6500e-003	0.2084	0.0458	0.2542	0.0562	0.0430	0.0992	0.0000	419.2815	419.2815	0.0479	0.0000	420.4792
Maximum	**2.6906**	**4.1314**	**3.9048**	**0.0109**	**0.7249**	**0.1784**	**0.9033**	**0.3227**	**0.1658**	**0.4884**	**0.0000**	**985.3563**	**985.3563**	**0.1201**	**0.0000**	**988.0454**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.2482	4.5369	3.5267	7.7600e-003	0.4470	0.0215	0.4685	0.1778	0.0214	0.1991	0.0000	696.9572	696.9572	0.1201	0.0000	699.9567
2022	0.3507	4.8992	4.1412	0.0109	0.4832	0.0261	0.5093	0.1303	0.0257	0.1560	0.0000	985.3558	985.3558	0.1076	0.0000	988.0450
2023	0.3317	4.8193	4.0138	0.0107	0.4817	0.0247	0.5064	0.1299	0.0244	0.1543	0.0000	961.5227	961.5227	0.1039	0.0000	964.1203
2024	2.6633	2.0990	1.8030	4.6500e-003	0.2084	0.0113	0.2196	0.0562	0.0112	0.0673	0.0000	419.2813	419.2813	0.0479	0.0000	420.4790
Maximum	**2.6633**	**4.8992**	**4.1412**	**0.0109**	**0.4832**	**0.0261**	**0.5093**	**0.1778**	**0.0257**	**0.1991**	**0.0000**	**985.3558**	**985.3558**	**0.1201**	**0.0000**	**988.0450**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	9.81	-30.98	-7.39	0.00	14.64	82.17	28.00	22.68	81.14	46.47	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-3-2021	8-2-2021	1.9156	1.7859
2	8-3-2021	11-2-2021	1.8796	2.0915
3	11-3-2021	2-2-2022	1.1057	1.3432
4	2-3-2022	5-2-2022	1.0030	1.2819
5	5-3-2022	8-2-2022	1.0303	1.3186
6	8-3-2022	11-2-2022	1.0339	1.3223
7	11-3-2022	2-2-2023	0.9954	1.3031
8	2-3-2023	5-2-2023	0.8821	1.2131

9	5-3-2023	8-2-2023	0.9065	1.2486
10	8-3-2023	11-2-2023	0.9095	1.2516
11	11-3-2023	2-2-2024	0.8970	1.2545
12	2-3-2024	5-2-2024	0.8450	1.2199
13	5-3-2024	8-2-2024	2.7622	2.9580
		Highest	2.7622	2.9580

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N20	CO2e
Category	tons/yr										MT/yr					
Area	1.7790	0.0326	2.7297	9.1000e-004		0.0528	0.0528		0.0528	0.0528	5.2249	4.0712	9.2961	0.0284	0.0000	10.0048
Energy	0.0194	0.1677	0.0850	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	506.7758	506.7758	0.0315	9.2600e-003	510.3228
Mobile	0.3489	1.5878	3.9434	0.0152	1.4021	0.0124	1.4145	0.3763	0.0116	0.3878	0.0000	1,397.1281	1,397.1281	0.0475	0.0000	1,398.3167
Stationary	0.0137	0.0384	0.0350	7.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	6.3784	6.3784	8.9000e-004	0.0000	6.4007
Waste						0.0000	0.0000		0.0000	0.0000	37.8538	0.0000	37.8538	2.2371	0.0000	93.7811
Water						0.0000	0.0000		0.0000	0.0000	8.8818	32.4830	41.3648	0.9151	0.0221	70.8380
Total	**2.1610**	**1.8264**	**6.7932**	**0.0172**	**1.4021**	**0.0806**	**1.4827**	**0.3763**	**0.0798**	**0.4561**	**51.9604**	**1,946.8365**	**1,998.7969**	**3.2604**	**0.0314**	**2,089.5641**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7527	0.0287	2.4905	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0712	4.0712	3.9200e-003	0.0000	4.1692
Energy	0.0184	0.1589	0.0803	1.0000e-003		0.0127	0.0127		0.0127	0.0127	0.0000	479.3587	479.3587	0.0297	8.7600e-003	482.7132
Mobile	0.3319	1.4856	3.5483	0.0133	1.2114	0.0109	1.2223	0.3251	0.0102	0.3353	0.0000	1,221.6554	1,221.6554	0.0429	0.0000	1,222.7287
Stationary	0.0137	0.0384	0.0350	7.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	6.3784	6.3784	8.9000e-004	0.0000	6.4007
Waste						0.0000	0.0000		0.0000	0.0000	9.4634	0.0000	9.4634	0.5593	0.0000	23.4453
Water						0.0000	0.0000		0.0000	0.0000	7.1054	27.9645	35.0699	0.7323	0.0177	58.6636
Total	**2.1167**	**1.7115**	**6.1542**	**0.0145**	**1.2114**	**0.0394**	**1.2508**	**0.3251**	**0.0387**	**0.3638**	**16.5688**	**1,739.4282**	**1,755.9970**	**1.3689**	**0.0265**	**1,798.1187**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.05**	**6.29**	**9.41**	**15.96**	**13.60**	**51.09**	**15.64**	**13.60**	**51.50**	**20.23**	**68.11**	**10.65**	**12.15**	**58.01**	**15.58**	**13.95**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/3/2021	7/2/2021	6	53	
2	Site Preparation	Site Preparation	7/5/2021	8/3/2021	6	26	
3	Rough Grading	Grading	7/5/2021	8/17/2021	6	38	
4	Fine Grading	Grading	8/2/2021	9/16/2021	6	40	
5	Building Construction	Building Construction	8/2/2021	5/31/2024	6	887	
6	Paving	Paving	6/3/2024	6/22/2024	6	18	
7	Architectural Coating	Architectural Coating	6/3/2024	6/22/2024	6	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1

Residential Indoor: 664,139; Residential Outdoor: 221,380; Non-Residential Indoor: 52,059; Non-Residential Outdoor: 17,353; Striped Parking Area: 8,163 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Rough Grading	Excavators	1	8.00	158	0.38
Rough Grading	Graders	1	8.00	187	0.41
Rough Grading	Rubber Tired Dozers	1	8.00	247	0.40
Rough Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Fine Grading	Excavators	1	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	295.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	6	15.00	0.00	625.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	331.00	72.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	66.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0319	0.0000	0.0319	4.8300e-003	0.0000	4.8300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0839	0.8332	0.5715	1.0300e-003		0.0411	0.0411		0.0382	0.0382	0.0000	90.1021	90.1021	0.0254	0.0000	90.7361
Total	**0.0839**	**0.8332**	**0.5715**	**1.0300e-003**	**0.0319**	**0.0411**	**0.0730**	**4.8300e-003**	**0.0382**	**0.0430**	**0.0000**	**90.1021**	**90.1021**	**0.0254**	**0.0000**	**90.7361**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1600e-003	0.0388	8.4800e-003	1.1000e-004	2.4900e-003	1.2000e-004	2.6100e-003	6.9000e-004	1.2000e-004	8.0000e-004	0.0000	11.1590	11.1590	5.7000e-004	0.0000	11.1733
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	8.4000e-004	8.9200e-003	3.0000e-005	3.1400e-003	2.0000e-005	3.1600e-003	8.4000e-004	2.0000e-005	8.5000e-004	0.0000	2.6553	2.6553	6.0000e-005	0.0000	2.6568
Total	**2.3800e-003**	**0.0407**	**0.0174**	**1.4000e-004**	**5.6300e-003**	**1.4000e-004**	**5.7700e-003**	**1.5300e-003**	**1.4000e-004**	**1.6500e-003**	**0.0000**	**13.8143**	**13.8143**	**6.3000e-004**	**0.0000**	**13.8300**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0144	0.0000	0.0144	2.1700e-003	0.0000	2.1700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0334	0.8656	0.6539	1.0300e-003		3.6300e-003	3.6300e-003		3.6300e-003	3.6300e-003	0.0000	90.1020	90.1020	0.0254	0.0000	90.7360
Total	**0.0334**	**0.8656**	**0.6539**	**1.0300e-003**	**0.0144**	**3.6300e-003**	**0.0180**	**2.1700e-003**	**3.6300e-003**	**5.8000e-003**	**0.0000**	**90.1020**	**90.1020**	**0.0254**	**0.0000**	**90.7360**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1600e-003	0.0388	8.4800e-003	1.1000e-004	2.4900e-003	1.2000e-004	2.6100e-003	6.9000e-004	1.2000e-004	8.0000e-004	0.0000	11.1590	11.1590	5.7000e-004	0.0000	11.1733
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	8.4000e-004	8.9200e-003	3.0000e-005	3.1400e-003	2.0000e-005	3.1600e-003	8.4000e-004	2.0000e-005	8.5000e-004	0.0000	2.6553	2.6553	6.0000e-005	0.0000	2.6568
Total	**2.3800e-003**	**0.0407**	**0.0174**	**1.4000e-004**	**5.6300e-003**	**1.4000e-004**	**5.7700e-003**	**1.5300e-003**	**1.4000e-004**	**1.6500e-003**	**0.0000**	**13.8143**	**13.8143**	**6.3000e-004**	**0.0000**	**13.8300**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2349	0.0000	0.2349	0.1291	0.0000	0.1291	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0506	0.5265	0.2750	4.9000e-004		0.0266	0.0266		0.0245	0.0245	0.0000	43.4664	43.4664	0.0141	0.0000	43.8179
Total	**0.0506**	**0.5265**	**0.2750**	**4.9000e-004**	**0.2349**	**0.0266**	**0.2614**	**0.1291**	**0.0245**	**0.1536**	**0.0000**	**43.4664**	**43.4664**	**0.0141**	**0.0000**	**43.8179**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.0000e-004	5.2500e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5631	1.5631	4.0000e-005	0.0000	1.5640
Total	**7.2000e-004**	**5.0000e-004**	**5.2500e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.5631**	**1.5631**	**4.0000e-005**	**0.0000**	**1.5640**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1057	0.0000	0.1057	0.0581	0.0000	0.0581	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0157	0.4384	0.2985	4.9000e-004		1.8500e-003	1.8500e-003		1.8500e-003	1.8500e-003	0.0000	43.4664	43.4664	0.0141	0.0000	43.8178
Total	**0.0157**	**0.4384**	**0.2985**	**4.9000e-004**	**0.1057**	**1.8500e-003**	**0.1075**	**0.0581**	**1.8500e-003**	**0.0599**	**0.0000**	**43.4664**	**43.4664**	**0.0141**	**0.0000**	**43.8178**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.0000e-004	5.2500e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5631	1.5631	4.0000e-005	0.0000	1.5640
Total	**7.2000e-004**	**5.0000e-004**	**5.2500e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.5631**	**1.5631**	**4.0000e-005**	**0.0000**	**1.5640**

3.4 Rough Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1164	0.0000	0.1164	0.0631	0.0000	0.0631	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0435	0.4700	0.3013	5.6000e-004		0.0220	0.0220		0.0203	0.0203	0.0000	49.5020	49.5020	0.0160	0.0000	49.9023
Total	**0.0435**	**0.4700**	**0.3013**	**5.6000e-004**	**0.1164**	**0.0220**	**0.1384**	**0.0631**	**0.0203**	**0.0834**	**0.0000**	**49.5020**	**49.5020**	**0.0160**	**0.0000**	**49.9023**

3.4 Rough Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4600e-003	0.0843	0.0180	2.4000e-004	5.2800e-003	2.6000e-004	5.5400e-003	1.4500e-003	2.5000e-004	1.7000e-003	0.0000	23.6420	23.6420	1.2100e-003	0.0000	23.6721
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	6.0000e-004	6.3900e-003	2.0000e-005	2.2500e-003	1.0000e-005	2.2700e-003	6.0000e-004	1.0000e-005	6.1000e-004	0.0000	1.9038	1.9038	4.0000e-005	0.0000	1.9048
Total	**3.3300e-003**	**0.0849**	**0.0244**	**2.6000e-004**	**7.5300e-003**	**2.7000e-004**	**7.8100e-003**	**2.0500e-003**	**2.6000e-004**	**2.3100e-003**	**0.0000**	**25.5457**	**25.5457**	**1.2500e-003**	**0.0000**	**25.5770**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0524	0.0000	0.0524	0.0284	0.0000	0.0284	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.4953	0.3608	5.6000e-004		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003	0.0000	49.5020	49.5020	0.0160	0.0000	49.9022
Total	**0.0192**	**0.4953**	**0.3608**	**5.6000e-004**	**0.0524**	**2.2000e-003**	**0.0546**	**0.0284**	**2.2000e-003**	**0.0306**	**0.0000**	**49.5020**	**49.5020**	**0.0160**	**0.0000**	**49.9022**

3.4 Rough Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4600e-003	0.0843	0.0180	2.4000e-004	5.2800e-003	2.6000e-004	5.5400e-003	1.4500e-003	2.5000e-004	1.7000e-003	0.0000	23.6420	23.6420	1.2100e-003	0.0000	23.6721
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	6.0000e-004	6.3900e-003	2.0000e-005	2.2500e-003	1.0000e-005	2.2700e-003	6.0000e-004	1.0000e-005	6.1000e-004	0.0000	1.9038	1.9038	4.0000e-005	0.0000	1.9048
Total	**3.3300e-003**	**0.0849**	**0.0244**	**2.6000e-004**	**7.5300e-003**	**2.7000e-004**	**7.8100e-003**	**2.0500e-003**	**2.6000e-004**	**2.3100e-003**	**0.0000**	**25.5457**	**25.5457**	**1.2500e-003**	**0.0000**	**25.5770**

3.5 Fine Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1221	0.0000	0.1221	0.0664	0.0000	0.0664	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0458	0.4947	0.3172	5.9000e-004		0.0232	0.0232		0.0213	0.0213	0.0000	52.1074	52.1074	0.0169	0.0000	52.5287
Total	**0.0458**	**0.4947**	**0.3172**	**5.9000e-004**	**0.1221**	**0.0232**	**0.1453**	**0.0664**	**0.0213**	**0.0877**	**0.0000**	**52.1074**	**52.1074**	**0.0169**	**0.0000**	**52.5287**

3.5 Fine Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	6.4000e-004	6.7300e-003	2.0000e-005	2.3700e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	2.0040	2.0040	4.0000e-005	0.0000	2.0051
Total	**9.2000e-004**	**6.4000e-004**	**6.7300e-003**	**2.0000e-005**	**2.3700e-003**	**2.0000e-005**	**2.3900e-003**	**6.3000e-004**	**1.0000e-005**	**6.4000e-004**	**0.0000**	**2.0040**	**2.0040**	**4.0000e-005**	**0.0000**	**2.0051**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0550	0.0000	0.0550	0.0299	0.0000	0.0299	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0202	0.5256	0.3798	5.9000e-004		2.3200e-003	2.3200e-003		2.3200e-003	2.3200e-003	0.0000	52.1073	52.1073	0.0169	0.0000	52.5287
Total	**0.0202**	**0.5256**	**0.3798**	**5.9000e-004**	**0.0550**	**2.3200e-003**	**0.0573**	**0.0299**	**2.3200e-003**	**0.0322**	**0.0000**	**52.1073**	**52.1073**	**0.0169**	**0.0000**	**52.5287**

3.5 Fine Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.2000e-004	6.4000e-004	6.7300e-003	2.0000e-005	2.3700e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	2.0040	2.0040	4.0000e-005	0.0000	2.0051
Total	**9.2000e-004**	**6.4000e-004**	**6.7300e-003**	**2.0000e-005**	**2.3700e-003**	**2.0000e-005**	**2.3900e-003**	**6.3000e-004**	**1.0000e-005**	**6.4000e-004**	**0.0000**	**2.0040**	**2.0040**	**4.0000e-005**	**0.0000**	**2.0051**

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1245	1.1418	1.0857	1.7600e-003		0.0628	0.0628		0.0590	0.0590	0.0000	151.7224	151.7224	0.0366	0.0000	152.6375
Total	**0.1245**	**1.1418**	**1.0857**	**1.7600e-003**		**0.0628**	**0.0628**		**0.0590**	**0.0590**	**0.0000**	**151.7224**	**151.7224**	**0.0366**	**0.0000**	**152.6375**

3.6 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0150	0.4926	0.1230	1.2700e-003	0.0309	1.0700e-003	0.0320	8.9400e-003	1.0200e-003	9.9700e-003	0.0000	122.3066	122.3066	6.0100e-003	0.0000	122.4569
Worker	0.0665	0.0459	0.4863	1.6000e-003	0.1713	1.1200e-003	0.1724	0.0456	1.0300e-003	0.0466	0.0000	144.8236	144.8236	3.2500e-003	0.0000	144.9048
Total	**0.0815**	**0.5385**	**0.6092**	**2.8700e-003**	**0.2023**	**2.1900e-003**	**0.2044**	**0.0545**	**2.0500e-003**	**0.0566**	**0.0000**	**267.1302**	**267.1302**	**9.2600e-003**	**0.0000**	**267.3617**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0708	1.5428	1.1707	1.7600e-003		8.8800e-003	8.8800e-003		8.8800e-003	8.8800e-003	0.0000	151.7222	151.7222	0.0366	0.0000	152.6373
Total	**0.0708**	**1.5428**	**1.1707**	**1.7600e-003**		**8.8800e-003**	**8.8800e-003**		**8.8800e-003**	**8.8800e-003**	**0.0000**	**151.7222**	**151.7222**	**0.0366**	**0.0000**	**152.6373**

3.6 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0150	0.4926	0.1230	1.2700e-003	0.0309	1.0700e-003	0.0320	8.9400e-003	1.0200e-003	9.9700e-003	0.0000	122.3066	122.3066	6.0100e-003	0.0000	122.4569
Worker	0.0665	0.0459	0.4863	1.6000e-003	0.1713	1.1200e-003	0.1724	0.0456	1.0300e-003	0.0466	0.0000	144.8236	144.8236	3.2500e-003	0.0000	144.9048
Total	**0.0815**	**0.5385**	**0.6092**	**2.8700e-003**	**0.2023**	**2.1900e-003**	**0.2044**	**0.0545**	**2.0500e-003**	**0.0566**	**0.0000**	**267.1302**	**267.1302**	**9.2600e-003**	**0.0000**	**267.3617**

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2670	2.4439	2.5609	4.2200e-003		0.1266	0.1266		0.1191	0.1191	0.0000	362.6500	362.6500	0.0869	0.0000	364.8220
Total	**0.2670**	**2.4439**	**2.5609**	**4.2200e-003**		**0.1266**	**0.1266**		**0.1191**	**0.1191**	**0.0000**	**362.6500**	**362.6500**	**0.0869**	**0.0000**	**364.8220**

3.6 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0334	1.1146	0.2762	3.0100e-003	0.0739	2.2200e-003	0.0761	0.0214	2.1200e-003	0.0235	0.0000	289.3633	289.3633	0.0137	0.0000	289.7066
Worker	0.1482	0.0963	1.0677	3.6800e-003	0.4093	2.6200e-003	0.4119	0.1089	2.4100e-003	0.1113	0.0000	333.3429	333.3429	6.9600e-003	0.0000	333.5169
Total	**0.1816**	**1.2110**	**1.3439**	**6.6900e-003**	**0.4832**	**4.8400e-003**	**0.4881**	**0.1303**	**4.5300e-003**	**0.1348**	**0.0000**	**622.7063**	**622.7063**	**0.0207**	**0.0000**	**623.2234**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1692	3.6863	2.7972	4.2200e-003		0.0212	0.0212		0.0212	0.0212	0.0000	362.6496	362.6496	0.0869	0.0000	364.8216
Total	**0.1692**	**3.6863**	**2.7972**	**4.2200e-003**		**0.0212**	**0.0212**		**0.0212**	**0.0212**	**0.0000**	**362.6496**	**362.6496**	**0.0869**	**0.0000**	**364.8216**

3.6 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0334	1.1146	0.2762	3.0100e-003	0.0739	2.2200e-003	0.0761	0.0214	2.1200e-003	0.0235	0.0000	289.3633	289.3633	0.0137	0.0000	289.7066
Worker	0.1482	0.0963	1.0677	3.6800e-003	0.4093	2.6200e-003	0.4119	0.1089	2.4100e-003	0.1113	0.0000	333.3429	333.3429	6.9600e-003	0.0000	333.5169
Total	**0.1816**	**1.2110**	**1.3439**	**6.6900e-003**	**0.4832**	**4.8400e-003**	**0.4881**	**0.1303**	**4.5300e-003**	**0.1348**	**0.0000**	**622.7063**	**622.7063**	**0.0207**	**0.0000**	**623.2234**

3.6 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2454	2.2440	2.5341	4.2000e-003		0.1092	0.1092		0.1027	0.1027	0.0000	361.6154	361.6154	0.0860	0.0000	363.7660
Total	**0.2454**	**2.2440**	**2.5341**	**4.2000e-003**		**0.1092**	**0.1092**		**0.1027**	**0.1027**	**0.0000**	**361.6154**	**361.6154**	**0.0860**	**0.0000**	**363.7660**

3.6 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0250	0.8567	0.2465	2.9100e-003	0.0737	9.9000e-004	0.0747	0.0213	9.4000e-004	0.0223	0.0000	280.3552	280.3552	0.0117	0.0000	280.6488
Worker	0.1381	0.0881	0.9790	3.5300e-003	0.4080	2.5500e-003	0.4106	0.1086	2.3500e-003	0.1109	0.0000	319.5525	319.5525	6.2200e-003	0.0000	319.7080
Total	**0.1631**	**0.9448**	**1.2255**	**6.4400e-003**	**0.4817**	**3.5400e-003**	**0.4852**	**0.1299**	**3.2900e-003**	**0.1332**	**0.0000**	**599.9077**	**599.9077**	**0.0179**	**0.0000**	**600.3547**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1686	3.6745	2.7883	4.2000e-003		0.0211	0.0211		0.0211	0.0211	0.0000	361.6150	361.6150	0.0860	0.0000	363.7655
Total	**0.1686**	**3.6745**	**2.7883**	**4.2000e-003**		**0.0211**	**0.0211**		**0.0211**	**0.0211**	**0.0000**	**361.6150**	**361.6150**	**0.0860**	**0.0000**	**363.7655**

3.6 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0250	0.8567	0.2465	2.9100e-003	0.0737	9.9000e-004	0.0747	0.0213	9.4000e-004	0.0223	0.0000	280.3552	280.3552	0.0117	0.0000	280.6488
Worker	0.1381	0.0881	0.9790	3.5300e-003	0.4080	2.5500e-003	0.4106	0.1086	2.3500e-003	0.1109	0.0000	319.5525	319.5525	6.2200e-003	0.0000	319.7080
Total	**0.1631**	**0.9448**	**1.2255**	**6.4400e-003**	**0.4817**	**3.5400e-003**	**0.4852**	**0.1299**	**3.2900e-003**	**0.1332**	**0.0000**	**599.9077**	**599.9077**	**0.0179**	**0.0000**	**600.3547**

3.6 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0964	0.8806	1.0589	1.7700e-003		0.0402	0.0402		0.0378	0.0378	0.0000	151.8612	151.8612	0.0359	0.0000	152.7589
Total	**0.0964**	**0.8806**	**1.0589**	**1.7700e-003**		**0.0402**	**0.0402**		**0.0378**	**0.0378**	**0.0000**	**151.8612**	**151.8612**	**0.0359**	**0.0000**	**152.7589**

3.6 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0101	0.3557	0.0996	1.2100e-003	0.0309	4.1000e-004	0.0313	8.9500e-003	3.9000e-004	9.3300e-003	0.0000	116.9188	116.9188	4.8000e-003	0.0000	117.0387
Worker	0.0545	0.0334	0.3808	1.4200e-003	0.1713	1.0500e-003	0.1724	0.0456	9.7000e-004	0.0465	0.0000	128.8610	128.8610	2.3500e-003	0.0000	128.9198
Total	**0.0646**	**0.3891**	**0.4804**	**2.6300e-003**	**0.2023**	**1.4600e-003**	**0.2037**	**0.0545**	**1.3600e-003**	**0.0559**	**0.0000**	**245.7798**	**245.7798**	**7.1500e-003**	**0.0000**	**245.9585**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0708	1.5428	1.1707	1.7700e-003		8.8800e-003	8.8800e-003		8.8800e-003	8.8800e-003	0.0000	151.8610	151.8610	0.0359	0.0000	152.7588
Total	**0.0708**	**1.5428**	**1.1707**	**1.7700e-003**		**8.8800e-003**	**8.8800e-003**		**8.8800e-003**	**8.8800e-003**	**0.0000**	**151.8610**	**151.8610**	**0.0359**	**0.0000**	**152.7588**

3.6 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0101	0.3557	0.0996	1.2100e-003	0.0309	4.1000e-004	0.0313	8.9500e-003	3.9000e-004	9.3300e-003	0.0000	116.9188	116.9188	4.8000e-003	0.0000	117.0387
Worker	0.0545	0.0334	0.3808	1.4200e-003	0.1713	1.0500e-003	0.1724	0.0456	9.7000e-004	0.0465	0.0000	128.8610	128.8610	2.3500e-003	0.0000	128.9198
Total	**0.0646**	**0.3891**	**0.4804**	**2.6300e-003**	**0.2023**	**1.4600e-003**	**0.2037**	**0.0545**	**1.3600e-003**	**0.0559**	**0.0000**	**245.7798**	**245.7798**	**7.1500e-003**	**0.0000**	**245.9585**

3.7 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.9300e-003	0.0745	0.1100	1.7000e-004		3.5900e-003	3.5900e-003		3.3200e-003	3.3200e-003	0.0000	14.7423	14.7423	4.6300e-003	0.0000	14.8581
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9300e-003**	**0.0745**	**0.1100**	**1.7000e-004**		**3.5900e-003**	**3.5900e-003**		**3.3200e-003**	**3.3200e-003**	**0.0000**	**14.7423**	**14.7423**	**4.6300e-003**	**0.0000**	**14.8581**

3.7 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.8000e-004	3.1600e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0699	1.0699	2.0000e-005	0.0000	1.0703
Total	**4.5000e-004**	**2.8000e-004**	**3.1600e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4300e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0699**	**1.0699**	**2.0000e-005**	**0.0000**	**1.0703**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7700e-003	0.1448	0.1218	1.7000e-004		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	14.7423	14.7423	4.6300e-003	0.0000	14.8581
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7700e-003**	**0.1448**	**0.1218**	**1.7000e-004**		**7.6000e-004**	**7.6000e-004**		**7.6000e-004**	**7.6000e-004**	**0.0000**	**14.7423**	**14.7423**	**4.6300e-003**	**0.0000**	**14.8581**

3.7 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.8000e-004	3.1600e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0699	1.0699	2.0000e-005	0.0000	1.0703
Total	**4.5000e-004**	**2.8000e-004**	**3.1600e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4300e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0699**	**1.0699**	**2.0000e-005**	**0.0000**	**1.0703**

3.8 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5181					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	**2.5197**	**0.0110**	**0.0163**	**3.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3012**

3.8 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	9.2000e-004	0.0104	4.0000e-005	4.6900e-003	3.0000e-005	4.7200e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.5305	3.5305	6.0000e-005	0.0000	3.5321
Total	**1.4900e-003**	**9.2000e-004**	**0.0104**	**4.0000e-005**	**4.6900e-003**	**3.0000e-005**	**4.7200e-003**	**1.2500e-003**	**3.0000e-005**	**1.2800e-003**	**0.0000**	**3.5305**	**3.5305**	**6.0000e-005**	**0.0000**	**3.5321**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5181					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0300e-003	0.0212	0.0165	3.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	**2.5191**	**0.0212**	**0.0165**	**3.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3012**

3.8 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	9.2000e-004	0.0104	4.0000e-005	4.6900e-003	3.0000e-005	4.7200e-003	1.2500e-003	3.0000e-005	1.2800e-003	0.0000	3.5305	3.5305	6.0000e-005	0.0000	3.5321
Total	**1.4900e-003**	**9.2000e-004**	**0.0104**	**4.0000e-005**	**4.6900e-003**	**3.0000e-005**	**4.7200e-003**	**1.2500e-003**	**3.0000e-005**	**1.2800e-003**	**0.0000**	**3.5305**	**3.5305**	**6.0000e-005**	**0.0000**	**3.5321**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Unbundle Parking Cost

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3319	1.4856	3.5483	0.0133	1.2114	0.0109	1.2223	0.3251	0.0102	0.3353	0.0000	1,221.655 4	1,221.655 4	0.0429	0.0000	1,222.726 7
Unmitigated	0.3489	1.5878	3.9434	0.0152	1.4021	0.0124	1.4145	0.3763	0.0116	0.3878	0.0000	1,397.128 1	1,397.128 1	0.0475	0.0000	1,398.316 7

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,631.45	1,631.45	1631.45	3,768,009	3,255,587
City Park	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,631.45	1,631.45	1,631.45	3,768,009	3,255,587

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
City Park	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
General Office Building	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732
Unenclosed Parking with Elevator	0.580272	0.038274	0.193741	0.109917	0.015100	0.005324	0.018491	0.026678	0.002649	0.002134	0.005793	0.000896	0.000732

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	297.5137	297.5137	0.0262	5.4300e-003	299.7876
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	314.9030	314.9030	0.0278	5.7500e-003	317.3098
NaturalGas Mitigated	0.0184	0.1569	0.0803	1.0000e-003		0.0127	0.0127		0.0127	0.0127	0.0000	181.8450	181.8450	3.4900e-003	3.3300e-003	182.9257
NaturalGas Unmitigated	0.0194	0.1677	0.0850	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	191.8728	191.8728	3.6800e-003	3.5200e-003	193.0130

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.92469e+006	0.0158	0.1348	0.0574	8.6000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	156.0728	156.0728	2.9900e-003	2.8800e-003	157.0003
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	670867	3.6200e-003	0.0329	0.0276	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003	0.0000	35.8000	35.8000	6.9000e-004	6.6000e-004	36.0128
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0194**	**0.1677**	**0.0850**	**1.0600e-003**		**0.0134**	**0.0134**		**0.0134**	**0.0134**	**0.0000**	**191.8728**	**191.8728**	**3.6800e-003**	**3.5200e-003**	**193.0130**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.78129e+006	0.0150	0.1282	0.0545	8.2000e-004		0.0104	0.0104		0.0104	0.0104	0.0000	148.4201	148.4201	2.8400e-003	2.7200e-003	149.3021
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	626360	3.3800e-003	0.0307	0.0258	1.8000e-004		2.3300e-003	2.3300e-003		2.3300e-003	2.3300e-003	0.0000	33.4250	33.4250	6.4000e-004	6.1000e-004	33.6236
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0184**	**0.1589**	**0.0803**	**1.0000e-003**		**0.0127**	**0.0127**		**0.0127**	**0.0127**	**0.0000**	**181.8450**	**181.8450**	**3.4800e-003**	**3.3300e-003**	**182.9256**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.41437e+006	210.9403	0.0186	3.8500e-003	212.5525
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	433131	64.5977	5.7000e-003	1.1800e-003	65.0914
Unenclosed Parking with Elevator	263945	39.3650	3.4700e-003	7.2000e-004	39.6659
Total		**314.9030**	**0.0278**	**5.7500e-003**	**317.3098**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.34397e+006	200.4406	0.0177	3.6600e-003	201.9725
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	410746	61.2591	5.4000e-003	1.1200e-003	61.7273
Unenclosed Parking with Elevator	240135	35.8141	3.1600e-003	6.5000e-004	36.0878
Total		**297.5137**	**0.0262**	**5.4300e-003**	**299.7876**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7527	0.0287	2.4905	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0712	4.0712	3.9200e-003	0.0000	4.1692
Unmitigated	1.7790	0.0326	2.7297	9.1000e-004		0.0528	0.0528		0.0528	0.0528	5.2249	4.0712	9.2961	0.0284	0.0000	10.0048

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2518					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4257					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0263	3.9000e-003	0.2392	7.8000e-004		0.0390	0.0390		0.0390	0.0390	5.2249	0.0000	5.2249	0.0244	0.0000	5.8355
Landscaping	0.0751	0.0287	2.4905	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0712	4.0712	3.9200e-003	0.0000	4.1692
Total	**1.7790**	**0.0326**	**2.7297**	**9.1000e-004**		**0.0528**	**0.0528**		**0.0528**	**0.0528**	**5.2249**	**4.0712**	**9.2961**	**0.0284**	**0.0000**	**10.0048**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2518					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4257					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0751	0.0287	2.4905	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0712	4.0712	3.9200e-003	0.0000	4.1692
Total	**1.7527**	**0.0287**	**2.4905**	**1.3000e-004**		**0.0138**	**0.0138**		**0.0138**	**0.0138**	**0.0000**	**4.0712**	**4.0712**	**3.9200e-003**	**0.0000**	**4.1692**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	35.0699	0.7323	0.0177	58.6636
Unmitigated	41.3648	0.9151	0.0221	70.8380

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	21.8266 / 13.7602	31.7215	0.7134	0.0173	54.6959
City Park	0 / 1.40595	0.7339	6.0000e-005	1.0000e-005	0.7395
General Office Building	6.16914 / 3.78108	8.9084	0.2016	4.8700e-003	15.4025
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**41.3648**	**0.9151**	**0.0221**	**70.8380**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	17.4613 / 13.7602	26.8137	0.5709	0.0138	45.2043
City Park	0 / 1.40595	0.7339	6.0000e-005	1.0000e-005	0.7395
General Office Building	4.93531 / 3.78108	7.5223	0.1613	3.9100e-003	12.7198
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**35.0699**	**0.7323**	**0.0177**	**58.6636**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	9.4634	0.5593	0.0000	23.4453
Unmitigated	37.8538	2.2371	0.0000	93.7811

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	154.1	31.2809	1.8487	0.0000	77.4971
City Park	0.1	0.0203	1.2000e-003	0.0000	0.0503
General Office Building	32.28	6.5526	0.3872	0.0000	16.2337
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**37.8538**	**2.2371**	**0.0000**	**93.7811**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	38.525	7.8202	0.4622	0.0000	19.3743
City Park	0.025	5.0700e-003	3.0000e-004	0.0000	0.0126
General Office Building	8.07	1.6381	0.0968	0.0000	4.0584
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**9.4634**	**0.5593**	**0.0000**	**23.4453**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.14	50	335	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (300 - 600 HP)	0.0137	0.0384	0.0350	7.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	6.3784	6.3784	8.9000e-004	0.0000	6.4007
Total	**0.0137**	**0.0384**	**0.0350**	**7.0000e-005**		**2.0200e-003**	**2.0200e-003**		**2.0200e-003**	**2.0200e-003**	**0.0000**	**6.3784**	**6.3784**	**8.9000e-004**	**0.0000**	**6.4007**

11.0 Vegetation

Menlo Portal Project - 2030 Analysis

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	34.71	1000sqft	0.02	34,706.00	0
Unenclosed Parking with Elevator	417.00	Space	1.00	136,054.00	0
City Park	1.18	Acre	1.18	51,319.00	0
Apartments Mid Rise	335.00	Dwelling Unit	1.00	327,970.00	958

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	5			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	256.4	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity based on PG&E default and assuming a Renewables Portfolio Standard (RPS) of 60% by 2030.

Construction Phase - Operational analysis only.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblFireplaces	NumberGas	50.25	0.00

tblFireplaces	NumberNoFireplace	13.40	335.00
tblFireplaces	NumberWood	56.95	0.00
tblGrading	AcresOfGrading	4.00	3.20
tblGrading	AcresOfGrading	4.00	3.20
tblGrading	MaterialImported	0.00	5,000.00
tblLandUse	LandUseSquareFeet	34,710.00	34,706.00
tblLandUse	LandUseSquareFeet	166,800.00	136,054.00
tblLandUse	LandUseSquareFeet	51,400.80	51,319.00
tblLandUse	LandUseSquareFeet	335,000.00	327,970.00
tblLandUse	LotAcreage	0.80	0.02
tblLandUse	LotAcreage	3.75	1.00
tblLandUse	LotAcreage	8.82	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	256.4
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	335.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	0.14
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	ST_TR	6.39	4.87
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	5.86	4.87
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	6.65	4.87
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	11.03	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2027	0.1910	1.6606	1.8712	5.3900e-003	0.3461	0.0531	0.3992	0.1151	0.0497	0.1648	0.0000	487.4733	487.4733	0.0635	0.0000	489.0607
2028	2.6332	0.9437	1.1874	3.3100e-003	0.1543	0.0299	0.1842	0.0416	0.0281	0.0697	0.0000	297.7599	297.7599	0.0355	0.0000	298.6462
Maximum	**2.6332**	**1.6606**	**1.8712**	**5.3900e-003**	**0.3461**	**0.0531**	**0.3992**	**0.1151**	**0.0497**	**0.1648**	**0.0000**	**487.4733**	**487.4733**	**0.0635**	**0.0000**	**489.0607**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2027	0.1563	2.6468	2.0919	5.3900e-003	0.2752	0.0797	0.3549	0.0840	0.0796	0.1636	0.0000	487.4731	487.4731	0.0635	0.0000	489.0604
2028	2.6183	1.5636	1.2857	3.3100e-003	0.1543	0.0502	0.2046	0.0416	0.0502	0.0917	0.0000	297.7598	297.7598	0.0355	0.0000	298.6461
Maximum	**2.6183**	**2.6468**	**2.0919**	**5.3900e-003**	**0.2752**	**0.0797**	**0.3549**	**0.0840**	**0.0796**	**0.1636**	**0.0000**	**487.4731**	**487.4731**	**0.0635**	**0.0000**	**489.0604**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	1.76	-61.67	-10.43	0.00	14.17	-56.57	4.11	19.85	-66.89	-8.92	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-3-2027	8-2-2027	0.7386	1.0986
2	8-3-2027	11-2-2027	0.6678	1.0228
3	11-3-2027	2-2-2028	0.6699	1.0247
4	2-3-2028	5-2-2028	0.6508	0.9978
5	5-3-2028	8-2-2028	2.7777	2.9113
		Highest	2.7777	2.9113

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7784	0.0325	2.7242	9.1000e-004		0.0528	0.0528		0.0528	0.0528	5.2249	4.0712	9.2961	0.0283	0.0000	10.0041
Energy	0.0194	0.1677	0.0850	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	437.4359	437.4359	0.0315	9.2600e-003	440.9829
Mobile	0.2809	1.3520	2.9012	0.0131	1.4013	8.7000e-003	1.4100	0.3759	8.1000e-003	0.3840	0.0000	1,209.9375	1,209.9375	0.0383	0.0000	1,210.8953
Stationary	0.0137	0.0384	0.0350	7.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	6.3784	6.3784	8.9000e-004	0.0000	6.4007
Waste						0.0000	0.0000		0.0000	0.0000	37.8538	0.0000	37.8538	2.2371	0.0000	93.7811
Water						0.0000	0.0000		0.0000	0.0000	8.8818	25.3304	34.2122	0.9151	0.0221	63.6854
Total	**2.0725**	**1.5906**	**5.7453**	**0.0151**	**1.4013**	**0.0770**	**1.4783**	**0.3759**	**0.0764**	**0.4522**	**51.9604**	**1,683.1533**	**1,735.1137**	**3.2512**	**0.0314**	**1,825.7494**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7521	0.0286	2.4650	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0712	4.0712	3.8900e-003	0.0000	4.1665
Energy	0.0184	0.1589	0.0803	1.0000e-003		0.0127	0.0127		0.0127	0.0127	0.0000	413.8478	413.8478	0.0297	8.7600e-003	417.2023
Mobile	0.2473	1.2789	2.6044	0.0115	1.2107	7.6900e-003	1.2184	0.3248	7.1600e-003	0.3319	0.0000	1,058.9980	1,058.9980	0.0345	0.0000	1,059.8603
Stationary	0.0137	0.0384	0.0350	7.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	6.3784	6.3784	8.9000e-004	0.0000	6.4007
Waste						0.0000	0.0000		0.0000	0.0000	9.4634	0.0000	9.4634	0.5593	0.0000	23.4453
Water						0.0000	0.0000		0.0000	0.0000	7.1054	21.8069	28.9123	0.7323	0.0177	52.5080
Total	**2.0316**	**1.5048**	**5.2048**	**0.0127**	**1.2107**	**0.0362**	**1.2470**	**0.3248**	**0.0357**	**0.3605**	**16.5688**	**1,505.1022**	**1,521.6711**	**1.3605**	**0.0265**	**1,563.5830**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	1.97	5.39	9.41	16.31	13.60	52.93	15.65	13.60	53.25	20.29	68.11	10.58	12.30	58.15	15.58	14.36

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/3/2027	5/28/2027	5	20	
2	Site Preparation	Site Preparation	5/29/2027	6/4/2027	5	5	
3	Rough Grading	Grading	6/5/2027	6/16/2027	5	8	
4	Fine Grading	Grading	6/17/2027	6/28/2027	5	8	
5	Building Construction	Building Construction	6/29/2027	5/15/2028	5	230	
6	Paving	Paving	5/16/2028	6/8/2028	5	18	
7	Architectural Coating	Architectural Coating	6/9/2028	7/4/2028	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1

Residential Indoor: 664,139; Residential Outdoor: 221,380; Non-Residential Indoor: 52,059; Non-Residential Outdoor: 17,353; Striped Parking Area: 8,163 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Rough Grading	Excavators	1	8.00	158	0.38
Rough Grading	Graders	1	8.00	187	0.41
Rough Grading	Rubber Tired Dozers	1	8.00	247	0.40
Rough Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Fine Grading	Excavators	1	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	8.00	247	0.40
Fine Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	295.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	6	15.00	0.00	625.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	331.00	72.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	66.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0319	0.0000	0.0319	4.8300e-003	0.0000	4.8300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0209	0.1920	0.1942	3.9000e-004		8.5300e-003	8.5300e-003		7.9200e-003	7.9200e-003	0.0000	33.9977	33.9977	9.4900e-003	0.0000	34.2350
Total	**0.0209**	**0.1920**	**0.1942**	**3.9000e-004**	**0.0319**	**8.5300e-003**	**0.0404**	**4.8300e-003**	**7.9200e-003**	**0.0128**	**0.0000**	**33.9977**	**33.9977**	**9.4900e-003**	**0.0000**	**34.2350**

3.2 Demolition - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.2000e-004	0.0225	7.6600e-003	1.1000e-004	2.4900e-003	4.0000e-005	2.5300e-003	6.9000e-004	4.0000e-005	7.2000e-004	0.0000	10.2962	10.2962	4.9000e-004	0.0000	10.3085
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	1.8000e-004	2.1300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.7957	0.7957	1.0000e-005	0.0000	0.7960
Total	**1.0400e-003**	**0.0226**	**9.7900e-003**	**1.2000e-004**	**3.6800e-003**	**5.0000e-005**	**3.7200e-003**	**1.0100e-003**	**5.0000e-005**	**1.0400e-003**	**0.0000**	**11.0919**	**11.0919**	**5.0000e-004**	**0.0000**	**11.1046**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0144	0.0000	0.0144	2.1700e-003	0.0000	2.1700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0126	0.3266	0.2467	3.9000e-004		9.1400e-003	9.1400e-003		9.1400e-003	9.1400e-003	0.0000	33.9976	33.9976	9.4900e-003	0.0000	34.2349
Total	**0.0126**	**0.3266**	**0.2467**	**3.9000e-004**	**0.0144**	**9.1400e-003**	**0.0235**	**2.1700e-003**	**9.1400e-003**	**0.0113**	**0.0000**	**33.9976**	**33.9976**	**9.4900e-003**	**0.0000**	**34.2349**

3.2 Demolition - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.2000e-004	0.0225	7.6600e-003	1.1000e-004	2.4900e-003	4.0000e-005	2.5300e-003	6.9000e-004	4.0000e-005	7.2000e-004	0.0000	10.2962	10.2962	4.9000e-004	0.0000	10.3085
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	1.8000e-004	2.1300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.7957	0.7957	1.0000e-005	0.0000	0.7960
Total	**1.0400e-003**	**0.0226**	**9.7900e-003**	**1.2000e-004**	**3.6800e-003**	**5.0000e-005**	**3.7200e-003**	**1.0100e-003**	**5.0000e-005**	**1.0400e-003**	**0.0000**	**11.0919**	**11.0919**	**5.0000e-004**	**0.0000**	**11.1046**

3.3 Site Preparation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1800e-003	0.0631	0.0448	1.0000e-004		2.7200e-003	2.7200e-003		2.5000e-003	2.5000e-003	0.0000	8.3668	8.3668	2.7100e-003	0.0000	8.4344
Total	**6.1800e-003**	**0.0631**	**0.0448**	**1.0000e-004**	**0.0452**	**2.7200e-003**	**0.0479**	**0.0248**	**2.5000e-003**	**0.0273**	**0.0000**	**8.3668**	**8.3668**	**2.7100e-003**	**0.0000**	**8.4344**

3.3 Site Preparation - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	5.0000e-005	6.4000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2387	0.2387	0.0000	0.0000	0.2388
Total	**1.0000e-004**	**5.0000e-005**	**6.4000e-004**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2387**	**0.2387**	**0.0000**	**0.0000**	**0.2388**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0203	0.0000	0.0203	0.0112	0.0000	0.0112	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0200e-003	0.0843	0.0574	1.0000e-004		2.3700e-003	2.3700e-003		2.3700e-003	2.3700e-003	0.0000	8.3667	8.3667	2.7100e-003	0.0000	8.4344
Total	**3.0200e-003**	**0.0843**	**0.0574**	**1.0000e-004**	**0.0203**	**2.3700e-003**	**0.0227**	**0.0112**	**2.3700e-003**	**0.0135**	**0.0000**	**8.3667**	**8.3667**	**2.7100e-003**	**0.0000**	**8.4344**

3.3 Site Preparation - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	5.0000e-005	6.4000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2387	0.2387	0.0000	0.0000	0.2388
Total	**1.0000e-004**	**5.0000e-005**	**6.4000e-004**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2387**	**0.2387**	**0.0000**	**0.0000**	**0.2388**

3.4 Rough Grading - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0261	0.0000	0.0261	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0613	0.0582	1.2000e-004		2.4900e-003	2.4900e-003		2.2900e-003	2.2900e-003	0.0000	10.4279	10.4279	3.3700e-003	0.0000	10.5122
Total	**6.0900e-003**	**0.0613**	**0.0582**	**1.2000e-004**	**0.0261**	**2.4900e-003**	**0.0286**	**0.0135**	**2.2900e-003**	**0.0158**	**0.0000**	**10.4279**	**10.4279**	**3.3700e-003**	**0.0000**	**10.5122**

3.4 Rough Grading - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5200e-003	0.0476	0.0162	2.2000e-004	5.2800e-003	9.0000e-005	5.3700e-003	1.4500e-003	8.0000e-005	1.5400e-003	0.0000	21.8140	21.8140	1.0400e-003	0.0000	21.8401
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	7.0000e-005	8.5000e-004	0.0000	4.7000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3183	0.3183	0.0000	0.0000	0.3184
Total	**1.6500e-003**	**0.0476**	**0.0171**	**2.2000e-004**	**5.7500e-003**	**9.0000e-005**	**5.8500e-003**	**1.5800e-003**	**8.0000e-005**	**1.6700e-003**	**0.0000**	**22.1323**	**22.1323**	**1.0400e-003**	**0.0000**	**22.1585**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0117	0.0000	0.0117	6.0600e-003	0.0000	6.0600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0400e-003	0.1051	0.0760	1.2000e-004		3.0900e-003	3.0900e-003		3.0900e-003	3.0900e-003	0.0000	10.4279	10.4279	3.3700e-003	0.0000	10.5122
Total	**4.0400e-003**	**0.1051**	**0.0760**	**1.2000e-004**	**0.0117**	**3.0900e-003**	**0.0148**	**6.0600e-003**	**3.0900e-003**	**9.1500e-003**	**0.0000**	**10.4279**	**10.4279**	**3.3700e-003**	**0.0000**	**10.5122**

3.4 Rough Grading - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5200e-003	0.0476	0.0162	2.2000e-004	5.2800e-003	9.0000e-005	5.3700e-003	1.4500e-003	8.0000e-005	1.5400e-003	0.0000	21.8140	21.8140	1.0400e-003	0.0000	21.8401
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	7.0000e-005	8.5000e-004	0.0000	4.7000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3183	0.3183	0.0000	0.0000	0.3184
Total	**1.6500e-003**	**0.0476**	**0.0171**	**2.2000e-004**	**5.7500e-003**	**9.0000e-005**	**5.8500e-003**	**1.5800e-003**	**8.0000e-005**	**1.6700e-003**	**0.0000**	**22.1323**	**22.1323**	**1.0400e-003**	**0.0000**	**22.1585**

3.5 Fine Grading - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0258	0.0000	0.0258	0.0134	0.0000	0.0134	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.0900e-003	0.0613	0.0582	1.2000e-004		2.4900e-003	2.4900e-003		2.2900e-003	2.2900e-003	0.0000	10.4279	10.4279	3.3700e-003	0.0000	10.5122
Total	**6.0900e-003**	**0.0613**	**0.0582**	**1.2000e-004**	**0.0258**	**2.4900e-003**	**0.0283**	**0.0134**	**2.2900e-003**	**0.0157**	**0.0000**	**10.4279**	**10.4279**	**3.3700e-003**	**0.0000**	**10.5122**

3.5 Fine Grading - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	7.0000e-005	8.5000e-004	0.0000	4.7000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3183	0.3183	0.0000	0.0000	0.3184
Total	**1.3000e-004**	**7.0000e-005**	**8.5000e-004**	**0.0000**	**4.7000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3183**	**0.3183**	**0.0000**	**0.0000**	**0.3184**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0116	0.0000	0.0116	6.0400e-003	0.0000	6.0400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0400e-003	0.1051	0.0760	1.2000e-004		3.0900e-003	3.0900e-003		3.0900e-003	3.0900e-003	0.0000	10.4279	10.4279	3.3700e-003	0.0000	10.5122
Total	**4.0400e-003**	**0.1051**	**0.0760**	**1.2000e-004**	**0.0116**	**3.0900e-003**	**0.0147**	**6.0400e-003**	**3.0900e-003**	**9.1300e-003**	**0.0000**	**10.4279**	**10.4279**	**3.3700e-003**	**0.0000**	**10.5122**

3.5 Fine Grading - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	7.0000e-005	8.5000e-004	0.0000	4.7000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3183	0.3183	0.0000	0.0000	0.3184
Total	**1.3000e-004**	**7.0000e-005**	**8.5000e-004**	**0.0000**	**4.7000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3183**	**0.3183**	**0.0000**	**0.0000**	**0.3184**

3.6 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0916	0.8355	1.0777	1.8100e-003		0.0354	0.0354		0.0333	0.0333	0.0000	155.3860	155.3860	0.0365	0.0000	156.2992
Total	**0.0916**	**0.8355**	**1.0777**	**1.8100e-003**		**0.0354**	**0.0354**		**0.0333**	**0.0333**	**0.0000**	**155.3860**	**155.3860**	**0.0365**	**0.0000**	**156.2992**

3.6 Building Construction - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.6100e-003	0.3510	0.0950	1.2200e-003	0.0316	3.9000e-004	0.0320	9.1500e-003	3.7000e-004	9.5300e-003	0.0000	117.4407	117.4407	4.6500e-003	0.0000	117.5569
Worker	0.0476	0.0261	0.3149	1.3000e-003	0.1752	9.8000e-004	0.1762	0.0466	9.0000e-004	0.0475	0.0000	117.6451	117.6451	1.8100e-003	0.0000	117.6904
Total	**0.0572**	**0.3771**	**0.4099**	**2.5200e-003**	**0.2069**	**1.3700e-003**	**0.2082**	**0.0558**	**1.2700e-003**	**0.0571**	**0.0000**	**235.0858**	**235.0858**	**6.4600e-003**	**0.0000**	**235.2473**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0724	1.5761	1.1975	1.8100e-003		0.0605	0.0605		0.0605	0.0605	0.0000	155.3859	155.3859	0.0365	0.0000	156.2990
Total	**0.0724**	**1.5761**	**1.1975**	**1.8100e-003**		**0.0605**	**0.0605**		**0.0605**	**0.0605**	**0.0000**	**155.3859**	**155.3859**	**0.0365**	**0.0000**	**156.2990**

3.6 Building Construction - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.6100e-003	0.3510	0.0950	1.2200e-003	0.0316	3.9000e-004	0.0320	9.1500e-003	3.7000e-004	9.5300e-003	0.0000	117.4407	117.4407	4.6500e-003	0.0000	117.5569
Worker	0.0476	0.0261	0.3149	1.3000e-003	0.1752	9.8000e-004	0.1762	0.0466	9.0000e-004	0.0475	0.0000	117.6451	117.6451	1.8100e-003	0.0000	117.6904
Total	**0.0572**	**0.3771**	**0.4099**	**2.5200e-003**	**0.2069**	**1.3700e-003**	**0.2082**	**0.0558**	**1.2700e-003**	**0.0571**	**0.0000**	**235.0858**	**235.0858**	**6.4600e-003**	**0.0000**	**235.2473**

3.6 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0656	0.5985	0.7721	1.2900e-003		0.0253	0.0253		0.0238	0.0238	0.0000	111.3213	111.3213	0.0262	0.0000	111.9755
Total	**0.0656**	**0.5985**	**0.7721**	**1.2900e-003**		**0.0253**	**0.0253**		**0.0238**	**0.0238**	**0.0000**	**111.3213**	**111.3213**	**0.0262**	**0.0000**	**111.9755**

3.6 Building Construction - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.7600e-003	0.2450	0.0671	8.7000e-004	0.0227	2.8000e-004	0.0229	6.5600e-003	2.6000e-004	6.8200e-003	0.0000	83.7415	83.7415	3.2800e-003	0.0000	83.8234
Worker	0.0322	0.0172	0.2121	9.0000e-004	0.1255	6.5000e-004	0.1262	0.0334	6.0000e-004	0.0340	0.0000	81.6796	81.6796	1.1900e-003	0.0000	81.7094
Total	**0.0390**	**0.2662**	**0.2791**	**1.7700e-003**	**0.1482**	**9.3000e-004**	**0.1491**	**0.0400**	**8.6000e-004**	**0.0408**	**0.0000**	**165.4211**	**165.4211**	**4.4700e-003**	**0.0000**	**165.5328**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0519	1.1306	0.8579	1.2900e-003		0.0434	0.0434		0.0434	0.0434	0.0000	111.3212	111.3212	0.0262	0.0000	111.9754
Total	**0.0519**	**1.1306**	**0.8579**	**1.2900e-003**		**0.0434**	**0.0434**		**0.0434**	**0.0434**	**0.0000**	**111.3212**	**111.3212**	**0.0262**	**0.0000**	**111.9754**

3.6 Building Construction - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.7600e-003	0.2490	0.0671	8.7000e-004	0.0227	2.8000e-004	0.0229	6.5600e-003	2.6000e-004	6.8200e-003	0.0000	83.7415	83.7415	3.2800e-003	0.0000	83.8234
Worker	0.0322	0.0172	0.2121	9.0000e-004	0.1255	6.5000e-004	0.1262	0.0334	6.0000e-004	0.0340	0.0000	81.6796	81.6796	1.1900e-003	0.0000	81.7094
Total	**0.0390**	**0.2662**	**0.2791**	**1.7700e-003**	**0.1482**	**9.3000e-004**	**0.1491**	**0.0400**	**8.6000e-004**	**0.0408**	**0.0000**	**165.4211**	**165.4211**	**4.4700e-003**	**0.0000**	**165.5328**

3.7 Paving - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.3800e-003	0.0678	0.1096	1.7000e-004		3.1700e-003	3.1700e-003		2.9300e-003	2.9300e-003	0.0000	14.7404	14.7404	4.6300e-003	0.0000	14.8562
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.3800e-003**	**0.0678**	**0.1096**	**1.7000e-004**		**3.1700e-003**	**3.1700e-003**		**2.9300e-003**	**2.9300e-003**	**0.0000**	**14.7404**	**14.7404**	**4.6300e-003**	**0.0000**	**14.8562**

3.7 Paving - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.0000e-004	2.4000e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	0.9254	0.9254	1.0000e-005	0.0000	0.9257
Total	**3.7000e-004**	**2.0000e-004**	**2.4000e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4300e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**0.9254**	**0.9254**	**1.0000e-005**	**0.0000**	**0.9257**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7700e-003	0.1448	0.1218	1.7000e-004		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	14.7404	14.7404	4.6300e-003	0.0000	14.8562
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7700e-003**	**0.1448**	**0.1218**	**1.7000e-004**		**5.0400e-003**	**5.0400e-003**		**5.0400e-003**	**5.0400e-003**	**0.0000**	**14.7404**	**14.7404**	**4.6300e-003**	**0.0000**	**14.8562**

3.7 Paving - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.0000e-004	2.4000e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	0.9254	0.9254	1.0000e-005	0.0000	0.9257
Total	**3.7000e-004**	**2.0000e-004**	**2.4000e-003**	**1.0000e-005**	**1.4200e-003**	**1.0000e-005**	**1.4300e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**0.9254**	**0.9254**	**1.0000e-005**	**0.0000**	**0.9257**

3.8 Architectural Coating - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5181					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5400e-003	0.0103	0.0163	3.0000e-005		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3011
Total	**2.5196**	**0.0103**	**0.0163**	**3.0000e-005**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3011**

3.8 Architectural Coating - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	6.4000e-004	7.9300e-003	3.0000e-005	4.6900e-003	2.0000e-005	4.7200e-003	1.2500e-003	2.0000e-005	1.2700e-003	0.0000	3.0537	3.0537	4.0000e-005	0.0000	3.0549
Total	**1.2000e-003**	**6.4000e-004**	**7.9300e-003**	**3.0000e-005**	**4.6900e-003**	**2.0000e-005**	**4.7200e-003**	**1.2500e-003**	**2.0000e-005**	**1.2700e-003**	**0.0000**	**3.0537**	**3.0537**	**4.0000e-005**	**0.0000**	**3.0549**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5181					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0300e-003	0.0212	0.0165	3.0000e-005		8.6000e-004	8.6000e-004		8.6000e-004	8.6000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3011
Total	**2.5191**	**0.0212**	**0.0165**	**3.0000e-005**		**8.6000e-004**	**8.6000e-004**		**8.6000e-004**	**8.6000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.3000e-004**	**0.0000**	**2.3011**

3.8 Architectural Coating - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-003	6.4000e-004	7.9300e-003	3.0000e-005	4.6900e-003	2.0000e-005	4.7200e-003	1.2500e-003	2.0000e-005	1.2700e-003	0.0000	3.0537	3.0537	4.0000e-005	0.0000	3.0549
Total	**1.2000e-003**	**6.4000e-004**	**7.9300e-003**	**3.0000e-005**	**4.6900e-003**	**2.0000e-005**	**4.7200e-003**	**1.2500e-003**	**2.0000e-005**	**1.2700e-003**	**0.0000**	**3.0537**	**3.0537**	**4.0000e-005**	**0.0000**	**3.0549**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Unbundle Parking Cost

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2473	1.2789	2.6044	0.0115	1.2107	7.6900e-003	1.2184	0.3248	7.1600e-003	0.3319	0.0000	1,058.9980	1,058.9980	0.0345	0.0000	1,059.8803
Unmitigated	0.2609	1.3520	2.9012	0.0131	1.4013	8.7000e-003	1.4100	0.3759	8.1000e-003	0.3840	0.0000	1,209.9375	1,209.9375	0.0383	0.0000	1,210.8953

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,631.45	1,631.45	1631.45	3,768,009	3,255,587
City Park	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,631.45	1,631.45	1,631.45	3,768,009	3,255,587

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.585795	0.036515	0.193581	0.106455	0.012789	0.005274	0.019465	0.028415	0.002699	0.001789	0.005626	0.000921	0.000676
City Park	0.585795	0.036515	0.193581	0.106455	0.012789	0.005274	0.019465	0.028415	0.002699	0.001789	0.005626	0.000921	0.000676
General Office Building	0.585795	0.036515	0.193581	0.106455	0.012789	0.005274	0.019465	0.028415	0.002699	0.001789	0.005626	0.000921	0.000676
Unenclosed Parking with Elevator	0.585795	0.036515	0.193581	0.106455	0.012789	0.005274	0.019465	0.028415	0.002699	0.001789	0.005626	0.000921	0.000676

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	232.0028	232.0028	0.0262	5.4300e-003	234.2766
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	245.5630	245.5630	0.0278	5.7500e-003	247.9698
NaturalGas Mitigated	0.0184	0.1569	0.0803	1.0000e-003		0.0127	0.0127		0.0127	0.0127	0.0000	181.8450	181.8450	3.4900e-003	3.3300e-003	182.9257
NaturalGas Unmitigated	0.0194	0.1677	0.0850	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	191.8728	191.8728	3.6800e-003	3.5200e-003	193.0130

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.92469e+006	0.0158	0.1348	0.0574	8.6000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	156.0728	156.0728	2.9900e-003	2.8600e-003	157.0003
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	670867	3.6200e-003	0.0329	0.0276	2.0000e-004		2.5000e-003	2.5000e-003		2.5000e-003	2.5000e-003	0.0000	35.8000	35.8000	6.9000e-004	6.6000e-004	36.0128
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0194**	**0.1677**	**0.0850**	**1.0600e-003**		**0.0134**	**0.0134**		**0.0134**	**0.0134**	**0.0000**	**191.8728**	**191.8728**	**3.6800e-003**	**3.5200e-003**	**193.0130**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.78129e+006	0.0150	0.1282	0.0545	8.2000e-004		0.0104	0.0104		0.0104	0.0104	0.0000	148.4201	148.4201	2.8400e-003	2.7200e-003	149.3021
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	626360	3.3800e-003	0.0307	0.0258	1.8000e-004		2.3300e-003	2.3300e-003		2.3300e-003	2.3300e-003	0.0000	33.4250	33.4250	6.4000e-004	6.1000e-004	33.6238
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0184**	**0.1589**	**0.0803**	**1.0000e-003**		**0.0127**	**0.0127**		**0.0127**	**0.0127**	**0.0000**	**181.8450**	**181.8450**	**3.4800e-003**	**3.3300e-003**	**182.9256**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.41437e+006	164.4924	0.0186	3.8500e-003	166.1046
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	433131	50.3736	5.7000e-003	1.1800e-003	50.8673
Unenclosed Parking with Elevator	263945	30.6971	3.4700e-003	7.2000e-004	30.9979
Total		**245.5630**	**0.0278**	**5.7500e-003**	**247.9698**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.34397e+006	156.3046	0.0177	3.6600e-003	157.8366
City Park	0	0.0000	0.0000	0.0000	0.0000
General Office Building	410748	47.7702	5.4000e-003	1.1200e-003	48.2384
Unenclosed Parking with Elevator	240135	27.9280	3.1600e-003	6.5000e-004	28.2017
Total		**232.0028**	**0.0262**	**5.4300e-003**	**234.2766**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7521	0.0286	2.4850	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0712	4.0712	3.8900e-003	0.0000	4.1685
Unmitigated	1.7784	0.0325	2.7242	9.1000e-004		0.0528	0.0528		0.0528	0.0528	5.2249	4.0712	9.2961	0.0283	0.0000	10.0041

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2518					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4257					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0263	3.9000e-003	0.2392	7.8000e-004		0.0390	0.0390		0.0390	0.0390	5.2249	0.0000	5.2249	0.0244	0.0000	5.8355
Landscaping	0.0746	0.0286	2.4850	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0712	4.0712	3.8900e-003	0.0000	4.1685
Total	**1.7784**	**0.0325**	**2.7242**	**9.1000e-004**		**0.0528**	**0.0528**		**0.0528**	**0.0528**	**5.2249**	**4.0712**	**9.2961**	**0.0283**	**0.0000**	**10.0041**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2518					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4257					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0746	0.0286	2.4850	1.3000e-004		0.0138	0.0138		0.0138	0.0138	0.0000	4.0712	4.0712	3.8900e-003	0.0000	4.1685
Total	**1.7521**	**0.0286**	**2.4850**	**1.3000e-004**		**0.0138**	**0.0138**		**0.0138**	**0.0138**	**0.0000**	**4.0712**	**4.0712**	**3.8900e-003**	**0.0000**	**4.1685**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	28.9123	0.7323	0.0177	52.5060
Unmitigated	34.2122	0.9151	0.0221	63.6854

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	21.8266 / 13.7602	26.2613	0.7134	0.0173	49.2358
City Park	0 / 1.40595	0.5723	6.0000e-005	1.0000e-005	0.5779
General Office Building	6.16914 / 3.78106	7.3786	0.2016	4.8700e-003	13.8717
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**34.2122**	**0.9151**	**0.0221**	**63.6854**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	17.4613 / 13.7602	22.1293	0.5709	0.0138	40.5199
City Park	0 / 1.40595	0.5723	6.0000e-005	1.0000e-005	0.5779
General Office Building	4.93531 / 3.78108	6.2107	0.1613	3.9100e-003	11.4082
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**28.9123**	**0.7323**	**0.0177**	**52.5060**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	9.4634	0.5593	0.0000	23.4453
Unmitigated	37.8538	2.2371	0.0000	93.7811

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	154.1	31.2809	1.8487	0.0000	77.4971
City Park	0.1	0.0203	1.2000e-003	0.0000	0.0503
General Office Building	32.28	6.5526	0.3872	0.0000	16.2337
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**37.8538**	**2.2371**	**0.0000**	**93.7811**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	38.525	7.8202	0.4622	0.0000	19.3743
City Park	0.025	5.0700e-003	3.0000e-004	0.0000	0.0126
General Office Building	8.07	1.6381	0.0968	0.0000	4.0584
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**9.4634**	**0.5593**	**0.0000**	**23.4453**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.14	50	335	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (300 - 600 HP)	0.0137	0.0384	0.0350	7.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	6.3784	6.3784	8.9000e-004	0.0000	6.4007
Total	**0.0137**	**0.0384**	**0.0350**	**7.0000e-005**		**2.0200e-003**	**2.0200e-003**		**2.0200e-003**	**2.0200e-003**	**0.0000**	**6.3784**	**6.3784**	**8.9000e-004**	**0.0000**	**6.4007**

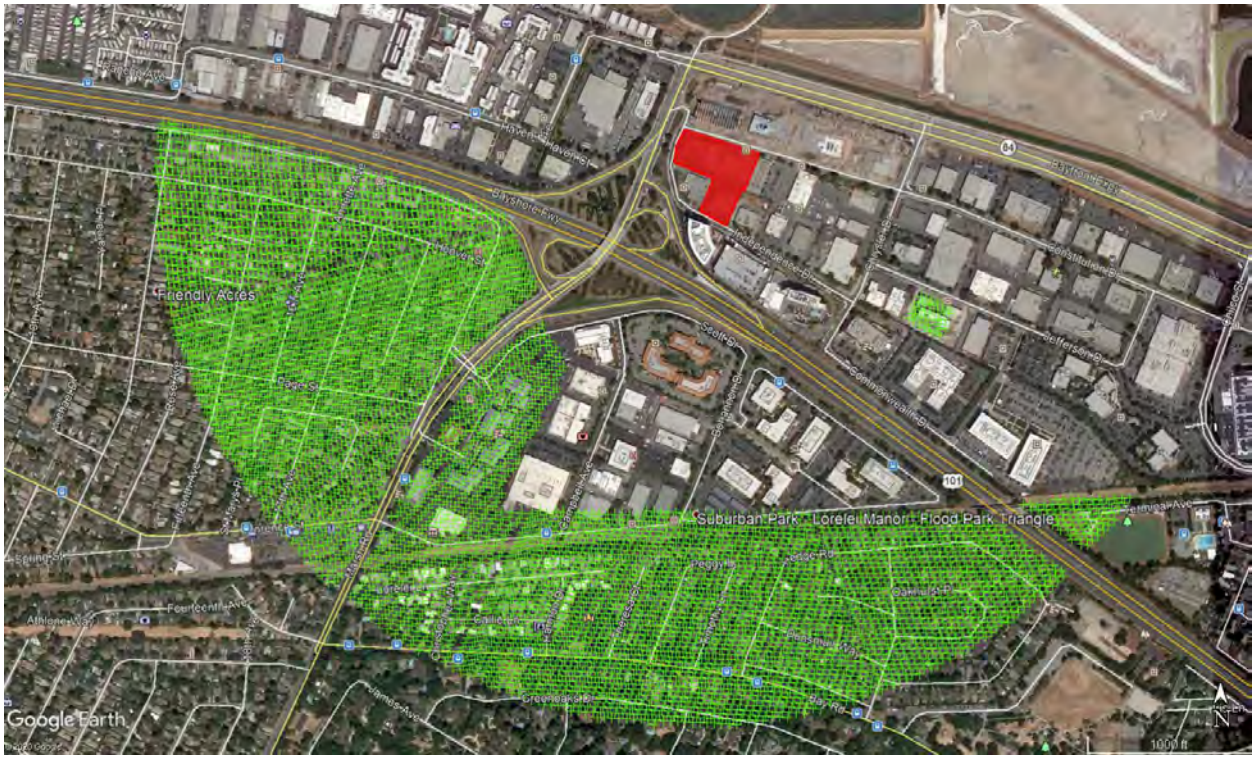
11.0 Vegetation

APPENDIX G

HEALTH RISK ASSESSMENT DATA

This page intentionally left blank

Construction Receptor Grid



Unmitigated Construction Cancer Risk



Unmitigated Construction Chronic Hazard Index



Unmitigated Construction $PM_{2.5}$ Concentrations



Mitigated Construction Cancer Risk



Mitigated Construction Chronic Hazard Index



Mitigated Construction $PM_{2.5}$ Concentrations



Operational Receptor Grid



Operational Cancer Risk



Operational Chronic Hazard Index



Operational Acute Hazard Index



Operational $PM_{2.5}$ Concentrations



APPENDIX H

NOISE DATA

This page intentionally left blank

TABLE Existing-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road north of Bayfront Expressway
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10250 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	111.6	233.4

TABLE Existing-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road south of Bayfront Expressway
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 43060 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.65

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
67.3	133.2	281.2	603.1

TABLE Existing-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Marsh Road
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 41140 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
111.4	229.8	490.3	1053.8

TABLE Existing-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road south of US-101 NB Off-Ramp
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9900 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.27

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	109.2	228.1

TABLE Existing-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 NB Off-Ramp east of Marsh Road
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30860 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
137.5	294.1	632.6	1362.2

TABLE Existing-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 NB Off-Ramp west of Marsh Road
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 32360 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.47

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
141.3	303.4	653.2	1406.8

TABLE Existing-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road north of US-101 SB Off-Ramp
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14720 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.99

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	70.2	140.0	296.1

TABLE Existing-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 SB Off-Ramp east of Marsh Road
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31350 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
138.3	297.1	639.6	1377.4

TABLE Existing-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 SB Off-Ramp west of Marsh Road
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22550 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
111.3	238.6	513.5	1105.8

TABLE Existing-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Scott Drive east of Marsh Road
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30330 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	60.8	130.5	280.8

TABLE Existing-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Scott Drive west of Marsh Road
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22010 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	105.4	226.8

TABLE Existing-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bay Road east of Marsh Road
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19410 SPEED (MPH): 30 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.46

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	60.1	128.9	277.4

TABLE Existing-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Florence Street-Bohannon Drive east of Marsh Road
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22910 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	50.5	108.3	232.9

TABLE Existing-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Florence Street-Bohannon Drive west of Marsh Road
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19320 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	96.7	208.0

TABLE Existing-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Bayfront Expressway
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 41920 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	75.3	161.8	348.4

TABLE Existing-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive south of Bayfront Expressway
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35590 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	67.6	145.1	312.4

TABLE Existing-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Chrysler Drive
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8270 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.99

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	85.8	171.6	363.3

TABLE Existing-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Constitution Drive
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3970 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	72.7

TABLE Existing-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Constitution Drive east of Chrysler Drive
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10130 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.25

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	107.0	230.3

TABLE Existing-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Constitution Drive west of Chrysler Drive
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6560 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.36

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	80.2	172.4

TABLE Existing-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Jefferson Drive east of Chrysler Drive
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5950 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.47

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	95.0

TABLE Existing-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Jefferson Drive west of Chrysler Drive
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5030 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	85.0

TABLE Existing-23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Independence Drive
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4040 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	73.5

TABLE Existing-24
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Independence Drive east of Chrysler Drive
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4450 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	78.4

TABLE Existing-25
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chilco Street north of Bayfront Expressway
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 36330 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
55.2	116.7	250.4	538.9

TABLE Existing-26
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chilco Street south of Bayfront Expressway
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35670 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
54.6	115.3	247.4	532.3

TABLE Existing-27
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Willow Road north of Bayfront Expressway
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30180 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.91

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
63.9	129.7	275.6	591.8

TABLE Existing-28
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Willow Road south of Bayfront Expressway
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 44670 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.61

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
80.5	167.3	357.4	768.4

TABLE Existing-29
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Willow Road
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21760 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
77.8	152.8	321.8	689.8

TABLE Existing-30
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: University Drive north of Bayfront Expressway
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 43650 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
65.4	133.3	283.4	608.6

TABLE Existing-31
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: University Drive south of Bayfront Expressway
NOTES: Menlo Portal - Existing

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 64390 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.78

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
82.4	171.5	366.6	788.4

TABLE Existing with Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road north of Bayfront Expressway
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10330 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	58.4	112.1	234.5

TABLE Existing with Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road south of Bayfront Expressway
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 43240 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.67

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
67.5	133.6	282.0	604.8

TABLE Existing with Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Marsh Road
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 41240 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
111.5	230.2	491.0	1055.5

TABLE Existing with Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road south of US-101 NB Off-Ramp
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10030 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.32

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	110.1	230.1

TABLE Existing with Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 NB Off-Ramp east of Marsh Road
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31290 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
138.7	296.8	638.5	1374.9

TABLE Existing with Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 NB Off-Ramp west of Marsh Road
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 32660 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
142.1	305.3	657.2	1415.5

TABLE Existing with Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road north of US-101 SB Off-Ramp
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14900 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	70.7	141.1	298.5

TABLE Existing with Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 SB Off-Ramp east of Marsh Road
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31610 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
139.1	298.7	643.1	1385.0

TABLE Existing with Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 SB Off-Ramp west of Marsh Road
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22630 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.91

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
111.5	239.2	514.7	1108.4

TABLE Existing with Project-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Scott Drive east of Marsh Road
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30410 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.56

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	60.9	130.7	281.3

TABLE Existing with Project-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Scott Drive west of Marsh Road
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22090 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	105.7	227.4

TABLE Existing with Project-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bay Road east of Marsh Road
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19470 SPEED (MPH): 30 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.48

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	60.2	129.2	278.0

TABLE Existing with Project-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Florence Street-Bohannon Drive east of Marsh Road
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22990 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	50.7	108.5	233.5

TABLE Existing with Project-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Florence Street-Bohannon Drive west of Marsh Road
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19380 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	96.9	208.4

TABLE Existing with Project-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Bayfront Expressway
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 42100 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	75.5	162.3	349.4

TABLE Existing with Project-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive south of Bayfront Expressway
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35830 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.27

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	67.9	145.8	313.8

TABLE Existing with Project-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Chrysler Drive
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8690 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	88.2	177.2	375.4

TABLE Existing with Project-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Constitution Drive
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4180 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	75.2

TABLE Existing with Project-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Constitution Drive east of Chrysler Drive
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10550 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	51.3	109.9	236.5

TABLE Existing with Project-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Constitution Drive west of Chrysler Drive
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	82.2	176.6

TABLE Existing with Project-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Jefferson Drive east of Chrysler Drive
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6190 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.64

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	97.5

TABLE Existing with Project-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Jefferson Drive west of Chrysler Drive
NOTES: Menlo Portal - Existing with Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5720 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	92.6

TABLE Existing with Project-23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Independence Drive
NOTES: Menlo Portal - Existing with Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4320 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.08

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	76.8

TABLE Existing with Project-24
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Independence Drive east of Chrysler Drive
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4690 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.44

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	81.1

TABLE Existing with Project-25
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chilco Street north of Bayfront Expressway
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 36570 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
55.5	117.2	251.5	541.3

TABLE Existing with Project-26
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chilco Street south of Bayfront Expressway
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35910 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
54.8	115.8	248.5	534.7

TABLE Existing with Project-27
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Willow Road north of Bayfront Expressway
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30420 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
64.1	130.4	277.0	595.0

TABLE Existing with Project-28
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Willow Road south of Bayfront Expressway
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 44850 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
80.7	167.7	358.3	770.4

TABLE Existing with Project-29
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Willow Road
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21820 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
77.9	153.0	322.4	691.0

TABLE Existing with Project-30
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: University Drive north of Bayfront Expressway
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 43830 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
65.6	133.6	284.1	610.3

TABLE Existing with Project-31
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: University Drive south of Bayfront Expressway
NOTES: Menlo Portal - Existing with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 64530 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
82.5	171.8	367.2	789.6

TABLE Near Term -01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road north of Bayfront Expressway
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10350 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.46

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	58.5	112.2	234.8

TABLE Near Term -02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road south of Bayfront Expressway
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 49450 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.25

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
72.6	145.5	308.1	661.2

TABLE Near Term -03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Marsh Road
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 47470 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
121.4	252.3	539.1	1159.2

TABLE Near Term -04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road south of US-101 NB Off-Ramp
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10330 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	58.4	112.1	234.5

TABLE Near Term -05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 NB Off-Ramp east of Marsh Road
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 36430 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
153.3	328.4	706.6	1521.5

TABLE Near Term -06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 NB Off-Ramp west of Marsh Road
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 37500 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
155.8	334.7	720.6	1552.1

TABLE Near Term -07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road north of US-101 SB Off-Ramp
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15090 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	71.2	142.2	301.0

TABLE Near Term -08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 SB Off-Ramp east of Marsh Road
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 34850 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
148.4	318.8	686.3	1478.1

TABLE Near Term -09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 SB Off-Ramp west of Marsh Road
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25740 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.47

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
121.4	260.6	560.8	1207.8

TABLE Near Term -10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Scott Drive east of Marsh Road
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 33520 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	65.0	139.5	300.2

TABLE Near Term -11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Scott Drive west of Marsh Road
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25200 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	53.8	115.3	248.2

TABLE Near Term -12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bay Road east of Marsh Road
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21770 SPEED (MPH): 30 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.8	139.1	299.4

TABLE Near Term -13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Florence Street-Bohannon Drive east of Marsh Road
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26100 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	55.1	118.1	254.1

TABLE Near Term -14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Florence Street-Bohannon Drive west of Marsh Road
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21690 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	104.4	224.6

TABLE Near Term -15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Bayfront Expressway
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 48310 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	82.7	177.9	382.9

TABLE Near Term -16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive south of Bayfront Expressway
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 38480 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	71.2	152.9	329.1

TABLE Near Term -17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Chrysler Drive
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11970 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.59

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	106.0	217.7	463.9

TABLE Near Term -18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Constitution Drive
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8640 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	56.8	121.7

TABLE Near Term -19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Constitution Drive east of Chrysler Drive
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13830 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	61.3	131.6	283.3

TABLE Near Term -20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Constitution Drive west of Chrysler Drive
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6810 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	82.2	176.8

TABLE Near Term -21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Jefferson Drive east of Chrysler Drive
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6200 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.65

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	97.6

TABLE Near Term -22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Jefferson Drive west of Chrysler Drive
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5110 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	85.9

TABLE Near Term -23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Independence Drive
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4090 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	74.1

TABLE Near Term -24
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Independence Drive east of Chrysler Drive
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4530 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.29

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	79.3

TABLE Near Term -25
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chilco Street north of Bayfront Expressway
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 39220 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.55

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
58.0	122.8	263.5	567.1

TABLE Near Term -26
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chilco Street south of Bayfront Expressway
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 39720 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
58.5	123.8	265.7	571.9

TABLE Near Term -27
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Willow Road north of Bayfront Expressway
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35860 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
70.6	145.0	308.9	663.8

TABLE Near Term -28
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Willow Road south of Bayfront Expressway
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 47640 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
83.7	174.4	373.0	802.0

TABLE Near Term -29
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Willow Road
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25250 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
84.2	167.8	354.9	761.5

TABLE Near Term -30
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: University Drive north of Bayfront Expressway
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 46620 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
68.0	139.0	296.0	635.9

TABLE Near Term -31
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: University Drive south of Bayfront Expressway
NOTES: Menlo Portal - Near Term

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 67400 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
84.8	176.7	377.9	812.8

TABLE Near Term with Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road north of Bayfront Expressway
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10430 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	58.7	112.7	236.0

TABLE Near Term with Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road south of Bayfront Expressway
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 49630 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.27

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
72.7	145.8	308.9	662.8

TABLE Near Term with Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Marsh Road
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 47570 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
121.5	252.6	539.8	1160.8

TABLE Near Term with Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road south of US-101 NB Off-Ramp
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10460 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	58.8	112.9	236.5

TABLE Near Term with Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 NB Off-Ramp east of Marsh Road
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 36860 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
154.5	331.0	712.1	1533.5

TABLE Near Term with Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 NB Off-Ramp west of Marsh Road
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 37800 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
156.6	336.5	724.5	1560.4

TABLE Near Term with Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road north of US-101 SB Off-Ramp
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15270 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	71.6	143.3	303.3

TABLE Near Term with Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 SB Off-Ramp east of Marsh Road
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35110 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 75.82

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
149.1	320.4	689.7	1485.4

TABLE Near Term with Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 SB Off-Ramp west of Marsh Road
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25820 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
121.7	261.1	562.0	1210.3

TABLE Near Term with Project-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Scott Drive east of Marsh Road
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 33600 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.99

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	65.1	139.7	300.6

TABLE Near Term with Project-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Scott Drive west of Marsh Road
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25280 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	53.9	115.6	248.7

TABLE Near Term with Project-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bay Road east of Marsh Road
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21840 SPEED (MPH): 30 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.9	139.4	300.1

TABLE Near Term with Project-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Florence Street-Bohannon Drive east of Marsh Road
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26180 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	55.2	118.3	254.6

TABLE Near Term with Project-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Florence Street-Bohannon Drive west of Marsh Road
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21750 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	104.6	225.0

TABLE Near Term with Project-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Bayfront Expressway
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 48490 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	82.9	178.3	383.9

TABLE Near Term with Project-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive south of Bayfront Expressway
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 38720 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	71.5	153.5	330.4

TABLE Near Term with Project-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Chrysler Drive
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12390 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	108.2	222.7	474.7

TABLE Near Term with Project-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Constitution Drive
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8850 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	57.7	123.7

TABLE Near Term with Project-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Constitution Drive east of Chrysler Drive
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14250 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	62.6	134.3	289.0

TABLE Near Term with Project-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Constitution Drive west of Chrysler Drive
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7050 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	84.1	180.9

TABLE Near Term with Project-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Jefferson Drive east of Chrysler Drive
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6440 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	100.1

TABLE Near Term with Project-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Jefferson Drive west of Chrysler Drive
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5350 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.01

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	88.5

TABLE Near Term with Project-23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Independence Drive
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4370 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.13

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	77.4

TABLE Near Term with Project-24
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Independence Drive east of Chrysler Drive
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4770 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	82.1

TABLE Near Term with Project-25
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chilco Street north of Bayfront Expressway
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 39460 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
58.2	123.3	264.6	569.4

TABLE Near Term with Project-26
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chilco Street south of Bayfront Expressway
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 39960 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
58.7	124.3	266.8	574.2

TABLE Near Term with Project-27
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Willow Road north of Bayfront Expressway
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 36100 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
70.9	145.6	310.3	666.8

TABLE Near Term with Project-28
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Willow Road south of Bayfront Expressway
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 47820 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.91

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
83.9	174.9	373.9	804.1

TABLE Near Term with Project-29
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Willow Road
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25310 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
84.3	168.1	355.5	762.7

TABLE Near Term with Project-30
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: University Drive north of Bayfront Expressway
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 46800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.39

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
68.1	139.4	296.7	637.5

TABLE Near Term with Project-31
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: University Drive south of Bayfront Expressway
NOTES: Menlo Portal - Near Term with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 67540 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.99

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
84.9	177.0	378.5	813.9

TABLE Cumulative without Project -01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road north of Bayfront Expressway
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10720 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.61

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	59.5	114.7	240.3

TABLE Cumulative without Project -02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road south of Bayfront Expressway
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 54910 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
77.0	155.6	330.2	708.9

TABLE Cumulative without Project -03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Marsh Road
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 52520 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.01

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
129.1	269.5	576.5	1239.9

TABLE Cumulative without Project -04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road south of US-101 NB Off-Ramp
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10410 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.48

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	58.6	112.6	235.7

TABLE Cumulative without Project -05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 NB Off-Ramp east of Marsh Road
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 40990 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.00

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
165.7	355.2	764.3	1646.0

TABLE Cumulative without Project -06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 NB Off-Ramp west of Marsh Road
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 41980 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
167.9	360.9	776.9	1673.4

TABLE Cumulative without Project -07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road north of US-101 SB Off-Ramp
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19500 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	82.2	167.6	356.5

TABLE Cumulative without Project -08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 SB Off-Ramp east of Marsh Road
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 38720 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.25

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
159.1	341.9	736.2	1585.6

TABLE Cumulative without Project -09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 SB Off-Ramp west of Marsh Road
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 27240 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
126.1	270.6	582.4	1254.2

TABLE Cumulative without Project -10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Scott Drive east of Marsh Road
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35010 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	66.9	143.5	309.0

TABLE Cumulative without Project -11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Scott Drive west of Marsh Road
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25800 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	54.7	117.2	252.1

TABLE Cumulative without Project -12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bay Road east of Marsh Road
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22640 SPEED (MPH): 30 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.13

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	66.5	142.8	307.4

TABLE Cumulative without Project -13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Florence Street-Bohannon Drive east of Marsh Road
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 27600 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.13

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	57.1	122.5	263.7

TABLE Cumulative without Project -14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Florence Street-Bohannon Drive west of Marsh Road
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22850 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	50.5	108.1	232.5

TABLE Cumulative without Project -15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Bayfront Expressway
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 56710 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.26

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	92.0	197.9	426.1

TABLE Cumulative without Project -16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive south of Bayfront Expressway
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 43940 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	77.7	167.0	359.5

TABLE Cumulative without Project -17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Chrysler Drive
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15190 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
65.1	122.2	254.2	543.2

TABLE Cumulative without Project -18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Constitution Drive
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9230 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.38

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	59.3	127.2

TABLE Cumulative without Project -19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Constitution Drive east of Chrysler Drive
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19690 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	77.5	166.5	358.5

TABLE Cumulative without Project -20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Constitution Drive west of Chrysler Drive
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11260 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	53.6	114.8	247.0

TABLE Cumulative without Project -21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Jefferson Drive east of Chrysler Drive
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10630 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.99

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	65.1	139.7

TABLE Cumulative without Project -22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Jefferson Drive west of Chrysler Drive
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6550 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	101.3

TABLE Cumulative without Project -23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Independence Drive
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4240 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.00

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	75.9

TABLE Cumulative without Project -24
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Independence Drive east of Chrysler Drive
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5160 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	86.4

TABLE Cumulative without Project -25
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chilco Street north of Bayfront Expressway
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 43140 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
61.6	130.8	280.7	604.2

TABLE Cumulative without Project -26
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chilco Street south of Bayfront Expressway
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 45140 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
63.4	134.7	289.3	622.8

TABLE Cumulative without Project -27
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Willow Road north of Bayfront Expressway
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 51330 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
87.7	183.2	391.9	842.9

TABLE Cumulative without Project -28
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Willow Road south of Bayfront Expressway
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 64220 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
100.8	212.2	454.8	978.6

TABLE Cumulative without Project -29
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Willow Road
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 40200 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
109.8	226.4	482.8	1037.7

TABLE Cumulative without Project -30
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: University Drive north of Bayfront Expressway
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 59660 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
78.7	163.2	348.5	749.4

TABLE Cumulative without Project -31
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: University Drive south of Bayfront Expressway
NOTES: Menlo Portal - Cumulative without Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 82080 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
95.8	201.1	430.8	926.8

TABLE Cumulative with Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road north of Bayfront Expressway
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.64

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	59.7	115.2	241.5

TABLE Cumulative with Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road south of Bayfront Expressway
NOTES: Menlo Portal - Cumulative with Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 55090 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
77.1	155.9	330.9	710.5

TABLE Cumulative with Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Marsh Road
NOTES: Menlo Portal - Cumulative with Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 52620 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
129.3	269.9	577.2	1241.5

TABLE Cumulative with Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road south of US-101 NB Off-Ramp
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10540 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	59.0	113.5	237.6

TABLE Cumulative with Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 NB Off-Ramp east of Marsh Road
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 41420 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
166.8	357.7	769.7	1657.5

TABLE Cumulative with Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 NB Off-Ramp west of Marsh Road
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 42280 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
168.7	362.6	780.6	1681.3

TABLE Cumulative with Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Marsh Road north of US-101 SB Off-Ramp
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19680 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.25

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	82.7	168.6	358.7

TABLE Cumulative with Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 SB Off-Ramp east of Marsh Road
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 38980 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
159.8	343.5	739.5	1592.7

TABLE Cumulative with Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: US-101 SB Off-Ramp west of Marsh Road
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 27320 SPEED (MPH): 65 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
126.3	271.1	583.5	1256.7

TABLE Cumulative with Project-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Scott Drive east of Marsh Road
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35090 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	67.0	143.8	309.5

TABLE Cumulative with Project-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Scott Drive west of Marsh Road
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25880 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	54.8	117.4	252.6

TABLE Cumulative with Project-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bay Road east of Marsh Road
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22700 SPEED (MPH): 30 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	66.6	143.0	307.9

TABLE Cumulative with Project-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Florence Street-Bohannon Drive east of Marsh Road
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 27680 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	57.2	122.8	264.2

TABLE Cumulative with Project-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Florence Street-Bohannon Drive west of Marsh Road
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22910 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	50.5	108.3	232.9

TABLE Cumulative with Project-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Bayfront Expressway
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 56890 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	92.2	198.3	427.0

TABLE Cumulative with Project-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive south of Bayfront Expressway
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 44180 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	78.0	167.6	360.8

TABLE Cumulative with Project-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Chrysler Drive
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15610 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
65.9	124.3	258.8	553.2

TABLE Cumulative with Project-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Constitution Drive
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9450 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 60.48

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	60.2	129.2

TABLE Cumulative with Project-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Constitution Drive east of Chrysler Drive
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20110 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	78.6	168.9	363.6

TABLE Cumulative with Project-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Constitution Drive west of Chrysler Drive
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11490 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.80

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	54.3	116.4	250.4

TABLE Cumulative with Project-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Jefferson Drive east of Chrysler Drive
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10870 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	66.0	141.8

TABLE Cumulative with Project-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Jefferson Drive west of Chrysler Drive
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6790 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	103.7

TABLE Cumulative with Project-23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chrysler Drive north of Independence Drive
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4520 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	79.2

TABLE Cumulative with Project-24
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Independence Drive east of Chrysler Drive
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5400 SPEED (MPH): 25 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	89.1

TABLE Cumulative with Project-25
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chilco Street north of Bayfront Expressway
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 43380 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.99

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
61.8	131.2	281.8	606.5

TABLE Cumulative with Project-26
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Chilco Street south of Bayfront Expressway
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 45380 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 12 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
63.7	135.2	290.3	625.0

TABLE Cumulative with Project-27
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Willow Road north of Bayfront Expressway
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 51570 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
87.9	183.7	393.1	845.5

TABLE Cumulative with Project-28
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Willow Road south of Bayfront Expressway
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 64400 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
101.0	212.6	455.7	980.4

TABLE Cumulative with Project-29
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: Bayfront Expressway west of Willow Road
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 40260 SPEED (MPH): 50 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
109.9	226.6	483.3	1038.7

TABLE Cumulative with Project-30
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: University Drive north of Bayfront Expressway
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 59840 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.46

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
78.8	163.5	349.2	750.9

TABLE Cumulative with Project-31
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 08/03/2020
ROADWAY SEGMENT: University Drive south of Bayfront Expressway
NOTES: Menlo Portal - Cumulative with Project

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 82220 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
95.9	201.3	431.3	927.9