DATE: October 4, 2024

TO: Responsible and Trustee Agencies
Interested Parties and Organizations

FROM: Brianne Harkousha, Senior Planner
City of Pacifica

SUBJECT: NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED 570 CRESPI DRIVE PROJECT

REVIEW PERIOD: October 4, 2024, to November 4, 2024

The City of Pacifica ("City") is the lead agency for the preparation of an Environmental Impact Report (EIR) for the proposed 570 Crespi Drive Project (proposed project). The City has directed the preparation of this EIR in compliance with the California Environmental Quality Act (CEQA). An Initial Study, attached hereto, has been prepared pursuant to CEQA Guidelines Section 15125, which identifies the anticipated environmental effects of the proposed project. The Initial Study satisfies the City's obligation under CEQA Guidelines Section 15125 to identify the probable environmental effects of the proposed project. The scope of the EIR has been proposed by the City based upon the analysis within the Initial Study.

Once a decision is made to prepare an EIR, the lead agency must prepare a Notice of Preparation (NOP) to inform all responsible and trustee agencies that an EIR will be prepared (CEQA Guidelines Section 15082). The purpose of the NOP is to provide agencies with sufficient information describing both the proposed project and the potential environmental effects to enable the agencies to make a meaningful response as to the scope and content of the information to be included in the EIR. The City is also soliciting comments on the scope of the EIR from the general public.

PROJECT LOCATION AND SETTING

The 1.68-acre project site is located just south of Crespi Drive in the City of Pacifica, California. The site consists of the entirety of the 0.98-acre lot identified by Assessor's Parcel Number (APN) 022-162-310, located at 570 Crespi Drive ("Parcel 1"), and the southeastern 0.70-acre portion of APN 022-162-420, located at 540 Crespi Drive ("Parcel 2") (see Figure 1). Pursuant to the City's General Plan, Parcel 1 is designated Mixed Use Center. Parcel 2 is designated Public and Semi-Public (approximately northern half) and Park (approximately southern half). Both parcels are zoned Controlled Manufacturing District (M-1).

The majority of the site is undeveloped and covered in dense vegetation. Several trees and shrubs are located throughout the project site. It is noted that the western portion of the site was recently disturbed during landscape improvements, while the southern portion of the site is predominantly characterized by a seasonal drainage and wetland area. The southeast portion of Parcel 2 is currently developed with a driveway and roadway to provide access to the parking lot associated with the Pacifica Community Center and Pacifica Skate Park.

Surrounding land uses include the Pacifica Community Center, Pacifica Skatepark, and State Route (SR) 1 to the west, commercial businesses to the north and southeast, an elementary school to the east, and single-family residences to the south. The Cabrillo Elementary School is located approximately 600 feet

east of the project site and SR 1 is approximately 0.75-mile to the west of the site. In addition, the Ocean View Senior Apartments are located to the north of the site, across Crespi Drive.

PROJECT DESCRIPTION

The proposed project would include the purchase from the City of Pacifica of Parcel 2 and a Lot Merger and/or Lot Line Adjustment (LLA) to combine the 0.70-acre portion of Parcel 2 and the 0.98-acre Parcel 1. The new 1.68-acre parcel would be developed with one two-story mixed-use building (Building A) and two three-story residential buildings (Buildings B and C) (see Figure 2). The proposed project would include a condominium subdivision to create one commercial condominium and 19 residential condominiums. Five on-site trees would be removed during construction of the proposed project. In addition, the project would involve off-site improvements, including removal of two trees and the construction of a new driveway and associated parking spaces within the northern portion of the existing Pacifica Community Center at 540 Crespi Drive.

The proposed project would require approval of a General Plan Amendment, Rezoning, Zoning Text Amendment, Development Agreement, Site Development Permit, Use Permit, Tentative Subdivision Map, Lot Merger and/or LLA, Parking Exception, Sign Permit, and tree removal permit. Additional details regarding the requested approvals, proposed buildings, access and circulation, landscaping, utilities infrastructure, and off-site improvements are discussed below.

General Plan Amendment / Rezoning / Zoning Text Amendment / Development Agreement / Site Development Permit / Use Permit / Parking Exception / Sign Permit / Tree Removal Permit

A General Plan Amendment would be required to redesignate Parcel 2 from the two current General Plan land use designations (Public and Semi-Public, and Park) to Mixed Use Center, consistent with the existing land use designation of Parcel 1.

As part of the proposed project, the project site would be Rezoned from M-1 to the Community Commercial (C-2) zoning district. Per Municipal Code Section 9-4.1101(b)(8), residential dwelling units are conditionally allowable when located above the ground floor in the same building as a commercial use. As a result, approval of a Use Permit would be required in order to develop the three proposed units on the second story of Building A. A Site Development Permit and a Use Permit would be required to allow a clustered housing development pursuant to Municipal Code Section 9-4.2403. A Parking Exception would be required to allow an exception to the off-street parking requirements pursuant to Pacifica Municipal Code Section 9-4.2824(a). In addition, a Sign Permit would be required to include a Master Sign Program for the future commercial tenants of the project to be consistent with Pacifica Municipal Code Section 9-42907(b). Finally, because the proposed project would include removal of at least eight on-site trees, a tree removal permit would be required prior to removing any protected or City trees, as defined by the City's current tree protection ordinance.

The proposed Zoning Text Amendment would allow residential uses on the ground level and in buildings that do not contain commercial uses in areas zoned C-2. Approval of the proposed Zoning Text Amendment would allow for the development of Buildings B and C in the C-2 zoning district. The proposed Zoning Text Amendment would allow residential-only buildings to be constructed on sites that also contain a commercial building in areas throughout the City zoned C-2, subject to approval of a Use Permit. Approval of Use Permits is subject to the requirements of CEQA. Consequently, development of new residential uses on the ground level and in buildings that do not contain commercial uses on other parcels zoned C-2 would require site-specific environmental review and would not be allowed by-right by the proposed Zoning Text Amendment.

The proposed project would also include approval of a Development Agreement to require certain public benefits and to provide certain developer benefits, and to allow the construction of a driveway and 17 parking spaces at the adjacent Community Center, among other public benefits.

Tentative Subdivision Map, Lot Merger and/or Lot Line Adjustment

The proposed project would include approval of a Tentative Subdivision Map and a Lot Merger and/or LLA to combine Parcel 1 (APN 022-162-310), located at 570 Crespi Drive, and the southeastern 0.70-

acre portion of Parcel 2 (APN 022-162-420), located at 540 Crespi Drive. The Tentative Subdivision Map would also include the creation of one commercial structure and 19 residential condominiums on the site.

Proposed Buildings

Building A would consist of 3,165 sf of commercial space on the ground floor and three residential units totaling 3,692 sf on the second floor for a total building square footage of 6,857 sf. Building B would consist of seven townhomes totaling 16,196 sf, and Building C would consist of nine townhomes totaling 20,643 sf, for a project-wide total of 19 units. Both Buildings B and C would be three stories and would be constructed on the northernmost half of the site, while the southernmost half of the site would remain largely undisturbed, except for a small emergency stormwater overflow drain inlet and pipe. Three residential units would be Below Market Rate ownership units affordable to buyers with low or moderate incomes. Construction would occur over an approximately two-year period. Grading would involve import of approximately 2,400 cubic yards of soil.

As discussed above, Building A would be developed as a mixed-use building with the ground floor consisting of 3,165-sf of commercial space and three residential units on the second floor. The westernmost unit in Building A would be approximately 1,312 sf with one bedroom, two bathrooms, and two balconies. The center unit in Building A would be approximately 925 sf with one bedroom, one bathroom, and a single balcony. The easternmost unit in Building A would be approximately 1,312 sf with one bedroom, two bathrooms, and two balconies.

Building B would include seven town homes, and Building C would include nine townhomes. All units would include a tandem garage on the first floor with a first-floor entry, with the residential space included on the second and third floors.

The first-floor entryway, second floor, and third floor of each unit would total approximately 1,521 sf, with the exception that the southernmost unit in Building B would be 2,212 sf, and the southernmost unit in Building C would be 2,227 sf. A roof deck would be provided above each unit in Buildings B and C.

Parking, Access, and Circulation

Primary access to the project site would be provided from Crespi Drive. The driveway entrance would be provided along the eastern side of Building A and loop around the southern portion of Building A, before exiting the site to the west. A two-way drive aisle would connect to the proposed loop to allow residents access to Building B and C. The first floor of Building B and Building C would include private tandem garages for each proposed unit. Additionally, a total of 15 uncovered parking spaces would be provided on the project site, five of which would be located on the east side of Building A, seven located directly south of Building A, two south of Building B, and one south of Building C. Of the 47 total parking spaces provided on-site, three would provide electric vehicle charging.

The proposed project would also include improvements to the northern portion of the Pacifica Community Center parcel. The improvements would include construction of a new east to west driveway with 17 uncovered parking spaces and a drop-off area intended for use by the Pacifica Community Center. The new driveway would connect to existing driveways located to the west and to the east of the Community Center.

Landscaping

The proposed project would include landscaping features throughout the development area, the off-site improvement area, and along the Crespi Drive frontage. Proposed plant types include, but are not limited to, crape myrtle, desert willow, sea lavender, dwarf mat rush, and Cleveland sage. All landscaping improvements would be consistent with the City's landscape design requirements, which require a minimum of 10 percent of the area in commercial zoning districts to be landscaped, and would include at least two inches of mulch.

Utilities

Sewer service for the project would be provided by the City. The proposed project would include connection to existing sanitary sewer infrastructure in Crespi Drive. Each building would be served by an eight-inch sanitary sewer line to connect to the proposed residential units. In addition, each building would be constructed with a new sanitary sewer cleanout connected to the eight-inch sewer lines. The eight-inch lines would eventually connect to an existing sanitary sewer line within Crespi Drive to be routed to the City's wastewater treatment plant.

Water service would be provided by the North Coast County Water District (NCCWD) through connection to the existing water main located at Crespi Drive. A four-inch water line would be routed from all three buildings to provide fire service, while a three-inch water line would be routed from the proposed buildings to provide domestic water services.

Electricity services would be provided by Pacific Gas & Electric (PG&E). A new vault would be constructed by PG&E in the northern portion of the project site, near Building A, to provide electricity to the proposed structures. In addition, the project would connect to existing telecommunications infrastructure in the project area.

All runoff from impervious areas within the project site, including all hardscape, parking areas, and driveways would be collected by new four-, six-, eight- and 10-inch storm drainpipes within the proposed driveway and parking area. Runoff flowing through the storm drains would empty into proposed bioswales on the western and eastern boundaries of the site or be directed to a bioretention area in the southeast corner of the project site. Treated stormwater would either be discharged into the vacant land to the south of the development area or into the City's stormwater system through connection of an existing six-inch storm drain west of the site. An 18-inch emergency overflow riser would be installed in the southwestern corner of the project site, and would connect to the existing 12-inch storm drain that extends along the site's southwestern boundary. The proposed driveway and parking area north of the existing Community Center would be a self-treating area.

Off-Site Improvements

The proposed project would include various off-site improvements associated with the access driveway and site circulation. As discussed above, the proposed project would include construction of a new west to east driveway off Crespi Drive along the northern boundary of the Pacifica Community Center. Additional off-site improvements would include construction of 17 parking spaces to the west of the project site, a drop-off area, a new trash containment area, removal of two trees, and landscape improvements.

Discretionary Actions

The proposed project would require City approval of the following:

- General Plan Amendment to redesignate Parcel 2 from Public and Semi-Public and Park land use designations to Mixed Use Center land use designation;
- Rezoning of the site from M-1 to C-2;
- Zoning Text Amendment to allow residential uses in buildings that do not contain commercial uses in C-2 zoning district;
- Development Agreement to require certain public benefits and to provide certain developer benefits;
- Use Permit to allow residential uses within the C-2 zone;
- Site Development Permit and Use Permit to allow a clustered residential housing development;
- Parking Exception to allow an exception to off-street parking requirements;
- Sign Permit to allow a master sign program for commercial tenants;
- Tentative Subdivision Map to create new residential and commercial condominiums;
- Lot Merger and/or LLA to merge APN 022-162-310 and a portion of APN 022-162-420; and
- Tree Removal Permit to authorize tree removal.

PROBABLE ENVIRONMENTAL EFFECTS AND SCOPE OF THE EIR

Based on the analysis conducted in the Initial Study prepared for the proposed project (see Attachment), the EIR will address impacts pertaining to the topics identified below:

- Biological Resources;
- Greenhouse Gas Emissions; and
- Transportation.

Both of the foregoing chapters of the EIR will include identification of the thresholds of significance, identification of project-level and cumulative impacts, and the development of mitigation measures and monitoring strategies, as required. The EIR will also include chapters that discuss Statutorily Required Sections and Alternatives to the proposed project. The EIR will incorporate by reference the City of Pacifica General Plan and General Plan EIR.

The following paragraphs summarize the anticipated analyses that will be included in the EIR.

Biological Resources: The Biological Resources chapter will include potential effects to plant communities, wildlife, wetlands, and heritage trees, including adverse effects on rare, endangered, candidate, sensitive, and special-status species from the activities of the proposed project. The analysis in the chapter will be based on an Updated Biological Resources Analysis prepared by the project applicant specifically for the proposed project, which will be subject to a peer review by a City-hired biologist. Mitigation measures for all identified impacts will be developed consistent with applicable laws and regulations.

Greenhouse Gas Emissions: The Greenhouse Gas Emissions chapter will include analysis for the proposed project performed using the California Emissions Estimator Model (CalEEMod) software program according to the Bay Area Air Quality Managements District's (BAAQMD's) CEQA Guidelines. The chapter will include a discussion of emissions in comparison to the BAAQMD's current GHG thresholds. Mitigation measures will be identified, as appropriate, using BAAQMD to identify feasible mitigations for GHG emissions.

Transportation: The Transportation chapter will be based on project-specific trip generation and vehicle miles traveled (VMT) analyses. Impact determination for CEQA purposes will be based on VMT, consistent with CEQA Guidelines Section 15064.3, which became effective statewide on July 1, 2020. The VMT analysis will be prepared consistent with the City's current guidance. The proposed project's impacts to alternative modes such as pedestrian, bicycle, and transit facilities will be assessed based on the applicable significance criteria. The EIR chapter will also include an analysis of the proposed project's potential impacts related to conflicting with applicable programs, policies, and ordinances addressing the circulation system, vehicle safety hazards, and emergency access. Feasible and appropriate mitigation measures to avoid or reduce adverse impacts will be identified, as needed.

Statutorily Required Sections: Pursuant to CEQA Guidelines, the Statutorily Required Sections chapter of the EIR will address the potential for growth-inducing impacts of the proposed project, focusing on whether removal of any impediments to growth would occur with the project. The chapter will summarize significant and unavoidable, significant irreversible, and growth-inducing impacts, to the extent that such impacts are identified in the EIR analysis. The chapter will also summarize the cumulative impact analyses, which will be provided in each technical chapter of the EIR.

Alternatives Analysis: In accordance with Section 15126.6(a) of the CEQA Guidelines, the Alternatives Analysis chapter will evaluate, at a minimum, three alternatives, including the No Project Alternative. The Alternatives chapter will describe the alternatives and identify the environmentally superior alternative. The alternatives will be analyzed at a level of detail less than that of the proposed project, which is permissible under CEQA; however, the analyses will include sufficient detail to allow a meaningful comparison of the impacts. The Alternatives Analysis chapter will include a qualitative-level analysis of all impacts for the alternatives, and will also include a section of alternatives considered but dismissed.

SUBMITTING COMMENTS

To ensure that the full range of issues related to the proposed project are addressed and all significant issues are identified, written comments are invited from all interested parties on the scope and content of the EIR. Written comments should be directed to the name and address below:

Email (preferred):

planningdivision@pacifica.gov

Regular Mail:

City of Pacifica
Attn: Brianne Harkousha, Community Development Department
170 Santa Maria Ave
Pacifica, CA 94044-2506

Written comments are due to the City of Pacifica at the location addressed above by 5:00 p.m. on November 4, 2024.

SCOPING MEETING

In addition to the opportunity to submit written comments, a public NOP scoping meeting will be held to inform interested parties about the proposed project, and to provide agencies and the public an opportunity to provide comments on the scope and content of the EIR. The scoping meeting will be conducted as a teleconference meeting (no physical location).

EIR Scoping Meeting on the 570 Crespi Drive Project

Tuesday | October 22, 2024 | 6:00 p.m.

Via Zoom teleconference (online only – no physical location):
https://us02web.zoom.us/j/84813763301?pwd=aabU0h1xXb4hSvDvfD1bEozouDUEFd.1

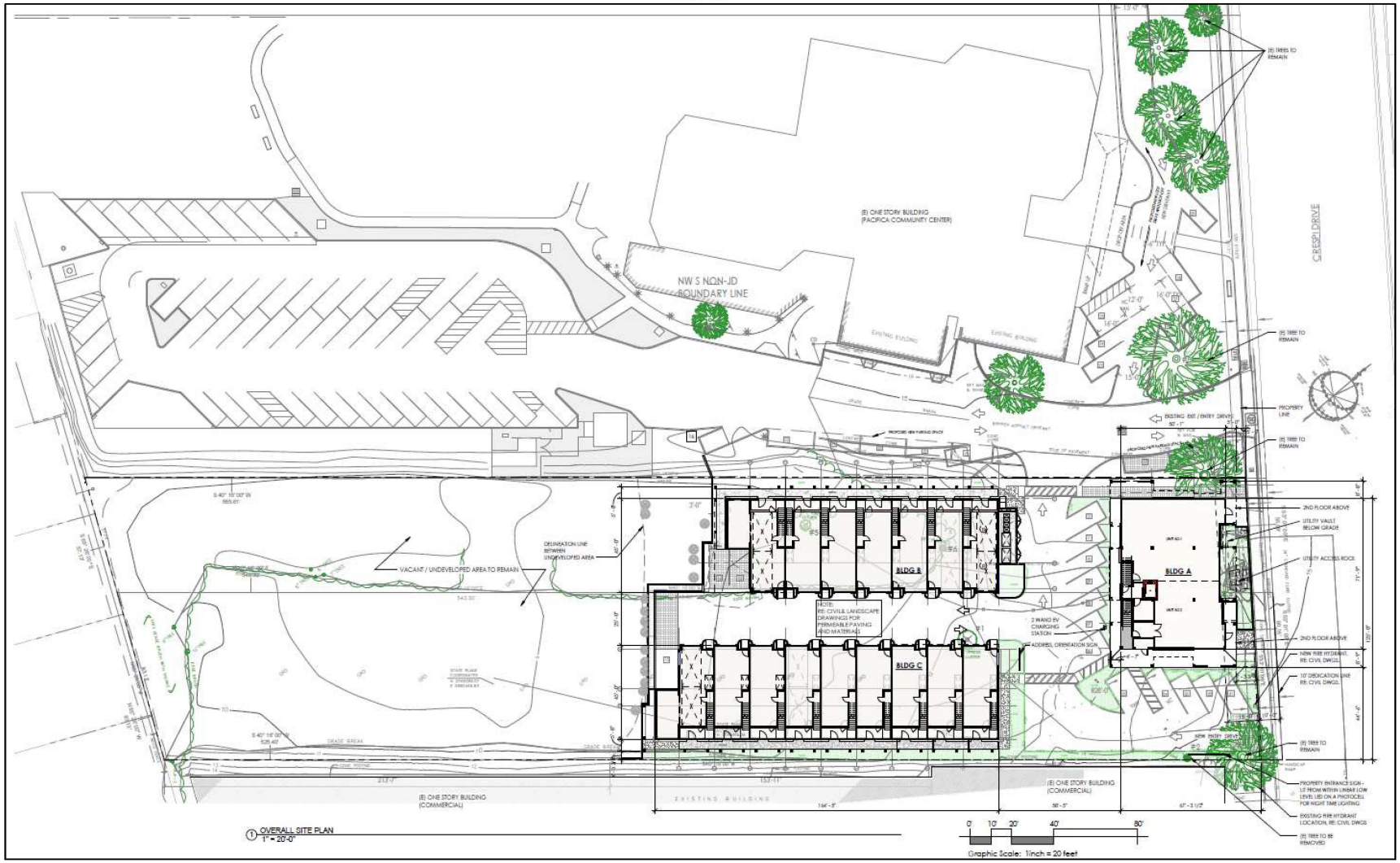
Phone: (669) 900-6833 | Webinar ID: 848 1376 3301 | Passcode: 821883

For project information, please contact the Planning Division at planningdivision@pacifica.gov

Figure 1
Project Site Boundaries



Figure 2
Site Plan



Attachment

Initial Study

CITY OF PACIFICA
PLANNING DEPARTMENT

570 Crespi Drive Project

Initial Study

October 2024

Prepared By

RANEY PLANNING & MANAGEMENT, INC. 20 years
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APPENDICES:

Appendix A: Air Quality and Greenhouse Gas Modeling Results
Appendix B: Geotechnical Investigation and Response to Geotechnical Peer Review
Appendix C: Environmental Noise Assessment

INITIAL STUDY
SEPTEMBER 2024

A. BACKGROUND

1.	Project Title:	570 Crespi Drive Project
2.	Lead Agency Name and Address:	City of Pacifica Planning Department 540 Crespi Drive Pacifica, CA 94044
3.	Contact Person and Phone Number:	Brianne Harkousha Senior Planner (650) 738-7341
4.	Project Location:	540 and 570 Crespi Drive Pacifica, CA 94044 APNs 022-162-130 and 022-162-420
5.	Project Sponsor's Name and Address:	Brendan Murphy P.O. Box 301 San Mateo, CA 94401 (650) 401-3642
6.	Existing General Plan Designation:	Mixed Use Center, Public and Semi Public, and Park
7.	Proposed General Plan Designation:	Mixed Use Center
8.	Existing Zoning Designation:	Controlled Manufacturing District (M-1)
9.	Proposed Zoning Designation:	Community Commercial District (C-2)
10.	Potential Approvals from Other Public Agencies:	Regional Water Quality Control Board California Department of Fish and Wildlife U.S. Army Corps of Engineers Bay Area Air Quality Management District

11. Surrounding Land Uses and Setting:

The 570 Crespi Drive Project (proposed project) would include development on a 1.68-acre project site comprised of two parcels in the City of Pacifica, California. Parcel 1 is located at 570 Crespi Drive (Assessor's Parcel Number [APN] 022-162-310) and is designated Mixed Use Center in the City's General Plan. Parcel 2 is located at 540 Crespi Drive (APN 022-162-420). The northern portion of Parcel 2 is designated Public and Semi Public, while

the southern half is designated Park. Both sites are zoned Controlled Manufacturing District (M-1). Surrounding land uses include the Pacifica Community Center, Pacifica Skatepark, and State Route (SR) 1 to the northwest, commercial businesses to the north and southeast, an elementary school to the east, and single-family residences to the south. In addition, the Ocean View Senior Apartments are located to the north of the site, across Crespi Drive.

12. Project Description Summary:

The proposed project would include a two-story mixed-use building (Building A) and two three-story residential buildings (Buildings B and C). The project would also include a condominium subdivision to create one commercial condominium and 19 residential condominiums. Building A would consist of 3,165-square feet (sf) of commercial space on the ground floor and three residential units totaling 3,692 sf on the second floor for a total building square footage of 6,857 sf. Building B would consist of seven townhomes totaling 16,196 sf, and Building C would consist of nine townhomes totaling 20,643 sf, for a project-wide total of 19 units. All three buildings would be constructed on the northernmost half of the site, while the southernmost half of the site would remain undisturbed. Three of the units would be ownership Below Market Rate (BMR) units pursuant to the City's Inclusionary Ordinance. In addition, the project would involve off-site improvements, including removal of two trees and construction of a new driveway and associated parking spaces within the northern portion of the existing Pacifica Community Center located immediately to the west at 540 Crespi Drive.

The proposed project would require approval of a General Plan Amendment, Rezoning, Zoning Text Amendment, Development Agreement, Site Development Permit, Use Permit, Tentative Subdivision Map, Lot Merger and/or Lot Line Adjustment (LLA), and Tree Removal Permit. The Development Agreement, among other things, would include the following developer requirements: (1) the creation of three BMR units; (2) an affordable housing contribution to City; (3) the construction of improvements at 540 Crespi Drive as noted above; (4) a driveway lease with City to allow the project to use the City's driveway; and (5) wetland interpretative signage.

13. Status of Native American Consultation Pursuant to Public Resources Code Section 21080.3.19:

Native American tribes in the project region have not requested notification of new development projects from the City as of the date of preparation of this Initial Study (IS). Thus, pursuant to Assembly Bill (AB) 52 (Public Resources Code [PRC] Section 21080.3.1), project notification letters were not distributed and requests for consultation were not received. Nonetheless, information request letters were sent in June 2020 to the Amah Mutsun Tribal Band of Mission San Juan Batista and the Ohlone Indian Tribe. In addition, because the proposed project includes a General Plan Amendment, Native American tribes were consulted on November 18, 2021, pursuant to Senate Bill (SB) 18. Responses from the tribes have not been received.

B. SOURCES

The following documents are referenced information sources used for the purposes of this IS:

1. Barry Biermann, Deputy Fire Chief, North County Fire Authority. Personal communication [email] with Clay Gallagher, Associate, Raney Planning and Management, Inc. June 4, 2020.
2. Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2017.
3. California Air Resources Board. *The 2017 Climate Change Scoping Plan Update.* January 20, 2017.
4. California Building Standards Commission. *California Green Building Standards Code*. 2019.
5. California Department of Conservation. *California Important Farmland Finder*. Available at: https://maps.conservation.ca.gov/dlrp/ciff/. Accessed June 2021.
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7. California Department of Finance. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark*. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/. Accessed June 2021.
8. California Department of Forestry and Fire Protection. *San Mateo County, Very High Fire Hazard Severity Zones in LRA*. November 24, 2008.
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20. City/County Association of Governments of San Mateo County, San Mateo Countywide Water Pollution Prevention Program. *C.3 Stormwater Technical Guidance.* June 2016.
21. City/County Association of Governments. *San Mateo County Congestion Management Program*. April 9, 2020.
22. ENGEO, Inc. *570 Crespi Drive Pacifica, California Geotechnical Peer Review*. March 2, 2020.
23. GeoForensics, Inc. *Crespi Drive Property, 570 Crespi Drive, Pacifica, California, Response to Geotechnical Peer Review*. April 30, 2020.
24. GeoForensics, Inc. *Geotechnical Investigation for Proposed New Townhouse Complex and Commercial Building.* January 5, 2016.
25. Governor's Office of Planning and Research. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018.
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31. Office of Environmental Health Hazard Assessment. *Air Toxics Hot Spots Program: Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*. February 2015.
32. Pacifica School District. *Level I Developer Fee Study for Pacifica School District.* June 14, 2018.
33. Regional Water Quality Control Board San Francisco Bay Region. *City of Pacifica, Calera Creek Water Recycling Plant and Wastewater Collection System, Pacifica, San Mateo County.* Available at: https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2017/April/7_ssr.pdf. April 12, 2017.
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C. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is "Potentially Significant" as indicated by the checklist on the following pages.

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

D. DETERMINATION

On the basis of this initial study:

☐ 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 applicant. 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" 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 EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Brianne Harkousha	10/4/2024
Signature	Date
Brianne Harkousha	City of Pacifica
Printed Name	For

E. BACKGROUND AND INTRODUCTION

This IS identifies and analyzes the potential environmental impacts of the 570 Crespi Drive project. The information and analysis presented in this document are organized in accordance with the order of the CEQA checklist in Appendix G of the CEQA Guidelines. All of the technical reports and modeling results used for the purposes of this analysis are available upon request at the City of Pacifica Planning Department.

Where the analysis provided in this document identifies potentially significant environmental effects of the project that can be mitigated to a less-than-significant level, mitigation measures are prescribed. Where the analysis provided in this document identifies potentially significant environmental effects of the project that require additional analysis, further evaluation of such effects will be provided in the Environmental Impact Report (EIR) to be prepared for the project.

On December 8, 2021, the City released an Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed project. The public review period was from December 8, 2021, through January 10, 2022. Public hearings for consideration of the project or IS/MND were held on March 7, 2022 by the City Planning Commission and on November 14, 2022, by the City Council. Based on public comments and this revised IS, the City determined an EIR was required.

On January 5, 2022, the City of Pacifica released a Draft General Plan Update and associated Draft EIR, and on July 11, 2022, the Draft General Plan Update and associated Draft EIR were adopted and certified by the City. Therefore, the analysis contained within this IS relies on the guidelines and information contained therein.

F. PROJECT DESCRIPTION

The following provides a description of the project site location and setting, as well as the proposed project components and the discretionary actions required for the project.

Project Location and Setting

The 1.68-acre project site is located just south of Crespi Drive in the City of Pacifica, California (see Figure 1 and Figure 2). The site consists of the entirety of the 0.98-acre lot identified by APN 022-162-310, located at 570 Crespi Drive (“Parcel 1”), and the southeastern 0.70-acre portion of APN 022-162-420, located at 540 Crespi Drive (“Parcel 2”). Parcel 1 is designated Mixed Use Center (MUC) in the City’s General Plan , and Parcel 2 is designated Public and Semi Public (approximately northern half) and Park (approximately southern half). Both parcels are zoned Manufacturing District (M-1).

The site is currently undeveloped and covered in dense vegetation. Several trees and shrubs are located throughout the project site. It should be noted that the western portion of the site was recently disturbed during landscape improvements, while the southern portion of the site is predominantly characterized by a seasonal drainage and wetland area.

Surrounding land uses include the Pacifica Community Center, Pacifica Skatepark, and SR 1 to the west, commercial businesses to the north and southeast, an elementary school to the east, and single-family residences to the south. The Cabrillo Elementary School is located approximately 600 feet east of the project site and SR 1 is approximately 0.75-mile to the west of the site. In addition, Ocean View Senior Apartments is located to the north of the site, across Crespi Drive.

Figure 1
Regional Project Location

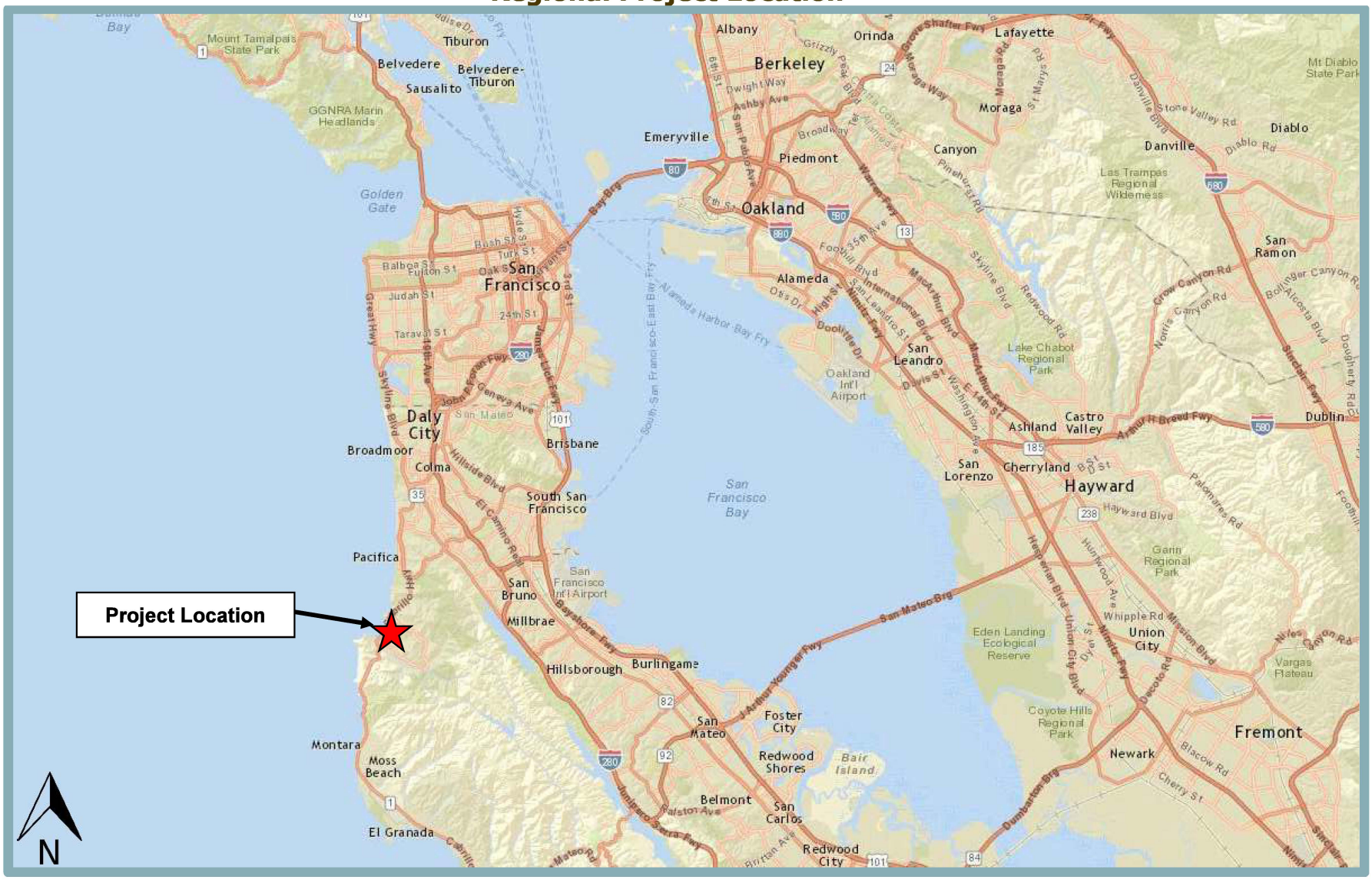


Figure 2
Project Site Boundaries



Project Components

The proposed project would include the purchase from the City of Pacifica of a 0.70-acre portion of Parcel 2 and a Lot Merger and/or LLA to combine the 0.70-acre portion of Parcel 2 and Parcel 1. The new 1.68-acre parcel would be developed with one two-story mixed-use building (Building A) and two three-story residential buildings (Buildings B and C) (see Figure 3). The project would include a condominium subdivision to create one commercial condominium and 19 residential condominiums. In addition, the project would involve off-site improvements, including the removal of two trees and construction of a new driveway and associated parking spaces within the northern portion of the existing Pacifica Community Center.

The proposed project would require approval of a General Plan Amendment, Rezoning, Zoning Text Amendment, Development Agreement, Site Development Permit, Use Permit, Parking Exception, Sign Permit, Tentative Subdivision Map, Lot Merger and/or LLA, and Tree Removal Permit. Additional details regarding the requested approvals, proposed buildings, access and circulation, landscaping, utilities infrastructure, and off-site improvements are discussed below.

General Plan Amendment / Rezoning / Zoning Text Amendment / Development Agreement / Site Development Permit / Use Permit / Parking Exception / Sign Permit

A General Plan Amendment would be required to redesignate the 0.70-acre portion of Parcel 2 from the two current General Plan land use designations (Public and Semi-Public, and Park) to Mixed Use Center, consistent with the existing land use designation of Parcel 1.

As part of the proposed project, the project site would be Rezoned from M-1 to the Community Commercial (C-2) zoning district. Per Municipal Code Section 9-4.1101(b)(8), residential dwelling units are conditionally allowable when located above the ground floor in the same building as a commercial use. As a result, approval of a Use Permit would be required in order to develop the three proposed units on the second story of Building A. A Site Development Permit and a Use Permit would be required to allow a clustered housing development pursuant to PMC Section 9-4.2403. A Parking Exception would be required to allow an exception to the off-street parking requirements pursuant to Pacifica Municipal Code Section 9-4.2824(a). Additionally, a Sign Permit would be required to include a master sign program for the future commercial tenants of the project to be consistent with Pacifica Municipal Code Section 9-42907(b).

In addition, a Zoning Text Amendment is proposed in order to allow residential uses on the ground level and in buildings that do not contain commercial uses in areas zoned C-2. Approval of the proposed Zoning Text Amendment would allow for the development of Buildings B and C in the C-2 zoning district. The proposed Zoning Text Amendment would allow residential-only buildings to be constructed on sites that also contain a commercial building in areas throughout the City zoned C-2, subject to approval of a Use Permit. Approval of Use Permits is subject to the requirements of CEQA. Consequently, development of new residential uses on the ground level and in buildings that do not contain commercial uses on other parcels zoned C-2 would require site-specific environmental review and would not be allowed by-right by the proposed Zoning Text Amendment.

The project would also include approval of a Development Agreement which would require the proposed project to provide affordable units, and construct a driveway and 17 parking spaces at the adjacent Community Center.

Tentative Subdivision Map, Lot Merger and/or Lot Line Adjustment

The proposed project would include approval of a Tentative Subdivision Map and a Lot Merger and/or LLA to combine Parcel 1 and the southeastern 0.70-acre portion of Parcel 2. The Tentative Subdivision Map would also include the creation of one commercial structure and 19 residential condominiums on the site. The Tentative Subdivision Map is provided as Figure 4.

Proposed Buildings

Building A would consist of 3,165 sf of commercial space on the ground floor and three residential units on the second floor. Buildings B and C would be three stories each and would contain seven and nine townhomes, respectively, for a project-wide total of 19 units. The buildings would be constructed on the northernmost half of the site, while the southernmost half of the site would remain undisturbed. Three residential units would be Below Market Rate ownership units. Refer to Figure 5, Figure 6, and Figure 7 for the first-, second-, and third-story floor plans for all proposed buildings. Construction would occur over an approximately two-year period. Grading would involve import of approximately 2,400 cubic yards of soil.

As discussed above, Building A would be developed as a mixed-use building with the ground floor consisting of 3,165-sf of commercial space and three residential units on the second floor. The westernmost unit in Building A would be approximately 1,312 sf with one bedroom, two bathrooms, and two balconies. The center unit in Building A would be approximately 925 sf with one bedroom, one bathroom, and a single balcony. The easternmost unit in Building A would be approximately 1,312 sf with one bedroom, two bathrooms, and two balconies.

Building B would include seven town homes, and Building C would include nine townhomes. All units would include a tandem garage on the first floor with a first-floor entry, with the residential space included on the second and third floors.

The first-floor entryway, second floor, and third floor of each unit would total approximately 1,521 sf, with the exception that the southernmost unit in Building B would be 2,212 sf, and the southernmost unit in Building C would be 2,227 sf. A roof deck would be provided above each unit in Buildings B and C.

Parking, Access, and Circulation

Primary access to the project site would be provided from Crespi Drive. The driveway entrance would be provided along the eastern side of Building A and loop around the southern portion of Building A, before exiting the site to the west (refer to Figure 3). A two-way drive aisle would connect to the proposed loop to allow residents access to Building B and C. The first floor of Building B and Building C would include private tandem garages for each proposed unit. Additionally, a total of 15 uncovered parking spaces would be provided on the project site, five of which would be located on the east side of Building A, seven located directly south of Building A, two south of Building B, and one south of Building C. Of the 47 total parking spaces provided on-site, three would provide electric vehicle charging. A Parking Exception would be required as an exception to the off-street parking requirement established by the City's Municipal Code in Section 9-4.2818(a)(1) and Section 9-4.5105(a).

The proposed project would also include improvements to the northern portion of the Pacifica Community Center parcel. The improvements would include construction of a new east to west driveway with 17 uncovered parking spaces and a drop-off area intended for use by the Pacifica Community Center. The new driveway would connect to existing driveways located to the west and to the east of the Community Center.

Figure 3
Site Plan

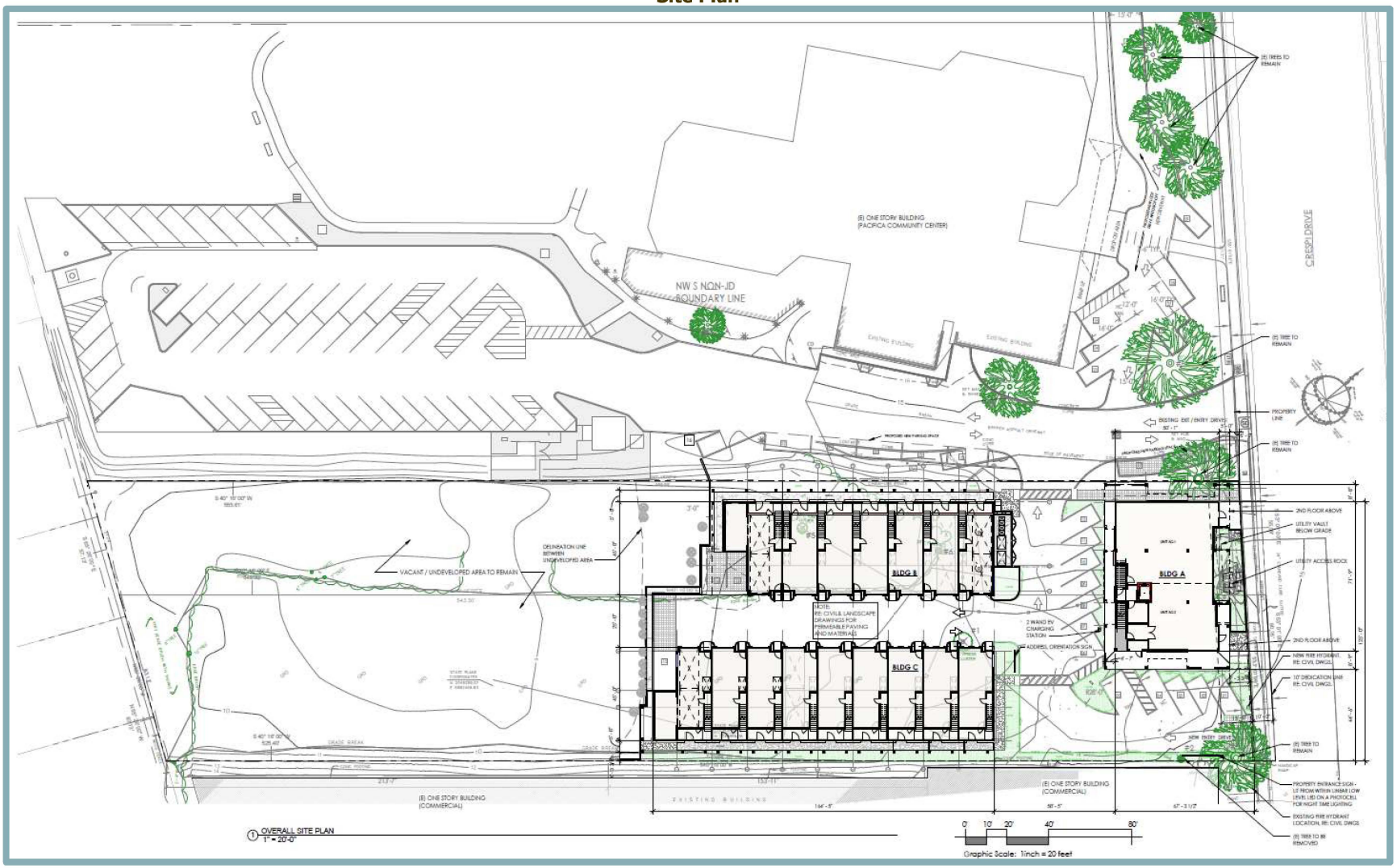


Figure 4
Tentative Map

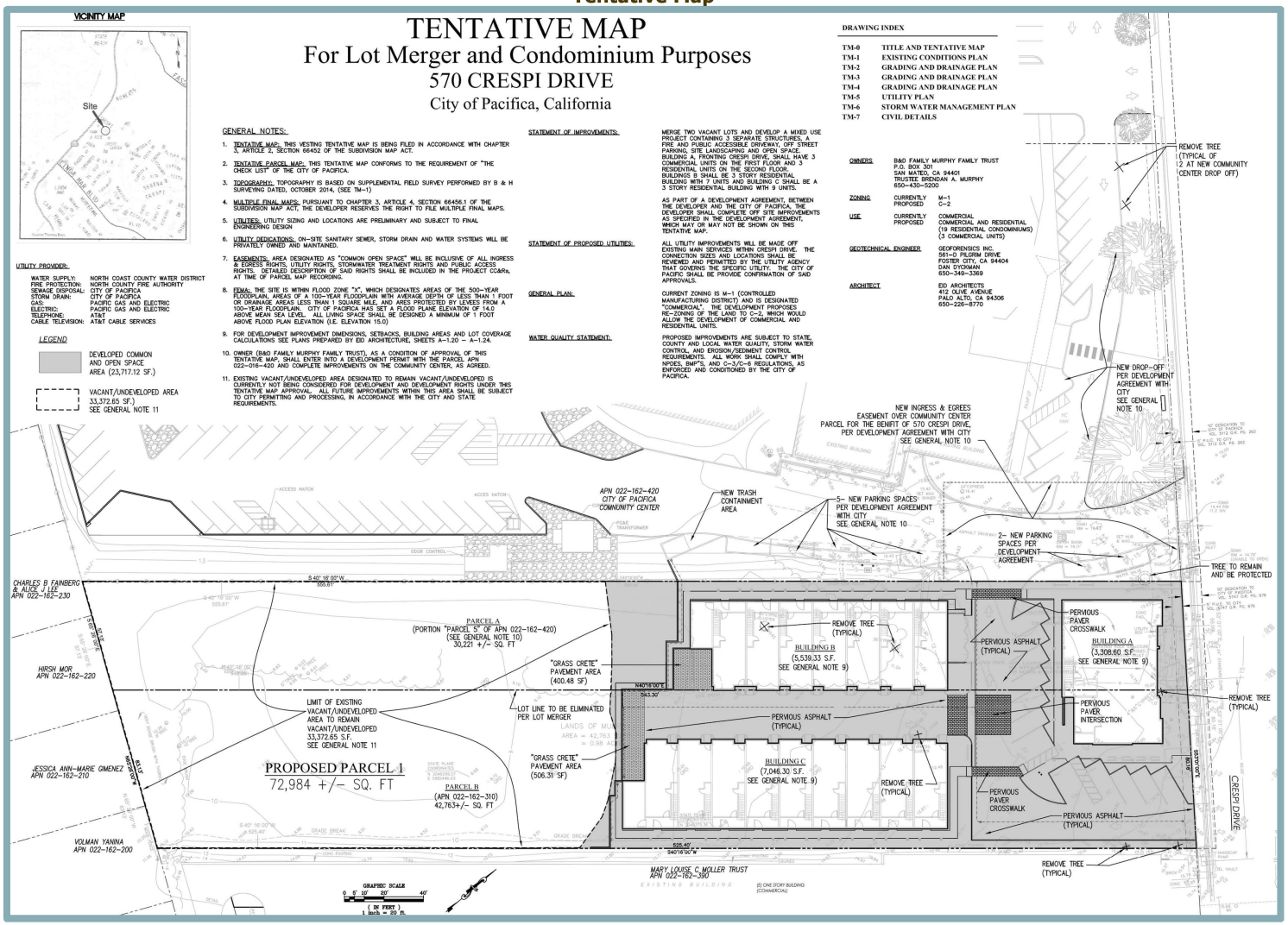


Figure 5
Floor Plan – Level 1

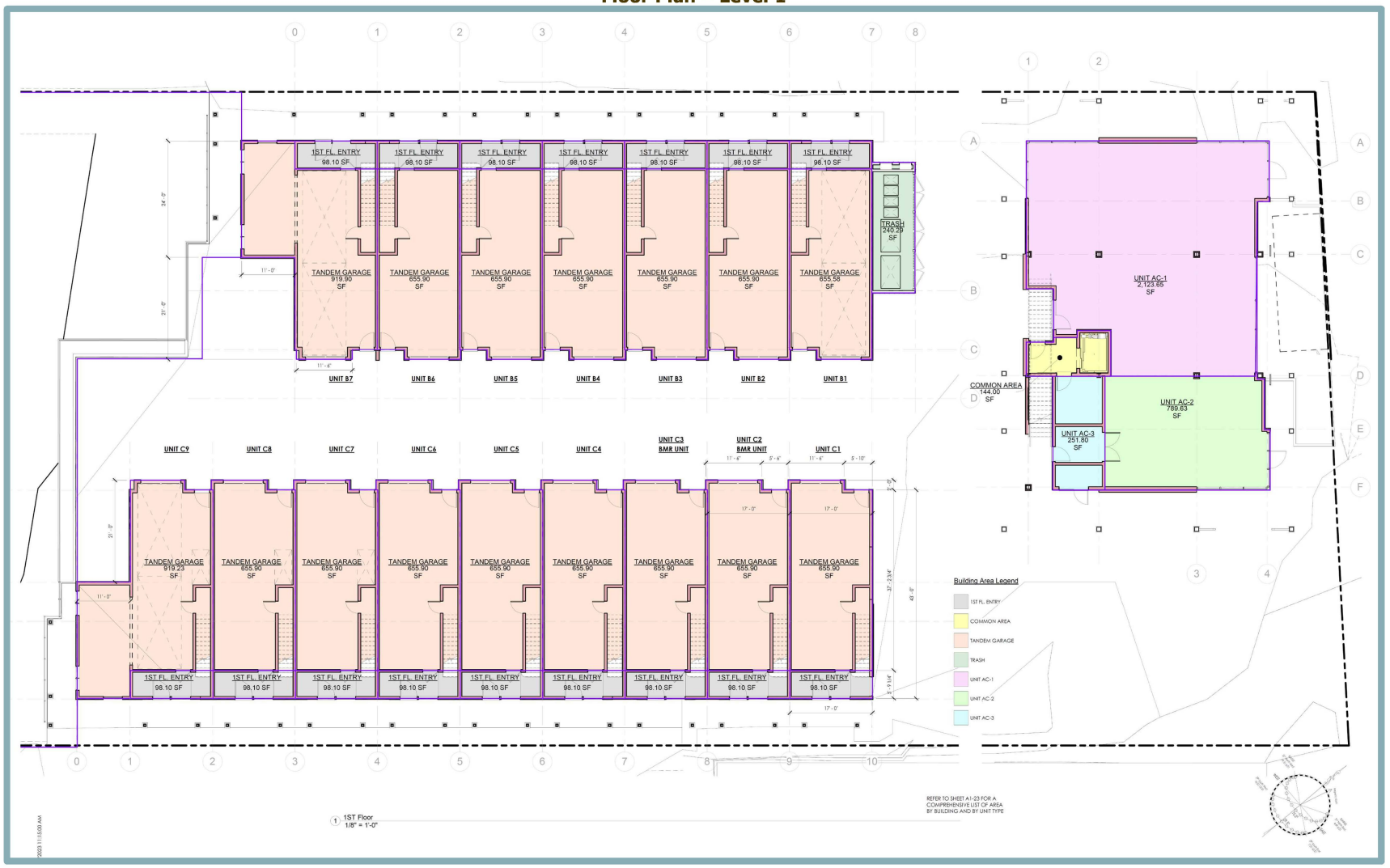


Figure 6
Floor Plan – Level 2

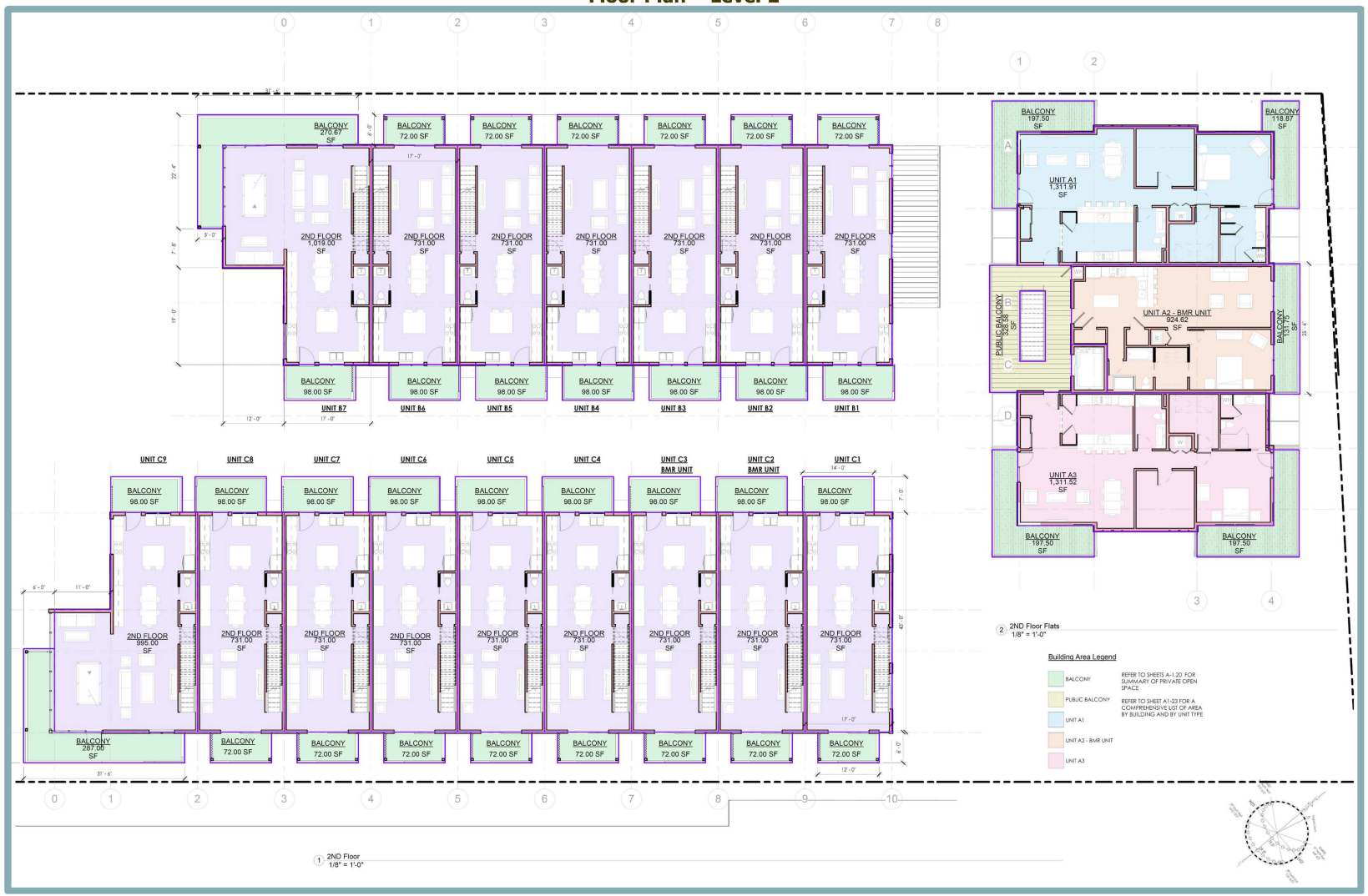
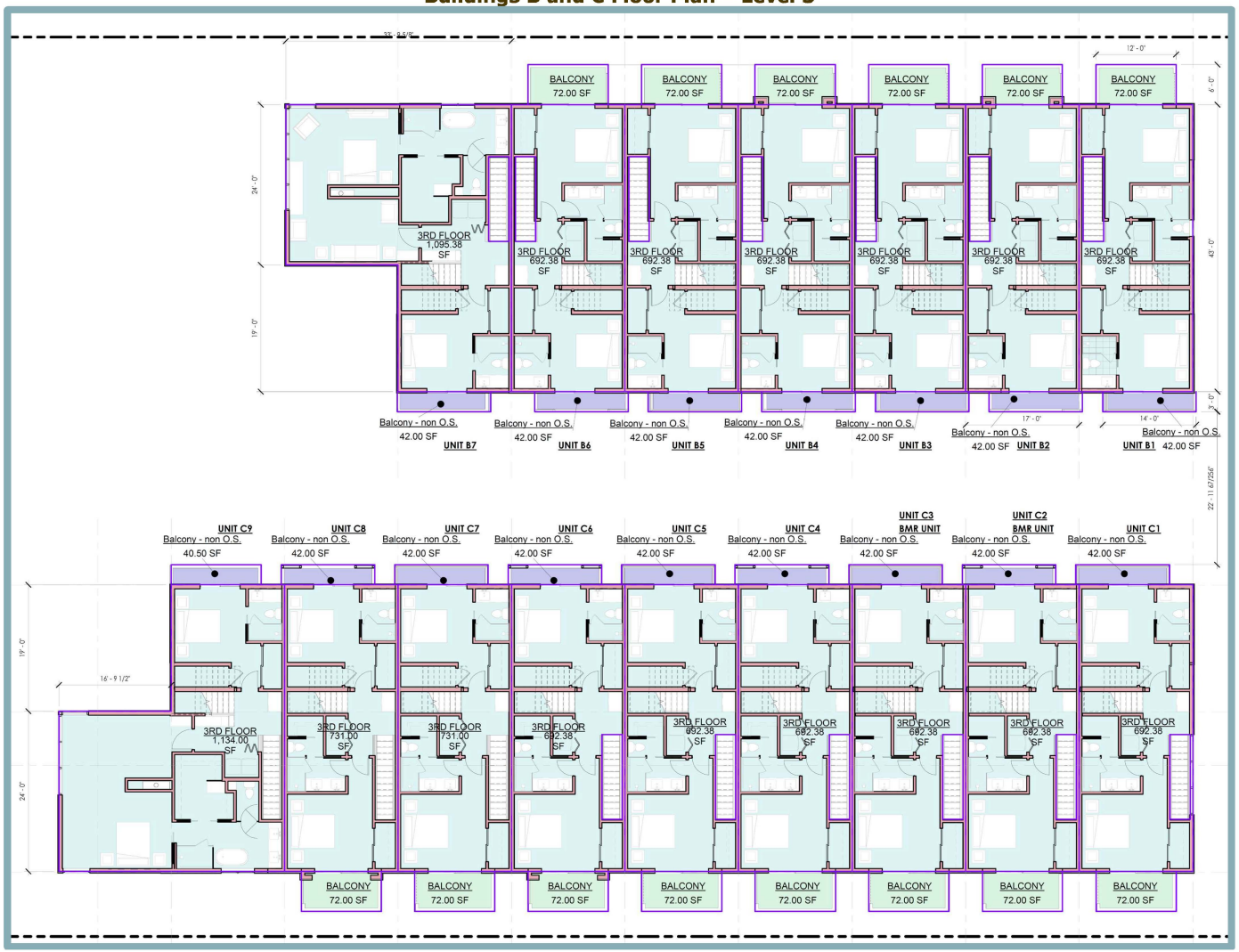


Figure 7
Buildings B and C Floor Plan – Level 3



Landscaping

The proposed project would include landscaping features throughout the development area, the off-site improvement area, and along the Crespi Drive frontage (see Figure 8 and Figure 9). Proposed plant types include, but are not limited to, crape myrtle, desert willow, sea lavender, dwarf mat rush, and Cleveland sage. All landscaping improvements would be consistent with the City's landscape design requirements (which require a minimum of 10 percent of the area in commercial zoning districts to be landscaped), and would include at least two inches of mulch.

Utilities

Sewer service for the proposed project would be provided by the City. The proposed project would include connection to existing sanitary sewer infrastructure in Crespi Drive. Each building would be served by an eight-inch sanitary sewer line to connect to the proposed residential units (see Figure 10). In addition, each building would be constructed with a new sanitary sewer cleanout connected to the eight-inch sewer lines. The eight-inch lines would eventually connect to an existing sanitary sewer line within Crespi Drive to be routed to the City's wastewater treatment plant. Water service would be provided by the North Coast County Water District (NCCWD) through connection to the existing water main located at Crespi Drive. A four-inch water line would be routed from all three buildings to provide fire service, while a three-inch water line would be routed from the proposed buildings to provide domestic water services. Electricity services would be provided by Pacific Gas & Electric (PG&E). A new vault would be constructed by PG&E in the northern portion of the project site, near Building A, to provide electricity to the proposed structures. In addition, the proposed project would connect to existing telecommunications infrastructure in the project area.

All runoff from impervious areas within the project site, including all hardscape, parking areas, and driveways would be collected by new four-, six-, eight- and 10-inch storm drain pipes within the proposed driveway and parking area (see Figure 11). Runoff flowing through the storm drains would empty into proposed bioswales on the western and eastern boundaries of the site or be directed to a bioretention area in the southeast corner of the project site. Treated stormwater would either be discharged into the vacant land to the south of the development area or into the City's stormwater system through connection of an existing six-inch storm drain west of the site. An 18-inch emergency overflow riser would be installed in the western corner of the project site and would connect to the existing 12-inch storm drain that extends along the site's southwestern boundary (see Figure 12). The proposed driveway and parking area north of the existing Community Center would be a self-treating area.

Off-Site Improvements

The proposed project would include various off-site improvements associated with the access and circulation. As discussed above, the proposed project would include construction of a new west to east driveway off Crespi Drive along the northern boundary of the Pacifica Community Center. Additional off-site improvements would include construction of a driveway and 17 parking spaces to the west of the project site, a drop-off area, a new trash containment area, removal of two trees, and landscape improvements. Figure 13 presents the proposed off-site improvements.

Discretionary Actions

The proposed project would require City approval of the following:

- General Plan Amendment to redesignate Parcel 2 from Public and Semi-Public and Park land use designations to Mixed Use Center land use designation
- Rezoning of the site from M-1 to C-2;

Figure 8
Site Landscaping Plan

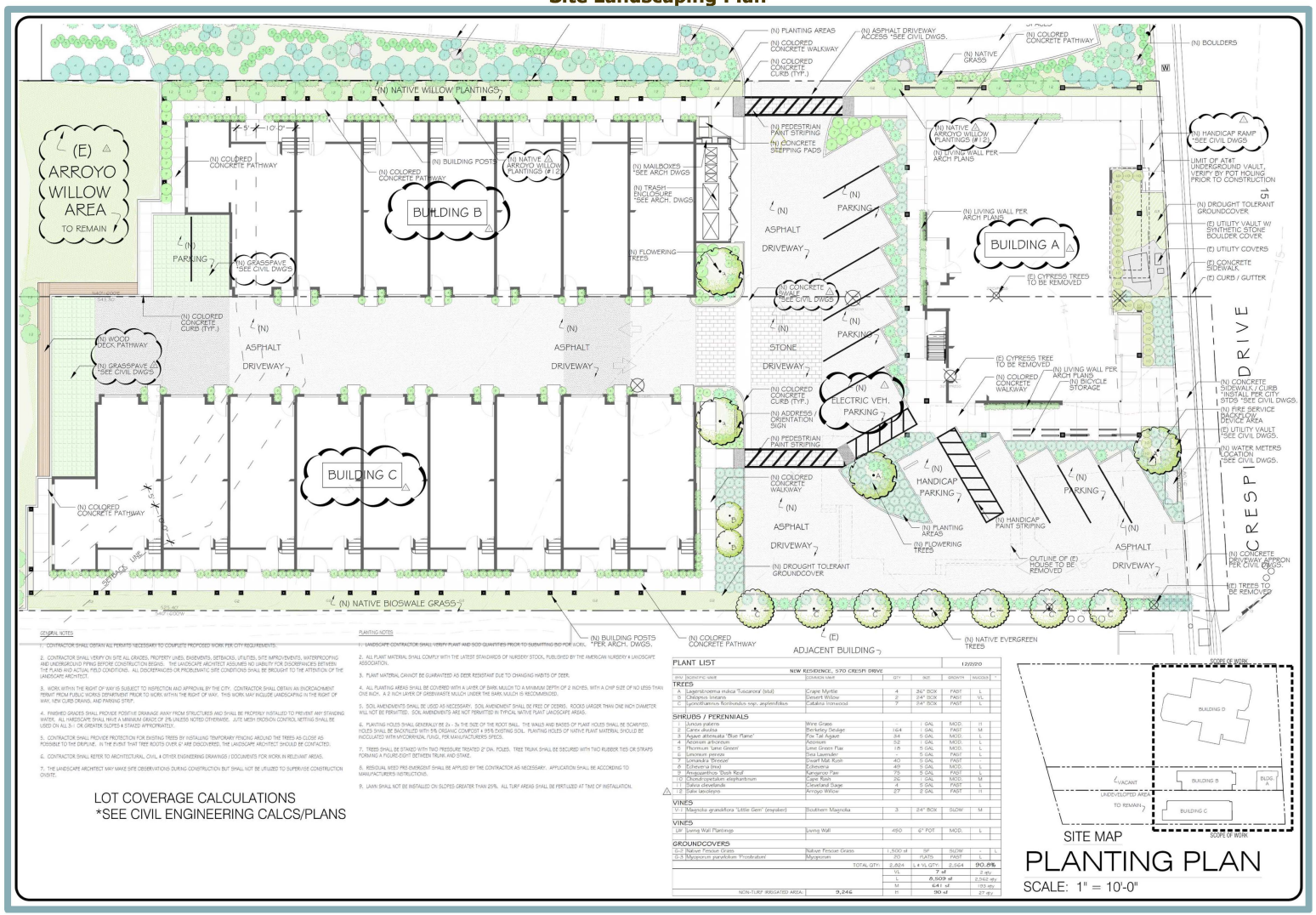


Figure 9
Off-Site Landscaping Plan

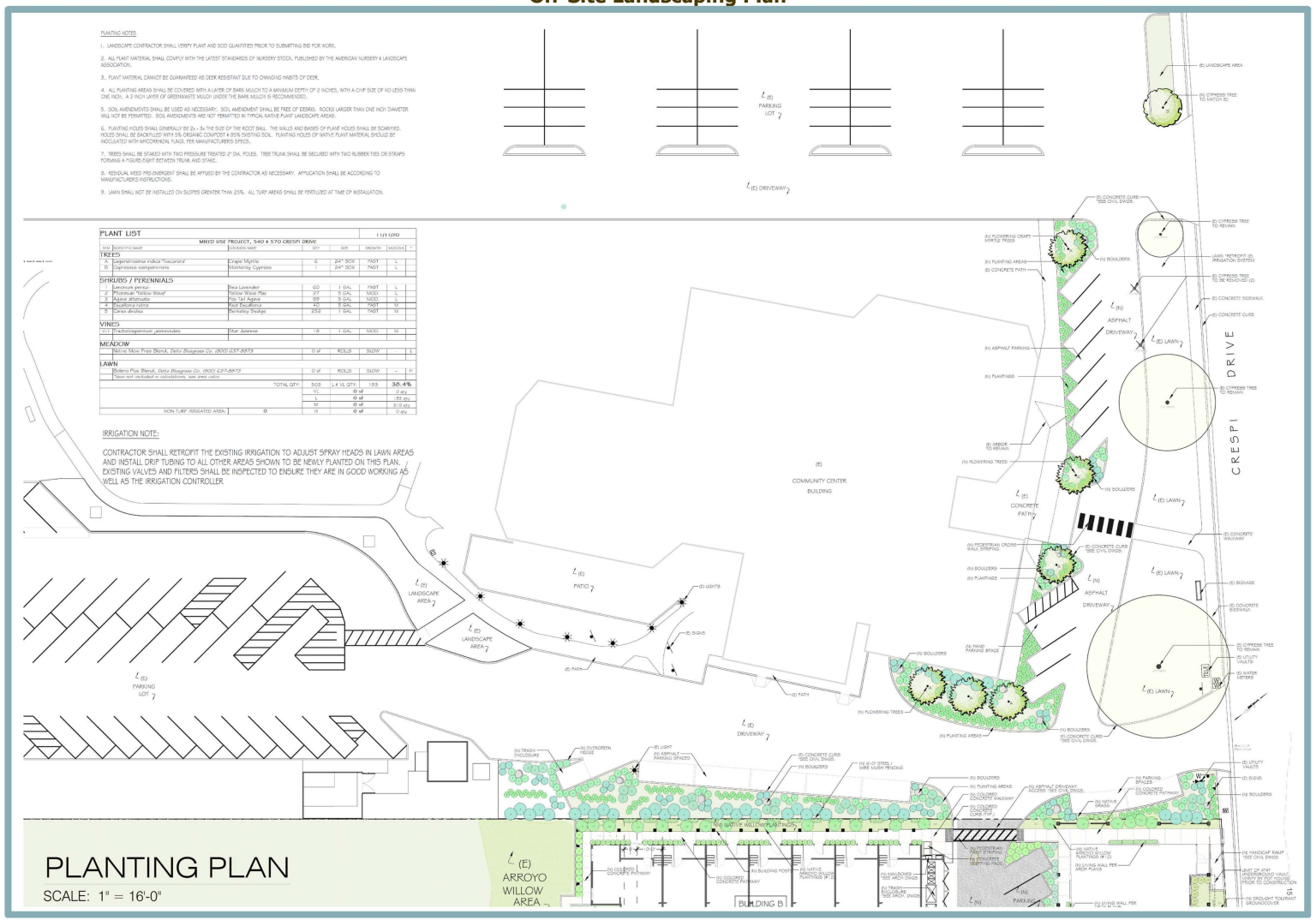


Figure 10
Preliminary Utility Plan

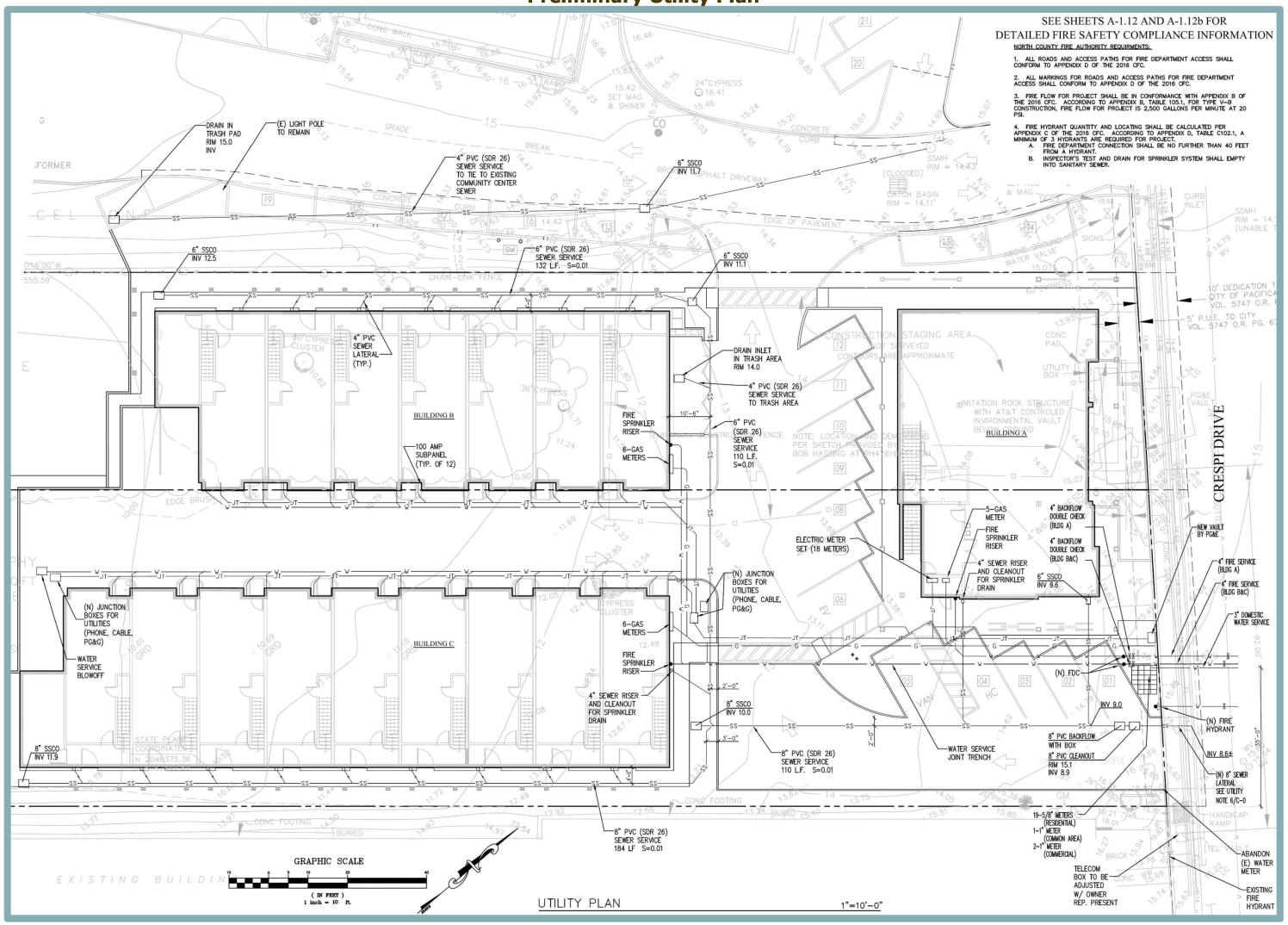


Figure 11
Preliminary Grading and Drainage Plan – Northeastern Portion

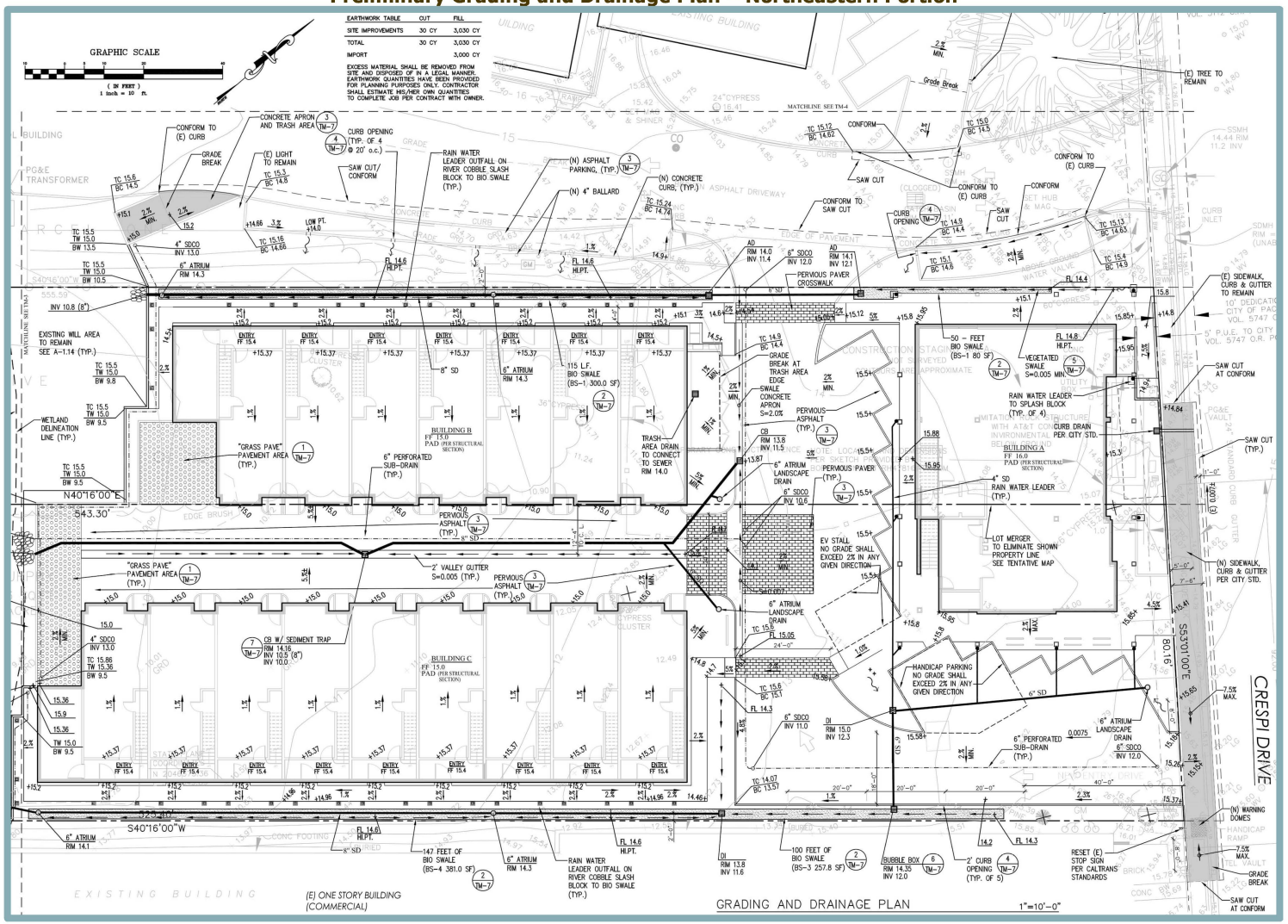


Figure 12
Preliminary Grading and Drainage Plan – Southwestern Portion

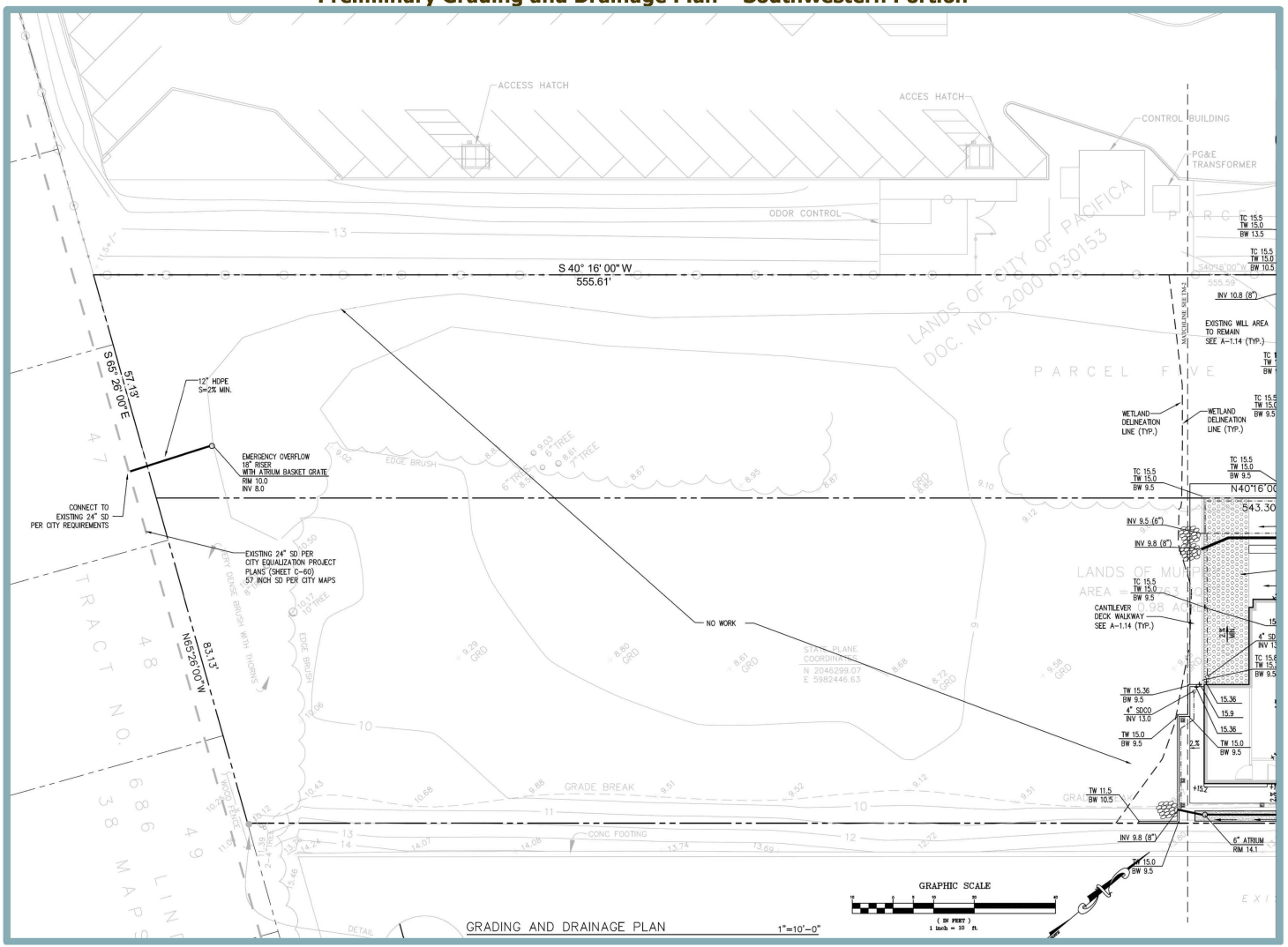
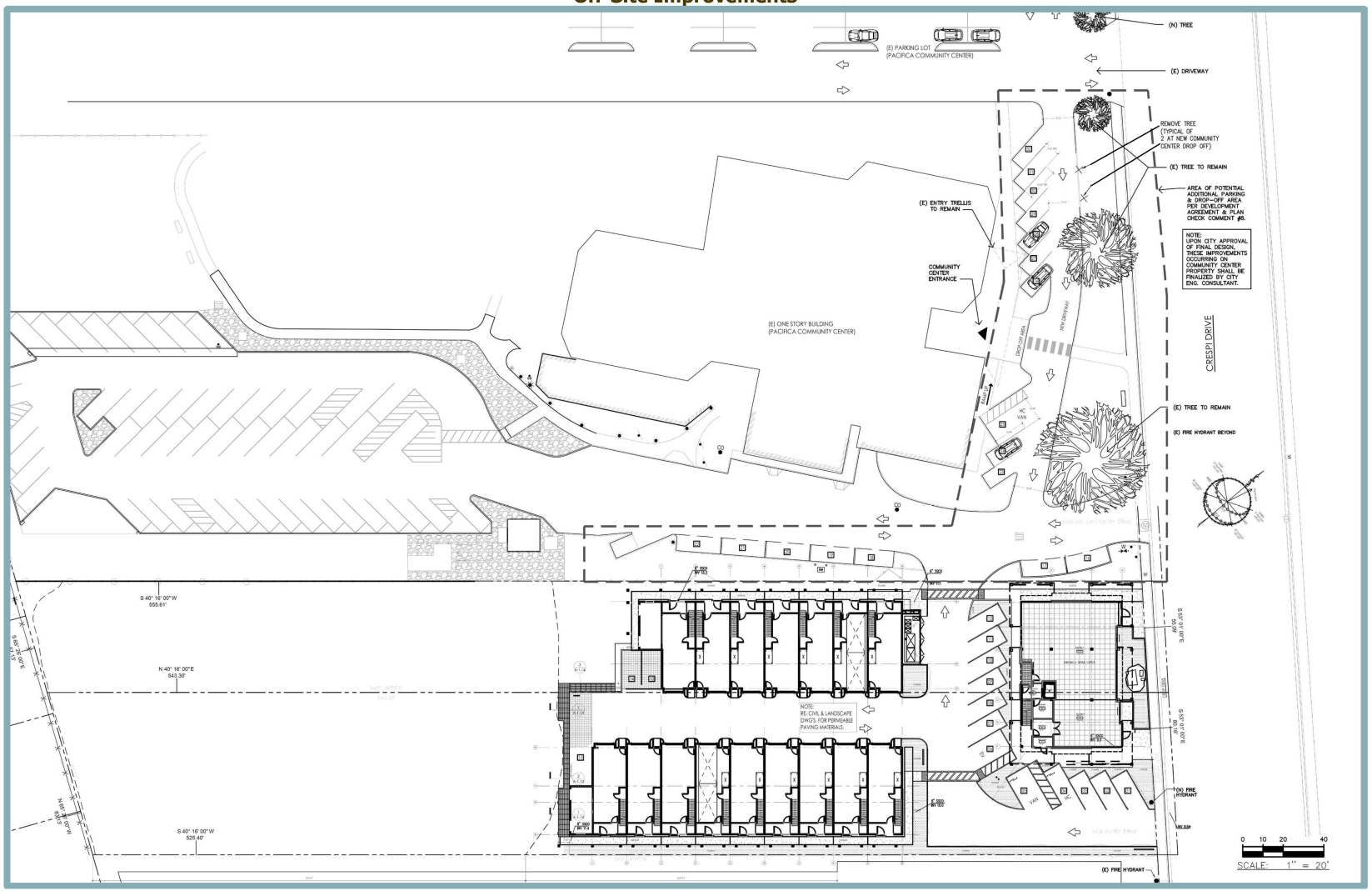


Figure 13
Off-Site Improvements



- Zoning Text Amendment to allow residential uses in buildings that do not contain commercial uses in C-2 zoning district;
- Development Agreement to require certain public benefits and to provide certain developer benefits;
- Use Permit to allow residential uses within the C-2 zone;
- Site Development Permit and Use Permit to allow a clustered residential housing development;
- Parking Exception to allow an exception to the off-street parking requirement;
- Sign Permit to allow a master sign program for commercial tenants;
- Tentative Subdivision Map to create new residential and commercial condominiums;
- Lot Merger and/or LLA to merge APN 022-162-310 and a portion of APN 022-162-420; and
- Tree Removal Permit to authorize tree removal.

G. ENVIRONMENTAL CHECKLIST

The following Checklist contains the environmental checklist form presented in Appendix G of the CEQA Guidelines. The checklist form is used to evaluate the impacts of the proposed project. A discussion follows each environmental issue identified in the checklist. For this checklist, the following designations are used:

Potentially Significant Impact: An impact that could be significant, and for which no mitigation has been identified. If any potentially significant impacts are identified, an EIR must be prepared.

Less Than Significant with Mitigation Incorporated: An impact that requires mitigation to reduce the impact to a less-than-significant level.

Less-Than-Significant Impact: Any impact that would not be considered significant under CEQA relative to existing standards.

No Impact: The project would not have any impact.

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

Discussion

a. Examples of typical scenic vistas would include mountain ranges, ridgelines, or bodies of water as viewed from a highway, public space, or other area designated for the express purpose of viewing and sightseeing. In general, a project's impact to a scenic vista would occur if development of the project would substantially change or remove a scenic vista. Various policies throughout the City's General Plan, including Policy CD-G-6 Scenic and Visual Amenities of the Coastal Zone, set the goal of protecting the City's irreplaceable scenic and visual amenities, such as the coastal zone and the scenic routes along SR 1.

Surrounding uses to the project site include the Pacifica Community Center, Pacifica Skatepark, and SR 1 to the northwest, commercial businesses to the north and southeast, an elementary school to the east, and single-family residences to the south. In addition, the Ocean View Senior Apartments are located to the north of the site, across Crespi Drive.

Parcel 1 of the project site is currently designated by the City of Pacifica General Plan as Mixed Use Center and Parcel 2 is designated Public and Semi-Public and Park. While the proposed project would include a General Plan Amendment to redesignate Parcel 2, the redesignation would make Parcel 2 consistent with Parcel 1 and the MUC designation. In addition, the proposed project would include new development only on Parcel 1, and would be consistent with the existing General Plan designation of Parcel 1. As such, the proposed project would not be substantially different than what has been anticipated in the City's General Plan. In addition, the proposed off-site improvements would consist of minor upgrades to the existing Pacifica Community Center. It should be noted that, although the project requires approval of a Rezoning and a Zoning Text Amendment, the proposed project would result in similar visual features as that of mixed-use commercial and residential development and would be consistent with the Mixed Use Center land use designation.

Based on the above, designated scenic vistas do not exist in the project area, and the project is consistent with the level of development that has been anticipated for the site in the General Plan. Therefore, the proposed project would not have a substantial adverse effect on a scenic vista, and a ***less-than-significant*** impact would occur.

b. The City does not contain an Officially Designated Scenic Highway.[1] SR 1, located approximately 0.75-mile west of the project site, is an Eligible State Scenic Highway, but is not officially designated. In addition, the project site is only partially visible from SR 1 due to existing development between the site and SR 1. Furthermore, the proposed project would be consistent with the developed nature of the surrounding area. It should also be noted that a portion of the trees at the project site frontage would be retained as part of the proposed project. Thus, the proposed project would not substantially damage scenic resources, including, but not limited to, trees rock outcroppings, and historic buildings within a State Scenic Highway. As such, a ***less-than-significant*** impact would occur.

c. The project site is located in an urbanized area of the City. As noted above, surrounding land uses include the Pacifica Community Center, Pacifica Skatepark, and SR 1 to the northwest, commercial businesses to the north and southeast, an elementary school to the east, and single-family residences to the south. In addition, the Pacific Ocean is located further west of the site, beyond SR 1. Currently, Parcel 1 is vacant and partially covered in vegetation. Several trees and shrubs are located throughout Parcel 1. Parcel 2, which is comprised of the 0.70-acre portion of land north of Parcel 1 and adjacent to the Pacific Community Center, is currently partially paved. Because the proposed project would include a Rezoning, the proposed change in zoning has the potential to conflict with zoning or other regulations governing scenic quality. The following discussion evaluates the proposed project's aesthetic consistency with surrounding land uses, and compliance with regulations related to scenic quality.

As shown in Figure 14, the primary view of the project site from Crespi Drive consists of vegetation, trees, and shrubbery, as well as the existing hillside to the east. Additionally, it is noted that the project site has been subject to previous disturbance related to development and subsequent demolition of buildings that had been located on the project site. As a result, the existing visual character of the project site does not represent natural and/or non-urban conditions. The anticipated view of the project site following development of the proposed project is shown in Figure 15. As demonstrated therein, the visual character of the project site would partially change as a result of the proposed project. Although the proposed project would include the removal of several on-site trees, the project would preserve trees along the project site frontage and within the off-site improvement area. In addition, the project site has been planned for development and, as a result, such a change in visual character has been previously anticipated and evaluated.

The existing views from SR 1 of the hills behind the proposed buildings would remain following implementation of the project. Additionally, the site is surrounded by existing development and the project would be consistent with the scale of existing nearby development. Therefore, the proposed project would not substantially degrade the existing visual character of the site and the surrounding area.

Furthermore, development of the proposed project and associated changes to the visual character and quality of Parcel 1, where the majority of the proposed development would occur, has been anticipated by the City's General Plan through the MUC land use designation. Additionally, the proposed off-site improvements would include minor upgrades to the Pacific Community Center property to construct a new driveway and 17 parking spaces and would be consistent with the type and scale of the existing development.

[1] California Department of Transportation. *Scenic Highways* Available at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed April 2020.

Figure 14
Current Views of Site



VIEW - 1





VIEW - 2



VIEW - 6



VIEW - 3



VIEW - 4



VIEW - 5

Figure 15
Proposed View of Project Site



Although the project would require approval of a General Plan Amendment, Rezoning and a Zoning Text Amendment, the proposed project would be generally consistent with the surrounding land use types and development intensity. For instance, the surrounding area is currently occupied by single- and multi-family residences, as well as commercial uses. Based on the above, the proposed project is within the scope of what has been anticipated for development on the project site by the City, and is consistent with the developed nature of the surrounding area.

Based on the above, the project site is located in an urbanized area, and development of the project has been generally anticipated by the City. Therefore, the proposed project would not conflict with applicable zoning and other regulations governing scenic qualities, and a ***less-than-significant*** impact would occur.

d. Parcel 1 is currently undeveloped and consists of areas with dense vegetation, ruderal grasses, and dirt patches. Sources of light and glare do not exist within Parcel 1, where the majority of the proposed development would occur. Therefore, development of the proposed project would introduce new sources of light and glare where none currently exist. Sources of light would include, but would not be limited to, illuminated signage, exterior and interior lighting associated with the proposed townhouses, and vehicle headlights within the site. The new structures would include windows which could reflect light and create glare in the surrounding area. However, the structures would be set back from the street by at least 15 feet and windows would not directly face the entrance of any nearby residence. Furthermore, because existing development is located to the south, east, and west, the increase in light and glare sources would be consistent with the existing setting and would not be expected to result in significant adverse effects to daytime and nighttime views in the area.

In addition, the Pacifica Design Guidelines require that exterior lighting is subdued and enhance building design.[2] The Guidelines prohibit use of lighting that creates glare for occupants or neighbors, and require that large areas requiring illumination are lit with low, shielded fixtures. The proposed off-site parking spaces would be subject to such Guidelines as well. Compliance with the Pacifica Design Guidelines would ensure that the project would not introduce sources of light or glare that would pose a hazard or nuisance to neighboring development.

As such, a ***less-than-significant*** impact would occur related to the creation of a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

[2] City of Pacifica. *Design Guidelines* [pg. 3]. Revised April 1990.

II. AGRICULTURE AND FOREST RESOURCES. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	☐	☐	✖	☐

Discussion

a,e. Per the California Department of Conservation Important Farmland Finder, the project site consists entirely of Urban and Built-Up Land.[3] Furthermore, the site is not zoned or designated in the General Plan for agriculture uses. Therefore, the proposed project would result in a ***less-than-significant*** impact related to converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use or involving 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.

b. Currently, Parcel 1 of the project site is designated MUC by the City's General Plan, while Parcel 2 is designated Public and Semi-Public, as well as Park. Both parcels are zoned M-1. Although the proposed project would include a General Plan Amendment to redesignate Parcel 2 to MUC and Rezone of the site to C-2, the City has anticipated development of the site with non-agricultural uses. Furthermore, the site is not under a Williamson Act contract and is not zoned for agricultural uses. Therefore, buildout of the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and ***no impact*** would occur.

c,d. The project area is not considered forest land (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), and is not zoned Timberland Production (as defined by Government Code Section 51104[g]). Therefore, the proposed project would have ***no impact*** with regard to conversion of forest land or any potential conflict with forest land, timberland, or Timberland Production zoning.

[3] California Department of Conservation. *California Important Farmland Finder*. Available at: https://maps.conservation.ca.gov/dlrp/ciff/. Accessed June 2021.

III. AIR QUALITY. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	☐	☐	✖	☐

Discussion

a,b. The City of Pacifica is located in the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The SFBAAB area is currently designated as a nonattainment area for the State and federal ozone, State and federal fine particulate matter 2.5 microns in diameter ($PM_{2.5}$), and State respirable particulate matter 10 microns in diameter (PM_{10}) ambient air quality standards (AAQS). The SFBAAB is designated attainment or unclassified for all other AAQS. It should be noted that on January 9, 2013, the U.S. Environmental Protection Agency (USEPA) issued a final rule to determine that the Bay Area has attained the 24-hour $PM_{2.5}$ federal AAQS. Nonetheless, the Bay Area must continue to be designated as nonattainment for the federal $PM_{2.5}$ AAQS until such time as the BAAQMD submits a redesignation request and a maintenance plan to the USEPA, and the USEPA approves the proposed redesignation.

In compliance with regulations, due to the nonattainment designations of the area, the BAAQMD periodically prepares and updates air quality plans that provide emission reduction strategies to achieve attainment of the AAQS, including control strategies to reduce air pollutant emissions through regulations, incentive programs, public education, and partnerships with other agencies. The current air quality plans are prepared in cooperation with the Metropolitan Transportation Commission and the Association of Bay Area Governments (ABAG).

The most recent federal ozone plan is the 2001 Ozone Attainment Plan, which was adopted on October 24, 2001 and approved by the California Air Resources Board (CARB) on November 1, 2001. The plan was submitted to the USEPA on November 30, 2001 for review and approval. The most recent State ozone plan is the 2017 Clean Air Plan, adopted on April 19, 2017. The 2017 Clean Air Plan was developed as a multi-pollutant plan that provides an integrated control strategy to reduce ozone, PM, toxic air contaminants (TACs), and greenhouse gases (GHGs). Although a plan for achieving the State PM_{10} standard is not required, the BAAQMD has prioritized measures to reduce PM in developing the control strategy for the 2017 Clean Air Plan. The control strategy serves as the backbone of the BAAQMD's current PM control program.

The aforementioned air quality plans contain mobile source controls, stationary source controls, and transportation control measures to be implemented in the region to attain the State and federal AAQS within the SFBAAB. Adopted BAAQMD rules and regulations, as well as thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area

is currently designated nonattainment, consistent with applicable air quality plans. The BAAQMD's established significance thresholds associated with development projects for emissions of the ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NO_x), as well as for PM_{10}, and $PM_{2.5}$, expressed in pounds per day (lbs/day) and tons per year (tons/yr), are listed in Table 1. By exceeding the BAAQMD's mass emission thresholds for operational emissions of ROG, NO_X, PM_{10}, or $PM_{2.5}$, a project would be considered to conflict with or obstruct implementation of the BAAQMD's air quality planning efforts.

Table 1
BAAQMD Thresholds of Significance

Pollutant	Construction	Operational	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10} (exhaust)	82	82	15
$PM_{2.5}$ (exhaust)	54	54	10

Source: BAAQMD, CEQA Guidelines, May 2017.

The proposed project's construction and operational emissions were quantified using the California Emissions Estimator Model (CalEEMod) software version 2022.1.1.25 – a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including construction data, trip generation rates, vehicle mix, trip length, average speed, and compliance with the California Building Standards Code (CBSC). Where project-specific information is available, such information should be applied in the model. Accordingly, the proposed project's modeling assumes the following project and/or site-specific information:

- Construction would begin in June 2025;
- Construction would occur over an approximately two-year period;
- Grading would involve import of approximately 2,400 cubic yards of soil;
- Natural gas hearths were not included; and
- The project would comply with the Model Water Efficient Landscape Ordinance (MWELO) and the applicable CALGreen Code.

The modeling incorporated construction of the off-site improvements as well. The proposed project's estimated emissions associated with construction and operations are presented and discussed in further detail below. A discussion of the proposed project's contribution to cumulative air quality conditions is provided below as well. All CalEEMod results are included as Appendix A to this IS.

Construction Emissions

According to the CalEEMod results, the proposed project, including the off-site improvements, would result in maximum unmitigated construction criteria air pollutant emissions as shown in Table 2. As shown in the table, the proposed project's construction emissions would be below the applicable thresholds of significance for NO_X, ROG, PM_{10}, and $PM_{2.5}$.

Table 2
Maximum Unmitigated Construction Emissions (lbs/day)

Pollutant	Proposed Project Emissions	Threshold of Significance	Exceeds Threshold?
ROG	2.93	54	**NO**
NO_X	15.00	54	**NO**
PM_{10}*	0.65	82	**NO**
$PM_{2.5}$*	0.60	54	**NO**

Note:
* Denotes emissions from exhaust only. BAAQMD does not have adopted PM thresholds for fugitive emissions.

Source: CalEEMod, July 2024 (see Appendix A).

All projects under the jurisdiction of the BAAQMD are required to implement all of the BAAQMD's Basic Construction Mitigation Measures, which include the following:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

The proposed project's required implementation of the BAAQMD's Basic Construction Mitigation Measures listed above would help to further minimize construction-related emissions.

Even without consideration of BAAQMD's Basic Construction Mitigation Measures, as shown in Table 2, construction of the proposed project would result in emissions of criteria air pollutants below BAAQMD's thresholds of significance. Consequently, the proposed project would not conflict with air quality plans during project construction.

Operational Emissions

According to the CalEEMod results, the proposed project would result in the maximum unmitigated operational criteria air pollutant emissions shown in Table 3. As shown in the table, the proposed project's operational emissions would be below the applicable thresholds of significance.

Table 3
Unmitigated Maximum Operational Emissions

Pollutant	Proposed Project Emissions		Threshold of Significance		Exceeds Threshold?
	lbs/day	tons/yr	lbs/day	tons/yr	
ROG	1.95	0.32	54	10	**NO**
NO_X	0.80	0.12	54	10	**NO**
PM_{10}*	0.02	0.01	82	15	**NO**
$PM_{2.5}$*	0.02	0.01	54	10	**NO**

* Emissions from exhaust only. BAAQMD does not have adopted PM thresholds for fugitive emissions.

Source: CalEEMod, July 2024 (see Appendix A).

Because the proposed project's operational emissions would be below the applicable thresholds of significance, the proposed project would not be considered to conflict with air quality plans during project operations.

Cumulative Emissions

Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By nature, air pollution is largely a cumulative impact. A single project is not sufficient in size to, by itself, result in nonattainment of AAQS. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. The thresholds of significance presented in Table 1 represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. If a project exceeds the significance thresholds presented in Table 1, the proposed project's emissions would be cumulatively considerable, resulting in significant adverse cumulative air quality impacts to the region's existing air quality conditions. Because the proposed project would not result in emissions above the applicable thresholds of significance for ROG, NO_X, PM_{10}, or $PM_{2.5,}$ the project would not 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.

Conclusion

As stated previously, the applicable regional air quality plans include the 2001 Ozone Attainment Plan and the 2017 Clean Air Plan. Because the proposed project would not result in construction-related or operational emissions of criteria air pollutants in excess of BAAQMD's thresholds of significance, conflicts with or obstruction of the implementation of regional air quality plans would not occur. In addition, the project would not 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. Thus, a ***less-than-significant*** impact would result.

c. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Sensitive receptors are typically defined as facilities where sensitive receptor population groups (i.e., children, the elderly, the acutely ill, and the chronically ill) are likely to be located. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest sensitive receptors include the Pacifica Community Center, located approximately 50 feet to the west, the Ocean View Senior Apartments, located approximately 150 feet to the north, and the existing single-family residences, located approximately 200 feet to the south. Cabrillo Elementary School is located approximately 600 feet east of the project site.

The major pollutant concentrations of concern are localized carbon monoxide (CO) emissions and TAC emissions, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. Emissions of CO are of potential concern, as the pollutant is a toxic gas that results from the incomplete combustion of carbon-containing fuels such as gasoline or wood.

In order to provide a conservative indication of whether a project would result in localized CO emissions that would exceed the applicable threshold of significance, the BAAQMD has established screening criteria for localized CO emissions. According to BAAQMD, a proposed project would result in a less-than-significant impact related to localized CO emission concentrations if all of the following conditions are true for the project:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans;
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, underpass, etc.).

As discussed in Section XVII, Transportation, given that the project would generate fewer than 100 peak hour trips and that Parcel 1 would remain consistent with the current MUC land use designation, the project would not conflict with the San Mateo County Congestion Management Program (CMP).[4] In addition, based on the California Department of Transportation (Caltrans) traffic counts for the State Highway System in 2019, the roadway segment of SR-1 closest to the project site, near Linda Mar Boulevard, experiences traffic volumes ranging from 2,000 to 3,200 trips per peak hour, which is far below BAAQMD's threshold of 44,000 vehicles per hour.[5] Thus, the minimal number of trips generated by the proposed project would not increase traffic volumes at an affected intersection to more than 44,000 vehicles per hour. Furthermore, areas where vertical and/or horizontal mixing is limited due to tunnels, underpasses, or similar features do not exist in the project area. As such, the proposed project would not be expected to expose sensitive receptors to substantial concentrations of localized CO.

TAC Emissions

Another category of environmental concern is TACs. The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks associated with TACs are a function of both the concentration of emissions and the duration of exposure, where the higher the concentration and/or the longer the period of time that a sensitive receptor is exposed to pollutant concentrations would correlate to a higher health risk.

The proposed project would not involve any land uses or operations that would be considered major sources of TACs, including DPM. As such, the proposed project would not generate any substantial pollutant concentrations during operations. However, short-term, construction-related activities could result in the generation of TACs, primarily DPM, from off-road equipment exhaust emissions. Consequently, the operation of off-road equipment within the project site during project construction could result in exposure of nearby students and residents to DPM.

BAAQMD has established thresholds for local community risk and hazard impacts that may be used when siting new sources of pollution. The BAAQMD's thresholds for analyzing health risks from new sources of emissions are presented below:

- Non-compliance with a qualified risk reduction plan;
- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 would be a cumulatively considerable contribution; or
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$ would be a cumulatively considerable contribution.

[4] City/County Association of Governments. *San Mateo County Congestion Management Program.* April 9, 2020.
[5] California Department of Transportation. *Traffic Census Program.* Available at: https://dot.ca.gov/programs/traffic-operations/census. Accessed December 2022.

Although the proposed project would not involve the siting or operation of any permanent sources of TACs, in the absence of specific thresholds for use when analyzing health risks from short-term projects, the foregoing BAAQMD thresholds are applied to the project, for construction specifically.

To analyze potential health risks to nearby students and residents that could result from DPM emissions from off-road equipment at the project site, total DPM emissions from project construction were estimated. DPM is considered a subset of $PM_{2.5}$ and, thus, the CalEEMod estimated $PM_{2.5}$ emissions from exhaust during construction of the proposed structures as well as the off-site improvements was conservatively assumed to represent all DPM emitted on-site. The CalEEMod estimated $PM_{2.5}$ exhaust emissions were then used to calculate the concentration of DPM at the maximally exposed sensitive receptor near the project site. DPM concentrations resulting from project implementation were estimated using the American Meteorological Society/Environmental Protection Agency (AMS/EPA) Regulatory Model (AERMOD). The associated cancer risk and non-cancer hazard index were calculated using the CARB's Hotspot Analysis Reporting Program Version 2 (HARP 2) Risk Assessment Standalone Tool (RAST), which calculates the cancer and non-cancer health impacts using the risk assessment guidelines of the 2015 Office of Environmental Health Hazard Assessment (OEHHA) Guidance Manual for Preparation of Health Risk Assessments.[6] The modeling was performed in accordance with the USEPA's User's Guide for the AERMOD and the 2015 OEHHA Guidance Manual.[7,8] The results of the air dispersion modeling are presented in Figure 16. As shown therein, the maximally exposed receptor, depicted by a white X, would be located immediately northeast of the project site.

Based on the foregoing methodology, and the methodology presented in response to questions 'a' and 'b' regarding the estimation of construction emissions, the cancer risk and non-cancer hazard indices at the maximally exposed receptor were estimated and are presented in Table 4.

Table 4
Maximum Unmitigated Cancer Risk and Hazard Index Associated with Project Construction DPM

	Cancer Risk (per million persons)	Acute Hazard Index	Chronic Hazard Index
Construction DPM Health Risks	4.80	0.00	0.003
Thresholds of Significance	10.00	1.00	1.00
Exceed Thresholds?	**NO**	**NO**	**NO**

Source: AERMOD and HARP 2 RAST, July 2024 (see Appendix A).

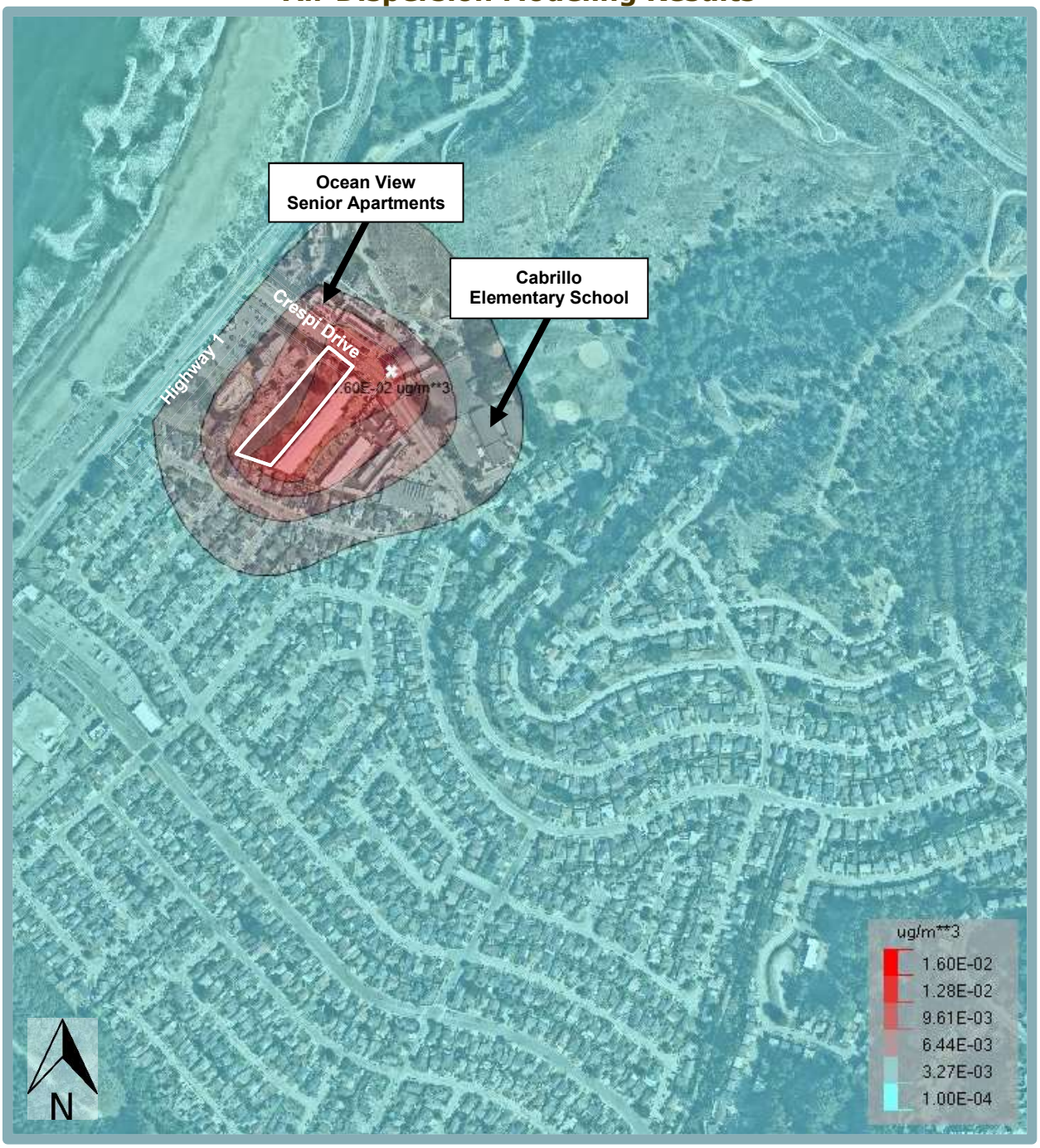
As shown in Table 4, construction of the proposed project would not result in cancer risk, acute hazards, or chronic hazards in excess of BAAQMD's standards.

6 Office of Environmental Health Hazard Assessment. *Air Toxics Hot Spots Program Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments* [pg. 8-18]. February 2015.

7 U.S. Environmental Protection Agency. *User's Guide for the AMS/EPA Regulatory Model (AERMOD)*. December 2016.

8 Office of Environmental Health Hazard Assessment. *Air Toxics Hot Spots Program: Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*. February 2015.

Figure 16
Air Dispersion Modeling Results



Source: AERMOD, July 2024 (see Appendix A).

In addition, the maximum annual concentration of DPM at the maximally exposed sensitive receptor from construction of the proposed project would be 0.016 µg/m^3, which is well below the BAAQMD's 0.3 µg/m^3 threshold for a cumulatively considerable impact. Thus, construction of the proposed project would not result in exposure of nearby receptors to substantial pollutant concentrations.

Criteria Pollutants

The BAAQMD thresholds of significance were established with consideration given to the health-based air quality standards established by the federal and State AAQS, and are designed to aid the BAAQMD in achieving attainment of the AAQS.[9] Although the BAAQMD's thresholds of significance are intended to aid achievement of the AAQS for which the SFBAAB is in nonattainment, the thresholds of significance do not represent a level above which individual project-level emissions would directly result in public health impacts. Nevertheless, a project's compliance with BAAQMD's thresholds of significance provides an indication that criteria pollutants released as a result of project implementation would not inhibit attainment of the health-based regional AAQS. Because project-related emissions would not exceed the BAAQMD's thresholds, and, thus, would not inhibit attainment of regional AAQS, the criteria pollutants emitted during project implementation would not be anticipated to result in measurable health impacts to sensitive receptors. Accordingly, the proposed project would not expose sensitive receptors to excess concentrations of criteria pollutants.

Conclusion

Based on the above discussion, the proposed project would not expose any sensitive receptors to excess concentrations of localized CO or criteria pollutants during construction or operation. In addition, construction of the project would not result in exposure of nearby receptors to cancer risks in excess of the BAAQMD's standards. Consequently, the proposed project would result in a ***less-than-significant*** impact related to the exposure of sensitive receptors to substantial pollutant concentrations.

d. Emissions such as those leading to odors have the potential to adversely affect sensitive receptors within the project area. Pollutants of principal concern include emissions leading to odors, emission of dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in section "a" through "c" above. Therefore, the following discussion focuses on emissions of odors and dust.

Per the BAAQMD CEQA Guidelines, odors are generally regarded as an annoyance rather than a health hazard.[10] Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The presence of an odor impact is dependent on a number of variables including: the nature of the odor source; the frequency of odor generation; the intensity of odor; the distance of odor source to sensitive receptors; wind direction; and sensitivity of the receptor.

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative analysis to determine the presence of a significant odor impact is difficult. Typical odor-generating

[9] Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2017.
[10] Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines* [pg. 7-1]. May 2017.

land uses include, but are not limited to, wastewater treatment plants, landfills, and composting facilities. The proposed project would not introduce any such land uses and is not located in the vicinity of any such existing or planned land uses.

Construction activities often include diesel-fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable. However, as discussed above, construction activities would be temporary, and hours of operation for construction equipment would be restricted per Section 8-7.5.07 of the Pacifica Municipal Code. Project construction would also be required to comply with all applicable BAAQMD rules and regulations, particularly associated with permitting of air pollutant sources. The aforementioned regulations would help to minimize emissions, including emissions leading to odors. Accordingly, substantial objectionable odors would not be expected to occur during construction activities.

It should be noted that BAAQMD regulates objectionable odors through Regulation 7, Odorous Substances, which does not become applicable until the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period. Once effective, Regulation 7 places general limitation on odorous substances and specific emission limitations on certain odorous compounds, which remain effective until such time that citizen complaints have been received by the APCO for one year. The limits of Regulation 7 become applicable again when the APCO receives odor complaints from five or more complainants within a 90-day period. Thus, although not anticipated, if odor complaints are made after the proposed project is developed, the BAAQMD would ensure that such odors are addressed and any potential odor effects reduced to less than significant.

As noted previously, all projects under the jurisdiction of BAAQMD are required to implement the BAAQMD's Basic Construction Mitigation Measures. The aforementioned measures would act to reduce construction related dust, such as the watering of exposed surfaces, covering of haul trucks, and reduction of truck speed on unpaved roads, which would ensure that construction of the proposed project does not result in substantial emissions of dust. Following project construction, the project site would not include any exposed topsoil. Thus, project operations would not include any substantial sources of dust.

For the aforementioned reasons, construction and operation of the proposed project would not result in emissions (such as those leading to odors) adversely affecting a substantial number of people, and a ***less-than-significant*** impact would result.

IV. BIOLOGICAL RESOURCES. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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, and regulations or by the California Department of Fish and Wildlife or US 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 resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of 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 Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	✖

Discussion

a-d. Certain plant and wildlife species are considered to have special status if they meet the following criteria:

- Plant and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal and State Endangered Species Acts. Both acts afford protection to listed and proposed species;
- California Department of Fish and Wildlife (CDFW) Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue;
- U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern;
- Sensitive species included in USFWS Recovery Plans; and
- CDFW special-status invertebrates.

Although CDFW Species of Special Concern generally do not have special legal status, they are given special consideration under CEQA. In addition to regulations for special-status species, most birds in the U.S., including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under the MBTA, destroying active nests, eggs, and young is illegal. In addition, plant species on California Native Plant Society (CNPS) Lists 1 and 2 are considered special-status plant species and are protected under CEQA.

Currently, the northern portion of the project site supports several large trees with a groundcover of herbaceous vegetation. The southern portion of the project site gradually becomes dominated by wetland vegetation. In addition, the off-site improvement area hosts three large trees that would be preserved, and two other trees that would be removed. The proposed project would include disturbance of the existing on-site habitat and development of the project site with three buildings, and off-site improvements to the north. Should any special-status plant and/or wildlife species be present on-site or adjacent to the site, the proposed project could potentially result in a substantial adverse effect to such species.

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. The habitats are protected under federal regulations, such as the Clean Water Act (CWA), and State regulations, such as the Porter-Cologne Act and the CDFW Streambed Alteration Act. Riparian habitats are described as the land and vegetation that is situated along the bank of a stream or river. Wetlands are areas where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year. The southern portion of the project site consists of a seasonal drainage and wetland area which provides riparian habitat. Additionally, the on-site wetland has the potential to be State or federally protected and a potentially significant impact could occur.

Movement corridors or landscape linkages are usually linear habitats that connect two or more habitat patches, providing assumed benefits to the species by reducing inbreeding depression and increasing the potential for recolonization of habitat patches. As the project site is currently undeveloped and includes a seasonal drainage, the site could offer a linkage to the Pacific coast and/or the nearby San Pedro Creek for migratory wildlife and a potentially significant impact could occur.

Based on the above, the proposed project could result in a substantial adverse effect on sensitive or special-status species, riparian habitats or other sensitive natural habitats, federally or State-protected wetlands, or interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Therefore, the project could result in a ***potentially significant*** impact.

Further analysis of the above impacts will be included in the Biological Resources chapter of the 570 Crespi Drive Project EIR.

e. Title 4 Chapter 12 of the Pacifica Municipal Code stipulates regulations designed to preserve protected trees on private or City-owned property. At least eight trees are planned for removal in order to facilitate construction of the proposed project. As such, the proposed project would require approval of a tree removal permit prior to commencement of construction activities. However, further evaluation is required in order to identify if any other individual trees are protected under the City's current tree protection ordinance. Furthermore, because some trees would remain on-site, a tree protection plan would be required in accordance with Sections 4-12.07 and 4-12.08 of the City's Municipal Code.

Based on the above, the proposed project could conflict with a local policy or ordinance protecting biological resources. Therefore, the project could result in a ***potentially significant*** impact.

Further analysis of the above impact will be included in the Biological Resources chapter of the 570 Crespi Drive Project EIR.

f. Adopted Habitat Conservation Plans or Natural Conservation Community Plans covering the project site do not exist. Therefore, the proposed project would not conflict with the provisions of such a plan, and ***no impact*** would occur.

V. CULTURAL RESOURCES. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	✖	☐	☐
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	☐	✖	☐	☐
c. Disturb any human remains, including those interred outside of dedicated cemeteries.	☐	✖	☐	☐

Discussion

a-c. Historical resources are typically features that are associated with the lives of historically important persons and/or historically significant events, that embody the distinctive characteristics of a type, period, region or method of construction, or that have yielded, or may be likely to yield, information important to the pre-history or history of the local area, California, or the nation. Examples of typical historical resources include, but are not limited to, buildings, farmsteads, rail lines, bridges, and trash scatters containing objects such as colored glass and ceramics.

Currently, the project site is vacant. Thus, the site does not contain any permanent structures which could be considered historical resources pursuant to Section 15064.5 of the CEQA Guidelines. Additionally, portions of the project site that would be developed as part of the project have been subject to previous disturbance. According to the Pacifica General Plan, the only federal and State listed historic resource within the area is the Portola Expedition Camp at Pedro Creek, which is located approximately 475 feet north of the project site, southeast of SR 1 where it intersects with Crespi Drive. Thus, the project site does not contain any existing structures or other above-ground resources that could be considered historic. However, the potential exists for previously unknown historic-era subsurface resources to occur on the project site. If present, such resources could be adversely affected by ground-disturbing activities associated with project construction.

A records search of the California Historic Resources Information System (CHRIS) was performed on March 10, 2020 by the Northwest Information Center (NWIC) for cultural resource site records and survey reports within the project area. According to the records search, the project site does not contain any documented archaeological resources. However, the NWIC also stated that the California Inventory of Historic Resources lists one of the Portola Expedition camps in close proximity to the project site. In addition, Portola's San Francisco Bay Discovery site is in close proximity to the project site. Based on such, the NWIC concluded that the project site has a moderate potential for unrecorded archaeological resources to occur.[11]

The off-site improvement area is already developed with turf landscaping, and the minor paving that is proposed would be constructed near the surface of the ground which would not result in substantial ground disturbance. Nonetheless, in the unlikely chance that cultural resources are encountered during construction, a potential impact could occur.

[11] Northwest Information Center. *Re: Record search results for the proposed project located at 570 Crespi Drive, Pacifica, San Mateo County, California.* March 10, 2020.

Based on the above, the possibility exists that previously undiscovered historical or archaeological resources, including human remains, could be uncovered during ground-disturbing activities associated with construction of the proposed project. Therefore, the project could result in a ***potentially significant*** impact with respect to causing a substantial adverse change in the significance of a unique historical or archaeological resource pursuant to Section 15064.5 and/or disturbing human remains.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

V-1. *If any potentially historic resources, prehistoric or historic artifacts, or other indications of cultural deposits, such as historic privy pits or trash deposits, are found once ground disturbing activities are underway, all work within the vicinity of the find(s) shall cease, the find(s) shall be immediately evaluated by a qualified archaeologist, and the City's Planning Department shall be notified of the find(s). If the find is determined to be a historical or unique archaeological resource, as determined by the qualified archeologist, contingency funding and a time allotment to allow for implementation of avoidance measures or appropriate mitigation shall be made available (CEQA Guidelines Section 15064.5). Work may continue on other parts of the project site while historical or unique archaeological resource mitigation takes place (Public Resources Code Sections 21083 and 21087).*

The requirements of this mitigation measure shall be included via notation on all project improvement plans and building permit plans for review and approval by the City of Pacifica Planning Department.

V-2. *In the event of the accidental discovery or recognition of any human remains, further excavation or disturbance of the find or any nearby area reasonably suspected to overlie adjacent human remains shall not occur until compliance with the provisions of CEQA Guidelines Section 15064.5(e)(1) and (2) has occurred. The Guidelines specify that in the event of the discovery of human remains other than in a dedicated cemetery, no further excavation at the site or any nearby area suspected to contain human remains shall occur until the County Coroner has been notified to determine if an investigation into the cause of death is required. If the Coroner determines that the remains are Native American, then, within 24 hours, the Coroner must notify the Native American Heritage Commission, which in turn will notify the most likely descendants who may recommend treatment of the remains and any grave goods. If the Native American Heritage Commission is unable to identify a most likely descendant or most likely descendant fails to make a recommendation within 48 hours after notification by the Native American Heritage Commission, or the landowner or his authorized agent rejects the recommendation by the most likely descendant and mediation by the Native American Heritage Commission fails to provide a measure acceptable to the landowner, then the landowner or his authorized representative shall rebury the human remains and grave goods with appropriate dignity at a location on the property not subject to further*

disturbances. If human remains are encountered, a copy of the resulting County Coroner report noting any written consultation with the Native American Heritage Commission shall be submitted as proof of compliance to the City of Pacifica Planning Department.

The requirements of this mitigation measure shall be included via notation on all project improvement plans and building permit plans for review and approval by the City of Pacifica Planning Department.

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

Discussion

a,b. The main forms of available energy supply are electricity, natural gas, and oil. A description of the 2022 California Green Building Standards Code (CALGreen Code) and the Building Energy Efficiency Standards, with which the proposed project would be required to comply, as well as discussions regarding the proposed project's potential effects related to energy demand during construction and operations are provided below.

California Green Building Standards Code

The 2022 CALGreen Code is a portion of the CBSC which became effective on January 1, 2023.[12] The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The CALGreen standards regulate the method of use, properties, performance, types of materials used in construction, alteration repair, improvement and rehabilitation of a structure or improvement to property. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California. Requirements of the CALGreen Code include, but are not limited to, the following measures:

- Compliance with relevant regulations related to future installation of Electric Vehicle charging infrastructure in residential and non-residential structures;
- Indoor water use consumption is reduced through the establishment of maximum fixture water use rates;
- Outdoor landscaping must comply with the California Department of Water Resources' MWELO, or a local ordinance, whichever is more stringent, to reduce outdoor water use;
- Diversion of 65 percent of construction and demolition waste from landfills;
- Incentives for installation of electric heat pumps, which use less energy than traditional HVAC systems and water heaters;
- Required solar PV system and battery storage standards for certain buildings; and
- Mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particle board.

It should be noted that the proposed project would not include new gas service connections within the proposed buildings. As such, natural gas appliances would not be used within the proposed structures.

[12] California Building Standards Commission. *California Green Building Standards Code*. 2019.

Building Energy Efficiency Standards

The 2022 Building Energy Efficiency Standards is a portion of the CBSC, which expands upon energy efficiency measures from the 2019 Building Energy Efficiency Standards. Energy reductions relative to previous Building Energy Efficiency Standards would be achieved through various regulations including requirements for the use of high efficacy lighting, improved water heating system efficiency, and high-performance attics and walls. In addition, the Building Energy Efficiency standards require residential buildings that are three stories or less be developed with the solar panels.

Construction Energy Use

Construction of the proposed project would involve on-site energy demand and consumption related to use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary on-site lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met via a hookup to the existing electricity grid. Project construction would not involve the use of natural gas appliances or equipment.

All construction equipment and operation thereof would be regulated per the CARB In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. The In-Use Off-Road Diesel Vehicle Regulation would subsequently help to improve fuel efficiency. Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and emissions associated with construction.

Based on the above, the temporary increase in energy use occurring during construction of the proposed project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, the proposed project would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand.

Operational Energy Use

Following implementation of the proposed project, PG&E would provide electricity to the project site. Pacifica also has partnered with Peninsula Clean Energy (PCE), a Community Choice Aggregation, which allows the purchase of electricity from renewable sources through PG&E infrastructure.[13] Energy use associated with operation of the proposed project would be typical of residential and commercial uses, requiring electricity for interior and exterior building lighting, heating, ventilation, and air conditioning (HVAC), electronic equipment, machinery, refrigeration, appliances, security systems, and more. Maintenance activities during operations, such as landscape maintenance, would involve the use of electric or gas-powered equipment. In addition to on-site energy use, the

[13] City of South San Francisco. *Community Choice Energy*. Available at: https://www.ssf.net/departments/city-manager/sustainability/community-choice-energy#:~:text=South%20San%20Francisco%20has%20joined,instead%20of%20going%20through%20PG%26E. Accessed June 2021.

proposed project would result in transportation energy use associated with vehicle trips generated by future tenants of the proposed residences as well as employees and customers of the proposed commercial component.

The proposed project would be subject to all relevant provisions of the most recent update of the CBSC, including the CALGreen Code Building Energy Efficiency Standards. Adherence to the most recent CALGreen Code and the Building Energy Efficiency Standards would ensure that the proposed structures would consume energy efficiently through the incorporation of such features as efficient water heating systems, high performance attics and walls, and high efficacy lighting. Required compliance with the CBSC would ensure that the building energy use associated with the proposed project would not be wasteful, inefficient, or unnecessary. In addition, electricity supplied to the project by PG&E would comply with the State's Renewables Portfolio Standard (RPS), which requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 60 percent by 2030. Thus, a portion of the energy consumed during project operations would originate from renewable sources.

In addition, future residents/commercial tenants would have access to electricity generated from renewable sources through PCE. Even if customers choose to opt out of PCE, the electricity supplied by PG&E would comply with the State's RPS. Furthermore, the proposed project would include the use of solar panels, as required by the Building Energy Efficiency Standards. Based on applicant provided information, the project would produce approximately 46 kilowatt-hours (kWh) of on-site renewable energy per day. Thus, a portion of the energy consumed during project operations would originate from renewable sources.

With regard to transportation energy use, the proposed project would comply with all applicable regulations associated with vehicle efficiency and fuel economy. In addition, as discussed in Section XVII, Transportation, of this IS, the project site is located in an urban area with access to several public transit lines. Transit would provide access to several grocery stores, restaurants, banks, and schools within close proximity to the project site. The site's access to public transit and proximity to such uses would reduce project-related vehicle miles traveled (VMT) and, consequently, fuel consumption associated with the proposed project, thereby providing for increased pedestrian connectivity with the surrounding area and resulting in reduced vehicle use.

Conclusion

Based on the above, construction and operations of the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Thus, a ***less-than-significant*** impact would occur.

VII. GEOLOGY AND SOILS. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 18-1B 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 wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	✖
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	✖	☐	☐

Discussion

The following discussion is based on a Geotechnical Investigation prepared for the proposed project by GeoForensics, Inc.,[14] a Geotechnical Peer Review performed by ENGEO, Inc.,[15] and GeoForensics, Inc.'s Response to Geotechnical Peer Review, dated April 30, 2020 (see Appendix B).[16] It should be noted that, due to the nature of soils and the scale of geologic time, the underlying assumptions and on-site soils would not have changed between the preparation of the report and the publishing of this IS. In addition, grading or soil import activities have not occurred on-site since preparation of the Geotechnical Investigation. As such, the Geotechnical Investigation would still apply to the currently proposed project.

The Geotechnical Investigation focused in the northern portion of the project site, because development would not occur in the southern portion of the site, and the proposed off-site improvements are located in an area which has been previously deemed acceptable for development to enable construction of the Pacifica Community Center.[17]

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14 GeoForensics, Inc. *Geotechnical Investigation for Proposed New Townhouse Complex and Commercial Building.* January 5, 2016.

15 ENGEO, Inc. *570 Crespi Drive Pacifica, California Geotechnical Peer Review*. March 2, 2020.

16 GeoForensics, Inc. *Crespi Drive Property, 570 Crespi Drive, Pacifica, California, Response to Geotechnical Peer Review*. April 30, 2020.

17 U.S. Department of Agriculture Natural Resources Conservation Service. *Web Soil Survey*. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed June 2021.

a.i-ii. According to the Geotechnical Investigation, the greater San Francisco Bay Area is recognized by geologists and seismologists as one of the most active seismic regions in the United States. Several major fault zones pass through the Bay Area in a northwest direction which have produced approximately 12 earthquakes per century strong enough to cause structural damage. The faults causing such earthquakes are part of the San Andreas Fault System, a major rift in the earth's crust that extends for at least 700 miles along western California. The San Andreas Fault System includes the San Andreas, Hayward, and Calaveras Fault Zones.

The Geotechnical Investigation determined that the lack of mapped active fault traces through the site suggest that a low potential for primary rupture due to fault offset on the property. Nonetheless, given the vicinity of the project site to the San Andreas Fault System, the project site could be subject to strong ground shaking due to a major earthquake in one of the above-listed fault zones.

However, the proposed project would be designed in accordance with the adopted edition of the CBSC requirements in place at the time of building permit application. Structures built according to the seismic design provisions of current building codes should be able to: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage, but with some non-structural damage; and 3) resist major earthquakes without collapse, but with some structural, as well as non-structural damage. Given the project's adherence to the CBSC requirements, the proposed project would not expose people or structures to substantial adverse effects including the risk of loss, injury, or death involving the rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zone Map, or strong seismic ground shaking. Therefore, the proposed project would have a ***less-than-significant*** impact.

a.iii-iv. c. The proposed project's potential effects related to liquefaction, landslides, lateral spreading and subsidence/settlement are discussed in detail below.

Liquefaction

Liquefaction most commonly occurs during earthquake shaking in loose, fine sands and silty sands associated with a high ground water table. Based on liquefaction susceptibility mapping by U.S. Geological Survey, the project site is mapped in an area of moderate susceptibility. In addition, the State of California maps the site within a liquefaction zone (Montara Mountain Quadrangle, 2019).[18] However, per the Geotechnical Investigation, loose, fine, and/or silty sands were not identified in the upper 11 feet of on-site soils. Although some loose sand deposits exist on the site, such deposits are not water-saturated, and are therefore unlikely to be subject to liquefaction.

Although liquefaction is unlikely to have a significant effect on the subject property, a rigid foundation is required to minimize any potential movements. Therefore, without implementation of mitigation, a potentially significant impact could occur related to damages or collapse due to liquefaction.

Landslides

Seismically-induced landslides are triggered by earthquake ground shaking. The risk of landslide hazard is greatest in areas with steep, unstable slopes. The project site and the surrounding area are generally level. Therefore, according to the Geotechnical

[18] ENGEO, Inc. *570 Crespi Drive Pacifica, California Geotechnical Peer Review*. March 2, 2020.

Investigation, the hazard due to large-scale seismically-induced land sliding is relatively low.

Lateral Spreading

Lateral spreading is associated with terrain near free faces such as excavations, channels, or open bodies of water. Spreading may occur when a weak layer of material, such as a sensitive silt or clay, loses shear strength as a result of ground shaking. Such conditions were not encountered on the proposed building site. Therefore, the hazard due to lateral spreading is considered very low based on the Geotechnical Investigation.

Subsidence/Settlement

Ground subsidence may occur when poorly consolidated soils densify as a result of earthquake shaking. Because the project site is underlain at shallow depths by resistant materials, the hazard due to ground subsidence is considered to be low. According to GeoForensics, based on preliminary civil plans, up to six feet of fill is proposed at the site, which is likely to result in approximately 9.5 inches of total settlement. However, due to the seismicity of the area, the potential exists for subsidence and settlement to occur within the project site.

Conclusion

Based on the above discussion, the proposed project would not result in potential hazards or risks related to landslides or lateral spreading. However, the project would be subject to potential adverse effects related to liquefaction and/or subsidence/settlement. Without implementation of the recommendations included in the Geotechnical Investigation, the project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project. Thus, a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

VII-1. *All grading and foundation plans for the development shall be designed by a Civil and Structural Engineer and reviewed and approved by the Director of Public Works/City Engineer, Chief Building Official, and a qualified Geotechnical Engineer prior to issuance of a grading or building permit to ensure that all geotechnical recommendations specified in the Geotechnical Investigation, dated January 2016, and the Response to Geotechnical Peer Review, dated April 30, 2020, prepared for the proposed project by GeoForensics, Inc. are properly incorporated and utilized in the project design.*

b. Issues related to erosion and degradation of water quality during construction are discussed in Section X, Hydrology and Water Quality, of this IS, under question ‘a’. As noted therein, the proposed project would not result in substantial soil erosion or the loss of topsoil. Thus, a ***less-than-significant*** impact would occur.

d. The Geotechnical Investigation included the testing of soil samples to measure moisture content plasticity, and consolidation. Plasticity Index testing performed on a sample of the

site near surface materials, which consisted of organic soils, produced a Plasticity Index result of 210. Typically, a plasticity index of greater than about 30 correlates to a highly expansive soil. However, the testing of highly organic soils has a tendency to produce unusual test results. Nonetheless, the project site could still consist of potentially expansive soils. Therefore, a ***potentially significant*** impact could occur related to being located on expansive soil, as defined in Table 18-1B of the Uniform Building Code, thereby creating substantial direct or indirect risks to life or property.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

VII-2. *Implement Mitigation Measure VII-1.*

e. Sewer service for the proposed project would be provided by the City. The construction or operation of septic tanks or other alternative wastewater disposal systems is not included as part of the project. Therefore, ***no impact*** regarding the capability of soil to adequately support the use of septic tanks or alternative wastewater disposal systems would occur.

f. The City's General Plan does not identify the presence of any paleontological or unique geological resources within the City limits. As determined by the NWIC, areas surrounding the project site have been disturbed in the past, and the likelihood of discovering paleontological resources is low. Nonetheless, the potential exists that excavation and construction on the project site could encounter previously unknown paleontological resources. Thus, if discovered during ground disturbing activities, the project could directly or indirectly destroy a unique paleontological resource or unique geologic feature and a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

VII-3. *In the event that paleontological resources, including individual fossils or assemblages of fossils, are encountered during construction activities all ground disturbing activities shall immediately halt and a qualified paleontologist shall be procured to evaluate the discovery for the purpose of recording, protecting, or curating the discovery as appropriate. The qualified paleontologist shall provide the City of Pacifica Planning Department with a report detailing the findings and method of curation or protection of the resources for review and approval by City Planning staff prior to recommencing construction.*

VIII. GREENHOUSE GAS EMISSIONS. *Would the project:*	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 gasses?	✖	☐	☐	☐

Discussion

a,b. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Implementation of the proposed project would cumulatively contribute to increases of GHG emissions. Estimated GHG emissions attributable to future development would be primarily associated with increases of carbon dioxide (CO_2) and, to a lesser extent, other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O) associated with area sources, mobile sources or vehicles, utilities (i.e., electricity services), water usage, wastewater generation, and the generation of solid waste. The primary source of GHG emissions for the project would be mobile source emissions. The common unit of measurement for GHG is expressed in terms of annual metric tons of CO_2 equivalents ($MTCO_2e$/yr).

The proposed project is located within the jurisdictional boundaries of BAAQMD. While updated CEQA Guidelines have not yet been released, on April 20, 2022, the BAAQMD Board of Directors held a public meeting and adopted proposed CEQA Thresholds for Evaluating the Significance of Climate Change Impacts from Land Use Projects and Plans.[19] The updated GHG thresholds address more recent climate change legislation, including SB 32, and provide qualitative thresholds related to Buildings and Transportation.

GHG emissions resulting from construction and operation of the proposed project were modeled with CalEEMod using the same assumptions as discussed in Section III, Air Quality, of this IS. All modeling outputs are included in the Appendix A to this IS. According to the CalEEMod results, operations of the proposed project would result in total annual GHG emissions of 359 $MTCO_2e$/yr (see Appendix A). Based on the BAAQMD threshold for AB 32 of 1,100 $MTCO_2e$/yr and the adjusted threshold of 660 $MTCO_2e$/yr for SB 32, the proposed project would not be anticipated to exceed either threshold.

[19] Bay Area Air Quality Management District. *CEQA Thresholds and Guidelines Update.* Available at: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines. Accessed June 2022.

However, as noted previously, the applicable BAAQMD thresholds of significance for GHG emissions are qualitative, and the foregoing information is provided for disclosure purposes only. According to the BAAQMD's thresholds of significance, in order to find a less-than-significant GHG impact, projects must include, at a minimum, the following project design elements:

- The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development);
- The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines;
- The project will achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA; and
- The project will achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

The proposed project may not comply with the foregoing design features and, as a result, a potentially significant impact could occur. Therefore, construction and operation of the proposed project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, impacts related to GHG emissions and global climate change could be cumulatively considerable and considered ***potentially significant***.

Further analysis of the above impacts will be included in the Greenhouse Gas Emissions chapter of the 570 Crespi Drive Project EIR.

IX. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 likely 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 two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	✖	☐
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	✖	☐	☐
g. Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires?	☐	☐	✖	☐

Discussion

a. Due to the limited timeline, construction activities associated with the proposed project are not considered a “routine” use. Nonetheless, hazards related to construction activities and construction materials are discussed further under question ‘b’.

Future operations on the project site could involve the use of common household cleaning products, fertilizers, and herbicides on-site, any of which could contain potentially hazardous chemicals; however, such products would be expected to be used in accordance with label instructions. Due to the regulations governing use of such products and the amount that could reasonably be used on the site, routine use of such products would not represent a substantial risk to public health or the environment. Therefore, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and a ***less-than-significant*** impact would occur.

b. The following discussion provides an analysis of potential hazards related to the proposed construction activities and existing on-site conditions.

Construction Activities

Construction activities associated with the proposed project would involve the use of heavy equipment, which would contain fuels and oils, and the use of other products such as concrete, paints, and adhesives. Small quantities of potentially toxic substances (e.g., petroleum and other chemicals used to operate and maintain construction equipment) would be used at the project site and transported to and from the site during construction.

However, the project contractor would be required to comply with all California Health and Safety Codes and local City ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. Thus, construction of the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.

Existing On-Site Conditions

The project site was previously developed with a single-family residence and a mechanic shop. Although not documented at the project site, activities within the project site may have included the use of fuels, coolants, or other chemicals associated with the mechanic shop. Operations associated with the mechanic shop could result in concentrations of residual chemicals being present in the near surface soil if use or storage of chemicals has occurred.

Upon development of the project, the northern portion of the site would primarily be covered by pavement and other impervious surfaces, as well as by up to six feet of fill, thereby limiting future upset of on-site soils. As a result, exposure to hazardous materials associated with potentially contaminated soils during project operations are not a concern.

Although not anticipated, issues related to contaminated soils could pose a risk to construction workers during ground disturbing activities. Therefore, in an abundance of caution, analysis of on-site soils would be required in order to ensure that any existing soil contaminant concentrations are below the direct exposure Environmental Screening Levels for residential developments, which measures potential hazards to human health. If hazardous materials/contaminated soils are identified on-site, such soils would be removed from the site and hauled to an appropriate disposal facility. The proposed project would be required to comply with the regulations set forth by 22 CCR Section 66263, Standards Applicable to Transporters of Hazardous Waste, which requires transporters of hazardous materials to ensure that releases of hazardous wastes into the environment would not occur, including the discharge of hazardous wastes into soils, drainage systems, and surface and ground water systems. 22 CCR Section 66263.16 requires that each truck, trailer, semitrailer, vacuum tank, cargo tank, or container used for shipping hazardous waste be designed and constructed, and their contents so limited, that under conditions normally incident to transportation, releases of hazardous wastes to the environment would not occur. Hazardous waste containers are required to be free from leaks and all discharge openings are required to be securely closed during operation. In addition, Section 66263.31 requires transporters of hazardous materials to clean up any hazardous waste discharge that occurs during transportation to the extent that hazardous waste discharge no longer presents a hazard to human health or the environment. Compliance with the aforementioned State regulations would ensure that, should contaminated soils be identified on-site, the removal of such soils would not result in a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials.

Conclusion

Based on the above, although evidence of contamination does not exist, past activities on-site associated with the mechanic shop could have resulted in soil contamination within the project site. Therefore, the proposed project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions

involving the likely release of hazardous materials into the environment and a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

IX-1. *Prior to initiation of grading, excavation, or other ground-disturbing activities on the northern portion of the project site, the project applicant shall complete an analysis of on-site soils to determine whether substantial concentrations of soil contaminants are present above the applicable direct exposure Environmental Screening Levels (ESLs) set by the Regional Water Quality Control Board. If contaminants are not detected above applicable ESLs, then further mitigation is not required. If contaminants are detected above the applicable ESLs, then the soils shall be remediated by off-hauling to a licensed landfill facility. Such remediation activities shall be performed by a licensed hazardous waste contractor (Class A) and contractor personnel that have completed 40-hour OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) training, and overseen by the San Mateo County Environmental Health Services Division. The results of soil sampling and analysis, as well as verification of proper remediation and disposal, shall be submitted to the City of Pacifica Planning Department for review and approval.*

c. The project site is located approximately 600 feet, or 0.12-mile, northwest of Cabrillo Elementary School. As discussed above, the proposed operations would not include the use, disposal, or generation of substantial amounts of hazardous materials. Any hazardous materials associated with cleaning supplies or household materials would be regulated, used, and disposed of according to direction. However, as noted above, previous activities within the project site may have included the use of fuels, coolants, or other chemicals associated with the mechanic shop. Residual chemicals have the potential to be present in the near surface soil. Thus, the project site is located within one-quarter mile of a school and, as a result, the project could create hazardous emissions or handle hazardous materials, substances, or waste and a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

IX-2. *Implement Mitigation Measure IX-1.*

d. Government Code Section 65962.5 requires the California Environmental Protection Agency to annually develop an updated Cortese List. The project site is not located on the Department of Toxic Substances Control's (DTSC's) Hazardous Waste and Substances Site List, which is a component of the Cortese List.[20] In addition, the project site is not located on any of the other components of the Cortese List (i.e., the list of leaking

[20] California Department of Toxic Substances Control. *Hazardous Waste and Substances Site List*. Available at: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=570+Crespi+Drive%2C+Pacifica%2C+CA. Accessed June 2021.

underground storage tank sites from the State Water Resources Control Board's (SWRCB's) GeoTracker database, the list of solid waste disposal sites identified by the SWRCB, and the list of active Cease and Desist Orders [CDO] and Cleanup and Abatement Orders [CAO] from the SWRCB).[21] Thus, the project site is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, the proposed project would have ***no impact*** with respect to being located on a hazardous materials site.

e. The nearest airport relative to the project site, San Francisco International Airport, is located approximately five miles east of the site. In addition, the project site is located approximately nine miles north of Half Moon Bay Airport. Per the Comprehensive Airport Land Use Plan for the Environs of San Francisco International Airport (SFO Plan), the project site does not lie within designated Safety Compatibility Zones or forecasted noise contours for the airport.[22] According to the San Mateo County Comprehensive Airport Land Use Compatibility Plan (ALUCP), the site is not located within an Airport Safety Zone for Half Moon Bay Airport, and, thus, would not be significantly affected by the airport.[23] Therefore, the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area, and a ***less-than-significant*** impact would occur.

f. During operation, the proposed project would provide adequate access for emergency vehicles consistent with California Fire Code requirements and would not interfere with potential evacuation or response routes used by emergency response teams. During construction of the proposed project, all construction equipment would be staged on-site so as to prevent obstruction of local and regional travel routes in the City that could be used as evacuation routes during emergency events. The California Fire Code also requires that all fire service features be installed on the site, including but not limited to fire lanes, before building construction can begin. In addition, the proposed project would not substantially alter the existing circulation system in the surrounding area. As noted in Section XVII, Transportation, of this IS, the proposed project would provide adequate sight distance at the proposed access points at Crespi Drive and would generate minimal traffic. However, according to the North Country Fire Authority (NCFA), the required access of 26 feet would not be met with the proposed site plan. As a result, the proposed project could have a ***potentially significant*** impact with respect to impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

IX-3. *Prior to the issuance of a building permit, the project shall demonstrate compliance with the 26-foot access road width, or obtain Fire Marshall approval of an Alternative Methods and Materials request by the NCFA to deviate from the 26-foot access road width requirement for the Project.*

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[21] California Environmental Protection Agency. *Cortese List Data Resources*. Available at: https://calepa.ca.gov/sitecleanup/corteselist/. Accessed December 2022.

[22] City/County Association of Governments of San Mateo County, California. *Comprehensive Airport Land Use Plan for the Environs of San Francisco International Airport.* July 2012.

[23] San Mateo County. *Comprehensive Airport Land Use Compatibility Plan.* December 1996.

g. Issues related to wildfire hazards are discussed in Section XX, Wildfire, of this IS. As noted therein, the project site is not located within or near a Very High Fire Hazard Severity Zone.[24] The project site is located within an urbanized area of the City of Pacifica, is surrounded by existing development, and is not located in or near a State Responsibility Area. While the project site is located among a few trees present on the site, some trees and shrubs would be removed entirely, and the remaining would be maintained according to City procedures. In addition, the new development that would be located on Parcel 1 would be consistent with the existing General Plan MUC land use designation; thus, buildout of Parcel 1 with residential and commercial uses and associated wildfire risk has been considered by the City. With respect to Parcel 2, the proposed project would include off-site improvements related to the construction of a parking lot. As discussed further in Section XX, Wildfire, of this IS, such paving activities would remove vegetation from Parcel 2, therefore reducing any potential wildfire hazards on-site. Therefore, the proposed project would not expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, and a ***less-than-significant*** impact would occur.

[24] California Department of Forestry and Fire Protection. *San Mateo County, Very High Fire Hazard Severity Zones in LRA*. November 24, 2008.

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

Discussion

a,e. During the early stages of construction activities, topsoil would be exposed due to grading of the site. After grading and prior to overlaying the ground surface with impervious surfaces and structures or new landscaping, the potential exists for wind and water erosion to discharge sediment and/or urban pollutants into stormwater runoff, which could adversely affect water quality. The State Water Resources Control Board (SWRCB) regulates stormwater discharges associated with construction activities where clearing, grading, or excavation results in a land disturbance of one or more acres per the General Construction Permit. Because construction activities on the northern portion of the project site and the off-site improvement area would disturb greater than one acre of land, construction activities would be subject to San Mateo County Municipal Regional Stormwater Permit requirements. The San Mateo Countywide Pollution Prevention Program provides a list of construction BMPs with which all projects involving construction within the County are required to comply.[25] Should the project applicant fail to implement best management practices (BMPs), pollutants from construction activities could runoff into local waterways and degrade downstream water quality, particularly during heavy winter rain events.

Following completion of project buildout, the site would be largely covered with impervious surfaces and landscaped areas, and topsoil would no longer be exposed. As such, the

[25] City/County Association of Governments of San Mateo County, San Mateo Countywide Water Pollution Prevention Program. *Construction Best Management Practices.* Available at: http://www.cityofpacifica.org/depts/planning/stormwater_compliance/default.asp. Accessed January 4, 2019.

potential for impacts to water quality would be reduced. In addition, as discussed in further detail below, the proposed project would include a series of bioswales on the western and eastern boundaries of the site that would treat stormwater from all on-site impervious areas prior to discharge into the vacant land to the south or into the City's stormwater drainage system.

While implementation of the above would reduce impacts to water quality standards or waste discharge requirements, if the project applicant fails to implement appropriate construction BMPs or implement stormwater requirements, the proposed project could violate water quality standards or waste discharge requirements, substantially degrade water quality, or result in a conflict with a water quality control plan. As such, a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above potential impact to a *less-than-significant* level.

X-1. *During construction, the contractor shall implement BMPs to reduce pollutants in stormwater discharges to the maximum extent practicable, which may include but are not necessarily limited to the following practices, or other BMPs identified in the California Stormwater Quality Association (CASQA) Construction BMP Handbook and in the City's Municipal Regional Permit for stormwater discharges:*

- *Temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) shall be employed to control erosion from disturbed areas;*
- *Inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways shall be covered or treated with nontoxic soil stabilizers;*
- *Exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways shall be enclosed or covered;*
- *The contractor shall ensure that no earth or organic material will be deposited or placed where such materials may be directly carried into a stream, marsh, slough, lagoon, or body of standing water;*
- *The following types of materials shall not be rinsed or washed into the streets, shoulder areas, or gutters: concrete, solvents and adhesives, thinners, paints, fuels, sawdust, dirt, gasoline, asphalt and concrete saw slurry, and heavily chlorinated water; and*
- *Grass or other vegetative cover shall be established on the construction site as soon as possible after disturbance.*

The applicable BMPs shall be included via notation on the project Improvement Plans for review and approval by the City Engineer prior to issuance of a grading, excavation, or building permit.

X-2. *Prior to issuance of a certificate of occupancy for any component of the proposed project, the project applicant shall execute and record a Maintenance Agreement addressing future maintenance of the stormwater*

treatment measures required to comply with Provision C.3 of the Municipal Regional Permit. The Maintenance Agreement shall be subject to review and approval by the City Engineer and the City Attorney's Office.

X-3 *Prior to issuance of a certificate of occupancy for any component of the proposed project, the project applicant shall install all required stormwater treatment measures, and demonstrate full compliance with the stormwater treatment plans prepared for the proposed project. Evidence of such shall be submitted to the City Engineer for review and approval.*

b. The proposed project would receive water service from the NCCWD. The NCCWD does not currently rely on groundwater wells for water supply.[26] As such, groundwater supplies would not be used to serve the proposed project. Given that only the northern portion of the 1.68-acre project site would be developed, the impervious surfaces created by the project would not substantially interfere with infiltration of stormwater into local groundwater. Furthermore, the project would limit hardscape and use pervious pavement treatments, which would allow for natural infiltration of stormwater. Therefore, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, and impacts would be ***less than significant***.

c.i-iii. All municipalities within San Mateo County (and the County itself) are required to develop surface water control standards for new development projects to comply with Provision C.3 of the RWQCB Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit order No. R2-2015-0049. The San Mateo Countywide Water Pollution Prevention Program developed a C.3 Stormwater Technical Guidance document for implementing the RWQCB Municipal Regional Stormwater NPDES Permit C.3 requirements, known as the C.3 Standards.[27] The City of Pacifica has adopted the County C.3 Standards as part of the City's NPDES General Permit requirements, which require new development and redevelopment projects that create or alter 10,000 or more sf of impervious area to contain and treat the design volume of stormwater runoff from the project site. Given that the proposed project would create more than 10,000 sf of impervious area, the project would be considered a C.3-regulated project.

In accordance with storm water control and water quality standards, the proposed impervious surfaces would drain to vegetated areas and then be conveyed to the rear of the property. In addition to vegetated swales, the site design measures include bioretention swales, pervious pavements and vegetated swales. It has been determined that the rear open space has a storage capacity of approximately 23,962.8 cubic feet (to elevation 10.0), which exceeds the required 100-year event storage capacity for the proposed improvement.

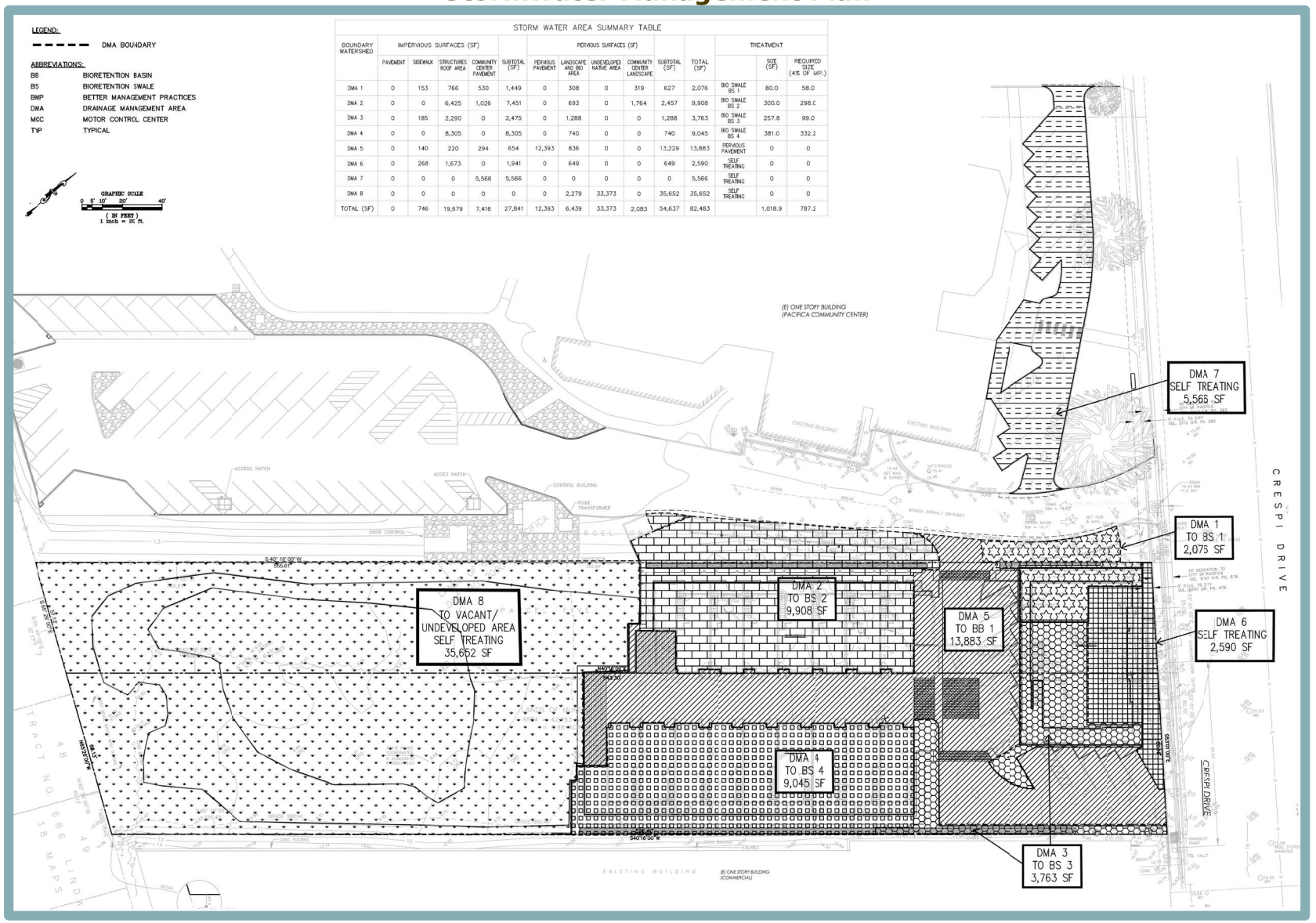
A Stormwater Management Plan (SWMP) has been prepared for the proposed project (see Figure 17). Per the SWMP, the project site and off-site improvement area would be divided into eight drainage management areas (DMAs). Four of the DMAs would direct runoff to a series of bioswales, one would direct runoff to a bioretention basin, and three would be self-treating areas.

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[26] North Coast County Water District. *20-Year Long-Term Water Master Plan.* February 2016.

[27] City/County Association of Governments of San Mateo County, San Mateo Countywide Water Pollution Prevention Program. *C.3 Stormwater Technical Guidance.* June 2016.

Figure 17
Stormwater Management Plan



Per Section 6-12.207 of the Municipal Code, prior to issuance of a building permit, the City of Pacifica requires the applicant submit a complete checklist provided by the City to the City Engineer to ensure compliance with the requirements of NPDES Permit No. CAS612008. The design, construction, operation, and maintenance of the proposed stormwater system would need to be addressed in a final SWMP to be submitted to the City of Pacifica in accordance with the stormwater management requirements set forth in the City's Municipal Code. The final design of the proposed drainage system would be reviewed and approved by the City of Pacifica, which would ensure that the proposed drainage system complies with all applicable regional and local standards and requirements with respect to incorporating sufficient permanent stormwater treatment control BMPs.

Therefore, the proposed project would not substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion, siltation, or flooding on- or off-site, 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. Thus, a ***less-than-significant*** impact would occur.

c.iv. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map number 06081C0126F, the project site is located within the Special Flood Hazard Zone AH, which is considered a 100-year flood plain.

The City of Pacifica has established a flood plain elevation of 14.0 feet above mean sea level. Accordingly, all living space within the City must be designed a minimum of one foot above the flood plain elevation (i.e., 15 feet). Per the Boundary and Topographic Survey conducted for the project site, the development area currently has an elevation ranging from 10.69 to 16.55 feet above mean sea level. During the grading process, approximately 2,400 cubic yards of soil would be imported to ensure that all proposed structures have a living space no lower than 15 feet above mean sea level.

In addition, as discussed above, all runoff flowing through the storm drains within the site would divert runoff into bioswales proposed on the western and eastern boundaries of the site, or be directed to a bioretention area in the southeast corner of the project site. As a result, runoff would not accumulate and/or flood on-site or off-site.

Therefore, development of the proposed project would not impede or redirect flood flows, and a ***less-than-significant*** impact would occur.

d. Tsunamis are defined as sea waves created by undersea fault movement as a result of an earthquake beneath the sea floor. The California Department of Conservation maintains Tsunami Inundation Maps for most populated areas along the California coastline. The maps are created by combining inundation results for a variety of different seismic source events. As such, the maps represent a worse-case scenario. According to the Tsunami Inundation Map for the Montara Mountain Quadrangle, the project site is located in a Tsunami Inundation Area.[28] However, the proposed project would not increase exposure of the project site or neighboring sites to impacts from a tsunami. Additionally, the built portion of the project site would be constructed above the base flood elevation. The project site and surrounding area do not provide storage for hazardous

[28] California Department of Conservation. *Tsunami Inundation Map for Emergency Planning, Montara Mountain Quadrangle.* June 15, 2009.

materials. Furthermore, residential and commercial land uses, such as the proposed project, are not typically associated with the routine use of hazardous materials. As a result, even though the project site is located within a Tsunami Inundation Area, implementation of the proposed project would not result in the release of pollutants and/or hazardous materials due to project inundation.

A seiche is a long-wavelength, large-scale wave action set up in a closed body of water such as a lake or reservoir, whose destructive capacity is not as great as that of tsunamis. Seiches are known to have occurred during earthquakes, but none have been recorded in the Bay Area. The project site is located approximately 3.2 miles east of the nearest closed body of water, San Andreas Lake, and, thus, would not be expected to be at risk of inundation from seiche.

Based on the discussion above, the proposed project would not pose a risk related to the release of pollutants due to project inundation caused by flooding, tsunami or seiche, and a ***less-than-significant*** impact would occur.

XI. LAND USE AND PLANNING. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	☐	☐	✖	☐

Discussion

a. A project risks dividing an established community if the project would introduce infrastructure or alter land use so as to change the land use conditions in the surrounding community, or isolate an existing land use. Currently, the project site is bordered by existing single-family residential development to the south, the Pacifica Community Center to the west, Ocean View Senior Apartments and commercial businesses to the north, and an elementary school and commercial businesses to the east. The proposed residences and commercial space would be consistent with the scale, type, and intensity of the existing development in the project area. In addition, the project would not isolate an existing land use. Furthermore, the proposed off-site improvements would consist of minor upgrades that are consistent with the development type and scale of the existing Pacifica Community Center. As such, the proposed project would not physically divide an established community, and a ***less-than-significant*** impact would occur.

b. City approval of a General Plan Amendment would be required to redesignate Parcel 2from the current General Plan land use designations (Public and Semi-Public, and Park) to MUC, which would be consistent with the existing land use designation of Parcel 1. As such, the proposed General Plan Amendment is intended to guarantee consistency throughout the entire project site. The proposed project would adhere to all requirements set forth in the City of Pacifica Municipal Code Section 9-4.1101, which regulates development in the C-2 zoning area. The applicability of the San Mateo County CMP LOS requirements is addressed in the Transportation section of this IS. Thus, the design and intended use of the proposed structures would conform with the type and intensity of uses anticipated for the site in the General Plan.

The project would include a Rezoning from M-1 to C-2 and a Zoning Text Amendment to allow residential uses on the ground level and in buildings that do not contain commercial uses in areas zoned C-2. However, the Rezoning and Zoning Text Amendment would not result in any significant environmental impacts on the project site or surrounding area, or conflict with any plans or policies adopted for the purpose of avoiding an environmental effect because the types of uses and building forms allowed would remain consistent with the existing C-2 zoning standards.

Because development of Parcel 1 would be consistent with the City's MUC land use designation, the type and intensity of the proposed uses has been generally anticipated by the City. In addition, the General Plan promotes the conservation of water and energy resources. Compliance with the City's water quality standards, as well as implementation of energy reduction strategies, on-site renewable energy production, and water conservation strategies would ensure that the project would not conflict with City policies and regulations adopted for the purpose of avoiding or mitigating an environmental effect. Furthermore, as discussed throughout this IS, the proposed project would not result in any significant environmental effects that cannot be mitigated to a less-than-significant level

by the mitigation measures provided herein. Therefore, a ***less-than-significant*** impact would occur.

XII. MINERAL RESOURCES. *Would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	☐	☐	☐	✖

Discussion

a,b. The State Division of Mines and Geology indicates that the project site does not contain any identified mineral resources of regional or Statewide significance (Mineral Resource Zone 2).[29] The adopted General Plan recognizes the existence of mineral resources at the Rockaway Quarry and Picardo Ranch (now Millwood Ranch) and cites unmined limestone deposits underlying development elsewhere in the City, but does not specifically refer to this site. Therefore, construction of the proposed project would not result in the loss of any known mineral resources or 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, and ***no impact*** would occur.

[29] State of California. Division of Mines and Geology. *Generalized Mineral Land Classification Map of the South San Francisco Bay Production—Consumption Region*. Published 1996.

XIII. NOISE. *Would the project result in:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	✖	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	✖	☐	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	✖	☐

Discussion

a. The following discussion is based on an Environmental Noise Assessment prepared for the proposed project by Saxelby Acoustics (see Appendix C).[30] The report analyzed construction noise and traffic noise level increases at the project site in comparison to the City's exterior and interior noise level standards. It should be noted that, because traffic patterns in the area have decreased, and because the proposed uses and unit counts have not changed, the analysis and conclusions would represent a conservative analysis.

Sensitive Noise Receptors

Some land uses are considered more sensitive to noise than others, and, thus, are referred to as sensitive noise receptors. Land uses often associated with sensitive noise receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Sensitive noise receptors may also include threatened or endangered noise sensitive biological species, although many jurisdictions have not adopted noise standards for wildlife areas. In the vicinity of the project site, the nearest sensitive receptors include the existing single-family residences to the south, Pacifica Community Center to the west, and Ocean View Senior Apartments to the north. Additionally, the Cabrillo Elementary School is located 0.12-mile east of the site.

Existing Noise Environment

Per the Environmental Noise Assessment, the existing noise environment in the project area is primarily defined by traffic on SR 1 and Crespi Drive. To determine the existing noise environment at the site, Saxelby Acoustics conducted continuous 24-hour recordings of the sound levels at one location and short-term measurements at two locations in the project vicinity (see Figure 18).

Table 5 below provides summary of the noise measurement results. The results of the measurements summarized in Table 5, are presented in terms of average hourly noise levels (L_{eq}). The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day. The maximum value, denoted L_{max}, represents the highest noise level measured. The median value, denoted L_{50}, represents the sound level exceeded 50 percent of the time during the monitoring period. All noise level values are in decibels (dB).

[30] Saxelby Acoustics LLC. *Environmental Noise Assessment, 570 Crespi Drive.* September 22, 2021.

Figure 18
Noise Measurement Sites



Source: Saxelby Acoustics LLC, 2021.

Table 5
Summary of Existing Background Noise Measurement Data

Site	Date	Average Measures Hourly Noise Levels, dBA						
			Daytime (7:00AM-10:00PM)			Nighttime (10:00PM–7:00AM)		
		L_{dn}	L_{eq}	L_{50}	L_{max}	L_{eq}	L_{50}	L_{max}
LT-1	4/09/20 – 4/10/20	58	54	51	73	51	45	67
ST-1	4/09/20 – 1:05 PM	N/A	55	44	93	N/A	N/A	N/A
ST-2	4/10/20 – 1:21 PM	N/A	48	47	58	N/A	N/A	N/A

Source: Saxelby Acoustics LLC, 2021.

City Noise Standards

The City of Pacifica General Plan establishes noise thresholds for sensitive receptors in Tables 9-1 through 9-3. Pursuant to Table 9-1, the normally acceptable noise level for multi-family residential land uses is less than 65 dB L_{dn}, and the conditionally acceptable standard ranges from 60 to 70 dB L_{dn}. Table 9-2 of the General Plan establishes that a limit of 45 dB L_{dn} is the limit for the interior of residential environments. Finally, Table 9-3 sets forth the L_{eq} as 50 dBA between 7:00 AM and 10:00 PM (i.e., during the daytime) and 45 dBA from 10:00 PM to 7:00 AM (i.e., during the nighttime).

Criteria for Long-Term Project-Related Noise Level Increases

The Federal Interagency Committee on Noise (FICON) provides guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. Based on the FICON standards, the project would result in a significant impact under the following circumstances:

- Where existing ambient noise levels at sensitive receptors are less than 60 dB L_{dn}, a +5 dB L_{dn} increase is considered significant;
- Where existing ambient noise levels at sensitive receptors range from 60 to 65 dB L_{dn}, a +3 dB L_{dn} increase is considered significant; and
- Where existing ambient noise levels at sensitive receptors are greater than 65 dB L_{dn}, a +1.5 dB L_{dn} increase is considered significant.

Construction Noise

During the construction of the proposed project, heavy equipment would be used for grading, excavation, paving, and building construction, which would temporarily increase ambient noise levels when in use. Noise levels would vary depending on the type of equipment used, how the equipment is operated, and how well the equipment is maintained. In addition, noise exposure at any single point outside the project site would vary depending on the proximity of construction activities to that point. Standard construction equipment, such as graders, backhoes, loaders, and trucks, would be used on-site.

As one increases the distance between equipment, or increases separation of areas with simultaneous construction activity, dispersion and distance attenuation reduce the effects of combining separate noise sources. The noise levels from a source decrease at a rate of approximately 6 dB per every doubling of distance from the noise source.

Based on the analysis included in the Environmental Noise Analysis, the loudest phase of construction would occur during pile driving activities, and would generate an average

noise exposure level of 94 dBA L_{eq} at 50 feet. However, as discussed in further detail under question 'b' and as required by Mitigation Measure XIII-2, pile driving shall be prohibited during project construction. The next loudest phase would be site preparation and grading activities, which typically make use of compactors, dozers, and pneumatic tools, are anticipated to be the loudest phases of construction, with an average noise exposure of 83 dBA at a distance of 50 feet. Saxelby Acoustics modeled the noise levels at nearby sensitive receptors using the SoundPLAN noise model. The results of the construction noise analysis are depicted in Figure 19 without pile driving.

Table 6 shows a summary of the noise prediction results for each phase of project construction as measured from Site LT-1. As shown in Table 6, the proposed project would generate construction noise levels ranging between 31 and 66 dBA L_{eq} at the nearest sensitive receptors. Existing ambient noise levels were found to be between 52 and 58 dBA L_{dn} in the vicinity of the project site. Therefore, project construction could result in a maximum increase in noise of up to 9 dBA above existing ambient noise levels. The increase of 9 dBA would not exceed the Caltrans 12 dBA increase criteria.

Additionally, noise associated with construction activities would occur intermittently, and would be limited to the hours of 7:00 AM to 7:00 PM, Monday through Friday, and 9:00 AM to 5:00 PM on Saturdays and Sundays per Section 8-1.08 of the City's Municipal Code. The City of Pacifica would ensure that project construction complies with Section 8-1.08 of the Municipal Code as a condition of project approval. Furthermore, the City of Pacifica Noise Ordinance exempts construction activities from the noise standards, provided they take place between the specified hours. As a result, a less-than-significant impact would occur during project construction.

Operational Noise

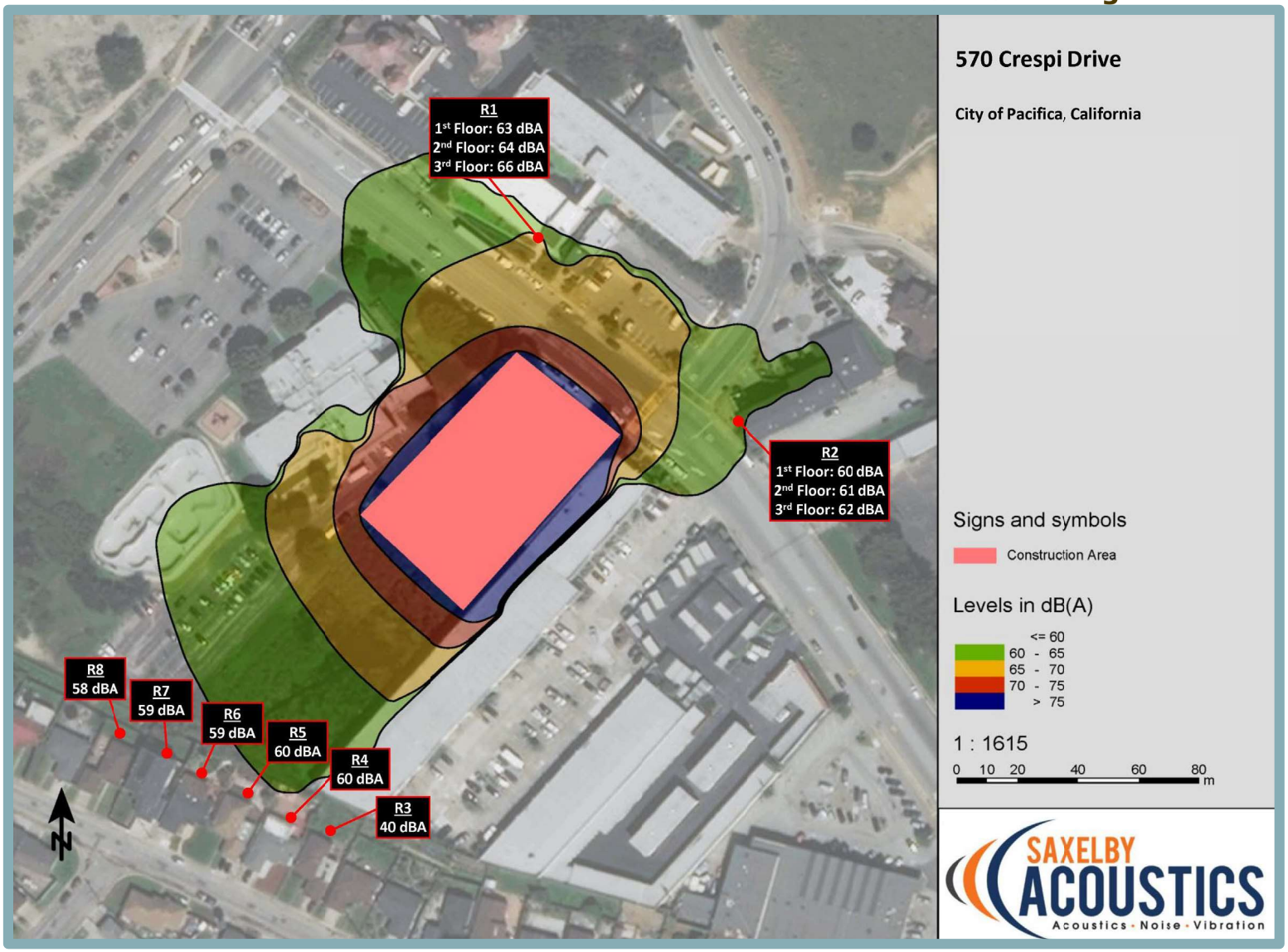
The primary source of operational noise associated with the proposed project would be vehicle traffic on the project site and on the local roadway network.

To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels were calculated at sensitive receptors for Baseline, Baseline Plus Project, Cumulative, and Cumulative Plus Project conditions using the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108). Traffic noise levels were predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. In some locations sensitive receptors may not receive full shielding from noise barriers, or may be located at distances which vary from the assumed calculation distance. Project trip generation volumes were provided by the project traffic engineer,[31] and truck usage and vehicle speeds on the local area roadways were estimated from field observations.

Table 7 and Table 8 summarize traffic noise levels at the nearest sensitive receptors along each roadway segment in the project area under the aforementioned scenarios.

[31] RKH Civil and Transportation, Inc. *Traffic Impact Analysis, 570 Crespi Drive, Pacifica, California*. November 8, 2021.

Figure 19
Predicted Construction Noise Levels – Without Pile Driving



Source: Saxelby Acoustics LLC, 2021.

Table 6
Construction Noise Levels (dBA)

Equipment	Measured Daytime Noise Level, L_{dn}	Predicted Construction Noise Level, L_{dn}	Change
Site Preparation			
R1 (Residential)	58	66	+8
R2 (Residential)	58	62	+4
R3 (Residential)	52-58	40	+0
R4 (Residential)	52-58	60	+8
R5 (Residential)	52-58	60	+8
R6 (Residential)	52-58	59	+7
R7 (Residential)	52-58	59	+7
R8 (Residential)	52-58	58	+6
Grading			
R1 (Residential)	58	66	+8
R2 (Residential)	58	62	+4
R3 (Residential)	52-58	40	+0
R4 (Residential)	52-58	60	+8
R5 (Residential)	52-58	60	+8
R6 (Residential)	52-58	59	+7
R7 (Residential)	52-58	59	+7
R8 (Residential)	52-58	58	+6
Building Construction			
R1 (Residential)	58	65	+7
R2 (Residential)	58	61	+3
R3 (Residential)	52-58	39	+0
R4 (Residential)	52-58	59	+7
R5 (Residential)	52-58	59	+7
R6 (Residential)	52-58	58	+6
R7 (Residential)	52-58	58	+6
R8 (Residential)	52-58	57	+5
Paving			
R1 (Residential)	58	64	+6
R2 (Residential)	58	60	+2
R3 (Residential)	52-58	38	+0
R4 (Residential)	52-58	58	+6
R5 (Residential)	52-58	58	+6
R6 (Residential)	52-58	57	+5
R7 (Residential)	52-58	57	+5
R8 (Residential)	52-58	56	+4
Architectural Coating			
R1 (Residential)	58	57	+0
R2 (Residential)	58	53	+0
R3 (Residential)	52-58	31	+0
R4 (Residential)	52-58	51	+0
R5 (Residential)	52-58	51	+0
R6 (Residential)	52-58	50	+0
R7 (Residential)	52-58	50	+0
R8 (Residential)	52-58	49	+0

Note: Measurements recorded from Site LT-1.

Source: Saxelby Acoustics LLC, 2021.

Table 7
Baseline* Traffic Noise Level and Traffic Noise Level Increases

Roadway	Segment	Predicted Exterior Noise Level		
		Baseline Conditions	Baseline Plus Project	Change
SR 1	SR 1 North to Reina Del Mar Avenue	69.8	69.9	0.0
SR 1	Reina Del Mar Avenue to Fassler Avenue	72.4	72.5	0.0
SR 1	Fassler Avenue to Crespi Drive	70.2	70.2	0.0
SR 1	Crespi Drive to Linda Mar Boulevard	66.3	66.3	0.0
SR 1	Linda Mar Boulevard to SR 1 South	66.6	66.6	0.0
Reina Del Mar Avenue	SR 1 to Reina Del Mar Avenue East	62.3	62.3	0.0
Fassler Avenue	SR 1 to Fassler Avenue East	61.2	61.3	0.1
Crespi Drive	East of SR 1	62.8	62.9	0.1

* Refer to Section XVII, Transportation, of this IS for additional information regarding the Baseline traffic conditions.

Source: Saxelby Acoustics LLC, 2021.

Table 8
Cumulative Traffic Noise Level and Traffic Noise Level Increases

Roadway	Segment	Predicted Exterior Noise Level		
		Cumulative Conditions	Cumulative Plus Project	Change
SR 1	SR 1 North to Reina Del Mar Avenue	69.9	69.9	0.0
SR 1	Reina Del Mar Avenue to Fassler Avenue	72.5	72.5	0.0
SR 1	Fassler Avenue to Crespi Drive	70.2	70.3	0.0
SR 1	Crespi Drive to Linda Mar Boulevard	66.4	66.4	0.0
SR 1	Linda Mar Boulevard to SR 1 South	66.6	66.6	0.0
Reina Del Mar Avenue	SR 1 to Reina Del Mar Avenue East	62.3	62.3	0.0
Fassler Avenue	SR 1 to Fassler Avenue East	61.3	61.3	0.0
Crespi Drive	East of SR 1	62.7	62.8	0.1

Source: Saxelby Acoustics LLC, 2021.

Per the FICON's criteria for long-term project-related noise level increases, where existing traffic noise levels are greater than 65 dB L_{dn} at the outdoor activity areas of noise sensitive uses, a +1.5 dBA L_{dn} increase in roadway noise levels would be considered significant. As

shown in the tables above, the maximum increases in traffic noise at the nearest sensitive receptor is predicted to be 0.1 dBA. Therefore, the proposed project would not result in the generation of a substantial permanent increase in traffic noise levels in the vicinity of the project in excess of standards.

Conclusion

Based on the above, construction and operations of the proposed project would not result in the 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 City's General Plan and the Municipal Code. Thus, a ***less-than-significant*** impact would occur.

b. Similar to noise, vibration involves a source, a transmission path, and a receiver. However, noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception of the vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration is measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of peak particle velocities (PPV) in inches per second (in/sec). Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of PPV.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 9, which was developed by Caltrans, shows the vibration levels that would normally be required to result in damage to structures. As shown in the table, the threshold for architectural damage to structures is 0.20 in/sec PPV and continuous vibrations of 0.10 in/sec PPV, or greater, would likely cause annoyance to sensitive receptors.

The proposed project would only cause elevated vibration levels during construction, as the proposed project would not involve any uses or operations that would generate substantial groundborne vibration. Although noise and vibration associated with the construction phases of the project would add to the noise environment in the immediate project vicinity, construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours. The primary vibration-generating activities associated with the proposed project would occur during grading, placement of utilities, and construction of foundations. Table 10 shows the typical vibration levels produced by construction equipment at various distances.

The most substantial source of groundborne vibrations associated with project construction would be the use of pile drivers. If pile driving is not required for project construction, next highest source of groundborne vibration would be the use of vibratory compactors. For the purpose of this analysis, the use of pile drivers and vibratory compactors/rollers are conservatively assumed to be used during construction of the proposed project.

Table 9
Effects of Vibration on People and Buildings

PPV		Human Reaction	Effect on Buildings
mm/sec	in/sec		
0.15 to 0.30	0.006 to 0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10 to 15	0.4 to 0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: Caltrans. Transportation Related Earthborne Vibrations. TAV-02-01-R9601. February 20, 2002.

Table 10
Vibration Levels for Various Construction Equipment

Type of Equipment	PPV at 25 feet (in/sec)	PPV at 50 feet (in/sec)	PPV at 100 feet (in/sec)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Pile Driving (impact)	0.644	0.228	0.081
Pile Driving (sonic)	0.170	0.060	0.023
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/Roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

Source: Saxelby Acoustics LLC, 2021.

Sensitive receptors which could be impacted by construction related vibrations, especially pile driving and vibratory compactors/rollers, are located approximately 50 feet, or further, from typical construction activities. Thus, per the vibration levels shown in Table 10, construction vibrations associated with pile driving could exceed the 0.20 in/sec PPV threshold.

Based on the above, construction of the proposed project could expose people to or generate excessive groundborne vibration or groundborne noise levels associated with the use of pile drivers, and a ***potentially significant*** impact could occur.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

XIII-1. Pile driving shall be prohibited during construction of the proposed project. Compliance with such shall be ensured by the City of Pacific Planning Division.

c. The nearest airport relative to the project site, San Francisco International Airport, is located approximately five miles east of the site. In addition, the project site is located approximately nine miles north of Half Moon Bay Airport. Per the SFO Plan, the project site does not lie within designated Safety Compatibility Zones or forecasted noise contours for the airport.[32] According to the San Mateo County Comprehensive ALUCP, the site is not located within an Airport Safety Zone for Half Moon Bay Airport, and, thus, would not be significantly affected by the airport.[33] Given that the project site is not located within two miles of a public or private airport, the proposed project would not experience elevated noise levels associated with either airport, and a ***less-than-significant*** impact would occur related to exposing people residing or working in the project area to excessive noise levels associated with airports.

[32] City/County Association of Governments of San Mateo County, California. *Comprehensive Airport Land Use Plan for the Environs of San Francisco International Airport.* July 2012.

[33] San Mateo County. *Comprehensive Airport Land Use Compatibility Plan.* December 1996.

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

Discussion

a. The proposed project would include the development of 19 residential units. Using the City of Pacifica average persons per household value of 2.71, the proposed project's direct population growth from the addition of 19 residences would result in approximately 52 new residents.[34] The U.S. Census Bureau estimated the 2023 population of Pacifica to be approximately 36,426.[35] The increase in population associated with the proposed project would constitute a 0.14 percent increase in the City's population. A 0.14 percent increase in population would not be considered substantial growth. The project would not result in any indirect population growth from extension of major infrastructure because, as discussed in Section XIX, Utilities and Service Systems, of this IS, adequate utility infrastructure already exists in the project area to be available to support the proposed project. Finally, considering the proposed project would be consistent with the General Plan land use designation for the site, the population growth that would occur as a result of the project has been previously anticipated by the City and evaluated in the General Plan EIR. Additionally, the potential growth induced by the proposed commercial components of the project is not likely to be significant, given that the project is consistent with what has been anticipated in the General Plan EIR. As a result, the project would have a ***less-than-significant*** impact with respect to substantial unplanned population growth in an area, either directly or indirectly.

b. Parcel 1 is currently undeveloped, and Parcel 2 is not developed with any residential structures. As such, the proposed project would not result in the displacement of any people or housing. In addition, the proposed project would introduce 19 new residential units to the City. Therefore, the proposed project would not be considered to displace substantial numbers of existing people or housing, necessitating the construction of replacement housing, and a ***less-than-significant*** impact would occur.

[34] City of Pacifica. *Pacifica Demographics: 2018.* Available at: https://www.cityofpacifica.org/about/eco_dev/census_facts_2000.asp. Accessed June 2021.

[35] U.S. Census Bureau. *QuickFacts Pacifica city, California*. Available at: https://www.census.gov/quickfacts/fact/table/pacificacitycalifornia/PST045223 . Accessed July 2024.

XV. PUBLIC SERVICES. *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:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a. Fire protection?	☐	☐	✖	☐
b. Police protection?	☐	☐	✖	☐
c. Schools?	☐	☐	✖	☐
d. Parks?	☐	☐	✖	☐
e. Other Public Facilities?	☐	☐	✖	☐

Discussion

a. In 2003, the cities of Daly City, Brisbane, and Pacifica collaborated to form the NCFA through a Joint Powers Authority agreement. The NCFA provides fire protection and medical emergency services in the City of Pacifica as well as the other two communities. Under the NCFA, fire stations and fire companies are strategically located throughout the three communities, which provide rapid assistance for medical, fire or other hazardous situations. The nearest fire station relative to the project site is the Pacifica Fire Department located at 1100 Linda Mar Boulevard, which is located approximately one mile southeast of the project site. According to the NCFA, each station staffs approximately three personnel with several response vehicles.[36] The target response time for emergencies and non-emergencies within City limits is approximately 6 minutes, 59 seconds. However, the NCFA has an actual response time of approximately four minutes. Due to the close proximity of the station to the project site, response times at the site are expected to be within the targeted response time. In addition, the project would be required to comply with all NCFA standard conditions of approval related to compliance with the California Fire Code and the associated fire prevention and suppression systems including but not limited to fire sprinklers within all buildings.

   Because the NCFA would provide adequate fire protection services to proposed project, and because the proposed project would be required to include adequate fire safety design elements, the project would result in a ***less-than-significant*** impact with respect to the provision of new or physically altered governmental facilities, or the 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 fire protection services.

b. The Pacifica Police Department provides police protection services throughout the City, and the station is located at 2075 Coast Highway. The Pacifica Police Department has 39 sworn officer positions, which equates to approximately one officer per 1,000 residents.[37] Using the City of Pacifica average persons per household value of 2.71, the proposed project's direct population growth from the addition of 19 residences would result in approximately 52 new residents, which is substantially below the threshold of 1,000 new

[36] Barry Biermann, Deputy Fire Chief, North County Fire Authority. Personal communication [email] with Clay Gallagher, Associate, Raney Planning and Management, Inc. June 4, 2020.

[37] City of Pacifica. *Pacifica General Plan Draft Environmental Impact Report* [pg. 3.12-2]. January 2022.

residents which would require the hiring of a new officer.[38] Thus, the minor population growth associated with the proposed project would not necessitate the hiring of new officers and/or construction of new or expanded facilities. Additionally, the commercial component of the proposed project is located within existing police patrol routes and service areas and would not necessitate the hiring of additional officers or the construction of new police facilities.

Furthermore, the proposed project would be subject to the payment of development impact fees per Chapter 14 of the City's Municipal Code. Development impact fees are used to finance the acquisition, construction and improvement of public facilities needed as a result of new development. Should any new police facilities or staffing be required as a result of the proposed project, the required payment of development impact fees would ensure that such needs are met.

Based on the above, the project would result in a ***less-than-significant*** impact with respect to the provision of new or physically altered governmental facilities, or the 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 police protection services.

c. The project site is located within the Pacifica School District and the Jefferson Union High School District (JUHSD). The Pacifica School District addresses increased demand for school services within the District through the use of Bond Funds and school district impact fees charged to new development, and implementation of the Facilities Master Plan. Because the proposed project would include 19 residential units, the project applicant would be required to pay the appropriate school district impact fees. Specifically, the project would be required to pay $3.79 per square foot, which is split between the Pacifica School District ($2.27 per square foot) and JUHSD ($1.52 per square foot). It should be noted that Proposition 1A/Senate Bill No. 50 prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any "[…] legislative or adjudicative act…involving …the planning, use, or development of real property" (Government Code 65996(b)). Satisfaction of the Proposition 1A/Senate Bill No. 50 statutory requirements by a developer is deemed to be "full and complete mitigation."

According to the Pacifica School District, the district currently has a capacity of approximately 3,250 students with a current enrollment of 3,142 students. Development of the proposed project would be limited to a total of 19 residences and, thus, would not generate a substantial number of new students to area schools.[39] For example, the estimated student yield factor for the Pacifica Union School District is 0.5 students/unit.[40] Thus, development of the 19 units would add approximately ten students to the Pacifica School District, which can be accommodated by the current available capacity.

Based on the above, increased demand for school facilities associated with construction of the proposed project would be accommodated by existing schools within the City. Furthermore, the proposed project would comply with Proposition 1A/Senate Bill No. 50 through the payment of school impact fees. As such, the proposed project would not result

[38] City of Pacifica. *Pacifica Demographics: 2018.* Available at: https://www.cityofpacifica.org/about/eco_dev/census_facts_2000.asp. Accessed June 2021.

[39] Heather Olsen, Superintendent, Pacifica School District. Personal Communication [email] with Clay Gallagher, Associate, Raney Planning and Management, Inc. May 27, 2020.

[40] Pacifica School District. *Level I Developer Fee Study for Pacifica School District.* June 14, 2018.

in substantial adverse physical impacts associated with the provision of new or physically altered school facilities and a ***less-than-significant*** impact would occur with respect to schools in the project area.

d. The proposed project would involve the development of 19 residential dwelling units on 1.68 acres of land. The project would not include any dedicated park areas. The project would be subject to Chapter 19, Park Facilities Impact Fee, of the City's Municipal Code, which states the following:

> This chapter is enacted to require the dedication of such funds and/or lands to offset the impact on the need for parks, recreational facilities, and open space created by new residential development which does not require a tentative subdivision or parcel map…
>
> The fees due under this chapter are collected for the acquisition of lands and the construction of improvements and facilities for which the City has established an account, appropriated funds and adopted a proposed acquisition and construction schedule, and shall be determined and become due and payable to the City at the time of the issuance of a building permit for a residential dwelling unit, single-family residence or mobile home space, or for the addition to such of one or more bedrooms.

Therefore, given that the proposed project would be required to pay the applicable park in-lieu fees in order to ensure that sufficient funding is available for Citywide park development, the project would result in a ***less-than-significant*** impact on parks.

e. The City contains two public libraries: the Pacifica-Sharp Park Library and the Pacifica-Sanchez Library. The libraries constitute two branches of the San Mateo County Library system. Per a 1999 Joint Powers Authority agreement, the City is responsible for funding maintenance of the two libraries. The proposed project includes a total of 19 residential dwelling units. Due to the relatively small project size, implementation of the proposed project would not result in a substantial increase in demand for library services, and a ***less-than-significant*** impact would occur in regard to libraries or other public facilities.

XVI. RECREATION. *Would the project:*	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?	☐	☐	✖	☐

Discussion

a,b. The proposed project would include development of 19 residential units and commercial space. Recreational or park facilities are not proposed as part of the proposed project. As discussed in Section XV, Public Services, of this IS, the project would be subject to payment of a Park Facilities Impact Fee pursuant to Chapter 19 of the City's Municipal Code. Payment of the Park Facilities Impact Fee would provide funding for future parkland or recreational facilities. Park development in the future would be subject to project-specific review under CEQA. Furthermore, due to the relatively small project size, and the proximity to existing recreational facilities in the City, implementation of the proposed project is not expected to substantially increase the use of existing parks or recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated. Thus, a ***less-than-significant*** impact would occur.

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

Discussion

a. The proposed project would result in an increase in employee vehicle and public vehicle traffic on the street system surrounding the project site. Pursuant to CEQA Guidelines Section 15064.3, determination of traffic impacts is not based on vehicle level of service (LOS). However, the potential remains for the proposed project to result in conflicts with City programs, plans, ordinances, and policies related to transportation facilities, including transit, roadway, bicycle, and pedestrian facilities. Therefore, a ***potentially significant.***

Further analysis of the above impact will be included in the Transportation chapter of the 570 Crespi Drive Project EIR.

b. Section 15064.3 of the CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts. Pursuant to Section 15064.3, analysis of VMT attributable to a project is the most appropriate measure of transportation impacts. The OPR released a Technical Advisory on Evaluating Transportation Impacts in CEQA in December 2018, which provides recommendations regarding VMT evaluation methodology, significance thresholds, and screening thresholds for land use projects.[41] While changes to driving conditions that increase intersection delay are an important consideration for traffic operations and management, the method of analysis does not fully describe environmental effects associated with fuel consumption, emissions, and public health. Section 15064.3(3) changes the focus of transportation impact analysis in CEQA from measuring impact to drivers to measuring the impact of driving. Therefore, pursuant to Section 15064.3(3) of the CEQA Guidelines, a lead agency may analyze a project's VMT qualitatively based on the availability of transit, proximity to destinations, etc. Given that the proposed project would result in increased vehicle trip generation on local roadways and increased VMT, further analysis of VMT attributable to the project is required to determine whether the project's increase in VMT would conflict with Section 15064.3(b) of the CEQA Guidelines. Thus, a ***potentially significant*** impact could occur.

Further analysis of the above impact will be included in the Transportation chapter of the 570 Crespi Drive Project EIR.

c,d. The proposed project would include the on-site development of a two-story mixed-use building, two three-story residential buildings, a commercial condominium and 19 residential condominiums, as well as associated surface parking areas, drive aisles, and

[41] Governor's Office of Planning and Research. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018.

other improvements. The proposed project would also involve off-site improvements, including the construction of a new driveway and associated parking spaces within the Pacifica Community Center immediately to the west at 540 Crespi Drive.

Due to the increase in vehicle traffic on the surrounding roadway network, the proposed project could cause an increase in traffic-related hazards or affect emergency access in the project area. Therefore, the proposed project could result in a potentially significant impact related to an increase in hazards from design features or incompatible uses, or inadequate emergency access to the project.

Further analysis of the above impact will be included in the Transportation chapter of the 570 Crespi Drive Project EIR.

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

Discussion

a,b. Based on a search of the NAHC Sacred Lands File, the project site could contain Tribal Cultural Resources.[42] As a result, information request letters were sent to the Amah Mutsun Tribal Band of Mission San Juan Batista and the Ohlone Indian Tribe; however, responses from the tribes have not been received.

Furthermore, the City of Pacifica has not received requests to be notified of development projects (pursuant to AB 52) from any federally recognized Native American tribes in the project region and, thus, AB 52 project notification letters were not distributed by the City. The City, as a lead agency, has not identified any tribal resources on the site. Prior to the proposed project's resubmittal, in compliance with SB 18, the City of Pacifica sent SB 18 notification letters to all the tribes included on the NAHC's tribal consultation list for San Mateo County. The letters were distributed on November 16, 2021. Requests for consultation were not received.

Considering the construction activity associated with the Pacifica Community Center and the demolition of the previously existing on-site structure, portions of the project site that would be developed as part of the project, including the off-site improvement area, has been previously and recently disturbed. Additionally, recent construction of an equalization basin in the southern portion of 540 Crespi Drive included substantial excavation, and tribal cultural resources were not identified during such ground disturbance. Due to the previous disturbance of the site, the probability of finding tribal cultural resources on the surface of the site is unlikely.

However, the possibility exists that previously undiscovered tribal cultural resources could be uncovered during ground-disturbing activities associated with construction of the proposed project. Therefore, the proposed project could result in a substantial adverse change in the significance of a tribal cultural resource, and a ***potentially significant*** impact could occur.

[42] Native American Heritage Commission. *570 Crespi Drive Project, San Mateo County.* February 28, 2020.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce the above potential impact to a *less-than-significant* level.

XVIII-1. Implement Mitigation Measures V-1 and V-2.

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

Discussion

a-c. Electricity, telecommunications, water, and sanitary sewer services would be provided by way of new connections to existing infrastructure in the immediate project area. Electricity services for the proposed project would be provided by PG&E. Brief discussions of water, sewer service, stormwater drainage, electrical, and telecommunications that would serve the proposed project are included below. Implementation of the proposed off-site improvements would not affect utility demand.

Water

As noted in Section IX, Hydrology and Water Quality, of this IS, the proposed project would receive water service from the NCCWD. According to the 2020 Urban Water Management Plan (UWMP), the NCCWD is estimated to have sufficient water supplies to serve the City through the year 2045 to accommodate buildout of the General Plan.[43] Considering the proposed project would be consistent with the General Plan land use designation for the site, the increase in water demand associated with buildout of the project site was accounted for by the City.

Furthermore, the UWMP estimates a daily usage of 65 gallons per capita per day (GPCD). As such, the residential component of the proposed project is anticipated to generate a demand of approximately 3,069 gallons per day, or 1.12 million gallons per year (MGY) (53 residents X 57.9 GPCD = 3,069 GPD). Because the tenants of the commercial component of the proposed project are unknown, the number of daily staff and customers which would generate increased demand for potable water is unknown at this time. Nonetheless, for the purposes of this analysis, an average of 20 employees is conservatively assumed. Thus, the commercial component of the proposed project is

[43] North Coast County Water District. *2020 Urban Water Management Plan*. June 2021.

anticipated to generate a demand of approximately 1,158 gallons per day, or 0.42 million MGY (20 staff X 57.9 GPCD = 1,158 GPD). In total, the proposed project is anticipated to generate a water demand of approximately 1.54 MGY.

Per Table 7-4 of the UWMP, in the year 2045, the NCCWD anticipates an excess water supply of 583 MGY, which is enough to accommodate the 1.54 MGY increase associated with development of the proposed project. Accordingly, the proposed project would not require or result in the construction of new water facilities or the expansion of existing facilities, as sufficient water supplies are available to adequately serve the proposed project.

Wastewater

Sewer utilities for the proposed project would be provided by the City of Pacifica. The City's wastewater is treated at the Calera Creek Water Recycling Plant (CCWRP), located approximately 1.28 miles north of the project site. The CCWRP's average discharge is 1.9 million gallons per day (mgd) to Calera Creek, which flows about 0.5-miles through constructed wetlands and ultimately to the Pacific Ocean.[44] The CCWRP was designed to handle an annual average daily wastewater flow of 4.0 mgd, and is anticipated to have enough capacity to accommodate buildout of the General Plan. Considering the proposed project is consistent with the land use designation for the site, the wastewater generation associated with the proposed project has been generally anticipated for the project site and considered in wastewater infrastructure planning efforts.

Furthermore, residents throughout the City are required to pay an annual sewer charge based on water consumption rates for each unit, per Chapter 6 of the City Municipal Code. Such charges would help to ensure that adequate capacity is available to serve the project's demand for services.

Given the remaining available capacity within the wastewater facility, the proposed project would not result in inadequate capacity to serve the project's projected demand in addition to the existing commitments.

Stormwater

As discussed above in Section X, Hydrology, of this IS, stormwater runoff from impervious surfaces associated with the proposed project would be treated on-site prior to discharge into the vacant land to the south or into the City's stormwater drainage system. Implementation of Mitigation Measure X-1 would ensure that BMPs are implemented during construction activities to reduce pollutants in stormwater discharges to the maximum extent practicable. Additionally, because the site has been anticipated for development by the City's General Plan, impacts to stormwater systems resulting from development of the site have been anticipated by the City and analyzed in the General Plan EIR.

Other Utilities

Electricity and telecommunications utilities would be provided by way of connections to existing infrastructure located within the immediate project vicinity. PG&E would provide electricity services to the project site. The proposed project would not require major

[44] Regional Water Quality Control Board San Francisco Bay Region. *City of Pacifica, Calera Creek Water Recycling Plant and Wastewater Collection System, Pacifica, San Mateo County.* Available at: https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2017/April/7_ssr.pdf. April 12, 2017.

upgrades to, or extension of, existing infrastructure. Thus, impacts to electricity and telecommunications infrastructure would be less than significant.

Conclusion

Therefore, the proposed project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater, electric power, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Sufficient water supplies would be available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Furthermore, adequate wastewater capacity would be available to serve the project's projected demand in addition to the CCWRP's existing commitments. Thus, a ***less-than-significant*** impact would occur.

d,e. Solid waste collection services for the City are provided by Recology of the Coast, a Division of Recology. Services provided to the City by Recology include curbside pick-up of garbage, recyclables, and green waste. Solid waste from within the City of Pacific is disposed of at the Ox Mountain Landfill. Per CalRecycle, the Ox Mountain Landfill has 22,180,000 cubic yards of remaining available capacity, or approximately 36.7 percent of the facility's maximum permitted capacity of 60,500,000 cubic yards.[45] The Ox Mountain Landfill is planned for closure in 2034. After the Ox Mountain Landfill ceases operations, either the Los Trancos Canyon Landfill will undergo expansion, or the Apanolio Canyon Landfill will be opened for fill.[46]

The proposed project would generate solid waste associated with construction activities and project operations. Construction debris would be disposed of in accordance with applicable federal, State, and local regulations and standards. All material exported during site preparation and grading activities would be off-hauled to the Ox Mountain Landfill. Considering the relatively small size of the proposed project, as compared to the development of the entire Ox Mountain Landfill service area, sufficient capacity would exist to accommodate the solid waste disposal needs generated by the proposed project.

Based on the above, the proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste. Thus, a ***less-than-significant*** impact would occur.

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45 CalRecycle. *SWIS Facility/Site Activity Details: Corinda Los Trancos Landfill (Ox Mtn) (41-AA-0002)*. Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223. Accessed June 2021.

46 City of San Mateo. *General Plan Update Environmental Impact Report* [pg 4.11-38]. July 2009.

XX. WILDFIRE. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?	☐	☐	✖	☐

Discussion

a-d. According to the California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program, the project site is not located within or near a Very High Fire Hazard Severity Zone.[47] The project site is located within an urbanized area of the City of Pacifica, is surrounded by existing development, and is not located in or near a State Responsibility Area. While the project site is located among a few trees present on the site, some trees and shrubs would be removed entirely, and the remaining would be maintained according to City procedures. In addition, Parcel 1 is consistent with the site's current MUC land use designation. With respect to Parcel 2, which is currently developed with a driveway and roadway to provide access to the Pacifica Community Center parking lot, the proposed General Plan Amendment would ensure consistency with the same land use designation. As such, buildout of the project site with residential and commercial uses and the associated wildfire risk has been previously considered by the City. Thus, the proposed project would not be expected to be subject to or result in substantial adverse effects related to wildfires, and a ***less-than-significant*** impact would occur.

[47] California Department of Forestry and Fire Protection. *San Mateo County, Very High Fire Hazard Severity Zones in LRA*. November 24, 2008.

XXI. 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?	☐	✖	☐	☐

Discussion

a. While unlikely, the project could result in the uncovering of previously undiscovered archeological and/or paleontological resources during project construction. However, the proposed project would comply with applicable State and local regulations related to unintentional discovery, as discussed in Section V, Cultural Resources, of this IS. Given compliance with Mitigation Measures V-1 and V-2, impacts to cultural resources would be less than significant. Therefore, implementation of the proposed project would not eliminate important examples of the major period of California history or prehistory.

However, as discussed in Section IV, Biological Resources, of this IS, special-status species and sensitive habitat types have the potential to occur on-site, and could be adversely affected by implementation of the proposed project. Therefore, the proposed project could degrade the quality of the environment, substantially reduce or impact the habitat of fish or wildlife species, cause fish or wildlife populations to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal. Thus, a ***potentially significant*** impact could occur.

Further analysis of the above impact will be included in the Biological Resources chapter of the 570 Crespi Drive Project EIR.

b. The proposed project, in conjunction with other development within the City of Pacifica, could incrementally contribute to cumulative impacts in the project area. Thus, a ***potentially significant*** impact could occur with regard to cumulative impacts.

Further analysis of the above impacts will be included in the Biological Resources, Greenhouse Gas Emissions, and Statutorily Required Sections chapters of the 570 Crespi Drive Project EIR.

c. The proposed project could expose humans to hazards relating to water quality during construction and operation. In addition, the project could potentially expose neighboring noise-sensitive receptors to excess noise levels during construction. However, this IS includes mitigation measures that would reduce any potential impacts to less-than-significant levels. Furthermore, the proposed project would be designed in accordance with all applicable building standards and codes to ensure adequate safety is provided for the future residents of the proposed project. Therefore, impacts related to environmental effects that could cause adverse effects on human beings would be ***less than significant***.

Appendix A

Air Quality and Greenhouse Gas Modeling Results

570 Crespi Drive Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	570 Crespi Drive
Construction Start Date	6/2/2025
Operational Year	2027
Lead Agency	City of Pacifica
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.60
Precipitation (days)	43.0
Location	37.59819136044743, -122.49929944787738
County	San Mateo
City	Pacifica
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1224
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.25

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Condo/Townhouse	16.0	Dwelling Unit	0.78	36,839	5,602	—	46.0	—
Medical Office Building	3.17	1000sqft	0.07	3,165	7,953	—	—	—
Parking Lot	15.0	Space	0.13	0.00	0.00	—	—	—
Apartments Low Rise	3.00	Dwelling Unit	0.00	3,692	0.00	—	9.00	—
Other Asphalt Surfaces	5.56	1000sqft	0.13	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.18	2.93	15.0	15.4	0.03	0.65	7.31	7.96	0.60	3.48	4.08	—	3,127	3,127	0.19	0.12	1.44	3,167
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.18	2.92	9.98	11.7	0.02	0.36	0.16	0.52	0.33	0.04	0.37	—	2,145	2,145	0.09	0.03	0.02	2,157
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.22	2.04	6.83	8.29	0.02	0.23	0.88	1.05	0.21	0.41	0.57	—	1,530	1,530	0.06	0.02	0.18	1,538

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.40	0.37	1.25	1.51	< 0.005	0.04	0.16	0.19	0.04	0.07	0.10	—	253	253	0.01	< 0.005	0.03	255

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.93	15.0	15.4	0.03	0.65	7.31	7.96	0.60	3.48	4.08	—	3,127	3,127	0.19	0.12	1.44	3,167
2026	3.11	2.86	9.56	11.7	0.02	0.32	0.16	0.48	0.29	0.04	0.33	—	2,149	2,149	0.09	0.03	0.59	2,160
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.92	9.98	11.7	0.02	0.36	0.16	0.52	0.33	0.04	0.37	—	2,145	2,145	0.09	0.03	0.02	2,157
2026	3.11	2.86	9.57	11.6	0.02	0.32	0.16	0.48	0.29	0.04	0.33	—	2,141	2,141	0.09	0.03	0.02	2,153
2027	3.04	2.81	9.22	11.5	0.02	0.28	0.16	0.45	0.26	0.04	0.30	—	2,137	2,137	0.09	0.03	0.01	2,147
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.99	0.88	4.40	4.99	0.01	0.17	0.88	1.05	0.16	0.41	0.57	—	938	938	0.05	0.02	0.15	946
2026	2.22	2.04	6.83	8.29	0.02	0.23	0.11	0.34	0.21	0.03	0.24	—	1,530	1,530	0.06	0.02	0.18	1,538
2027	0.13	0.12	0.26	0.33	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	58.6	58.6	< 0.005	< 0.005	0.01	58.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.18	0.16	0.80	0.91	< 0.005	0.03	0.16	0.19	0.03	0.07	0.10	—	155	155	0.01	< 0.005	0.02	157
2026	0.40	0.37	1.25	1.51	< 0.005	0.04	0.02	0.06	0.04	< 0.005	0.04	—	253	253	0.01	< 0.005	0.03	255
2027	0.02	0.02	0.05	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.71	9.71	< 0.005	< 0.005	< 0.005	9.75

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.93	15.0	15.4	0.03	0.65	7.31	7.96	0.60	3.48	4.08	—	3,127	3,127	0.19	0.12	1.44	3,167
2026	3.11	2.86	9.56	11.7	0.02	0.32	0.16	0.48	0.29	0.04	0.33	—	2,149	2,149	0.09	0.03	0.59	2,160
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.18	2.92	9.98	11.7	0.02	0.36	0.16	0.52	0.33	0.04	0.37	—	2,145	2,145	0.09	0.03	0.02	2,157
2026	3.11	2.86	9.57	11.6	0.02	0.32	0.16	0.48	0.29	0.04	0.33	—	2,141	2,141	0.09	0.03	0.02	2,153
2027	3.04	2.81	9.22	11.5	0.02	0.28	0.16	0.45	0.26	0.04	0.30	—	2,137	2,137	0.09	0.03	0.01	2,147
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.99	0.88	4.40	4.99	0.01	0.17	0.88	1.05	0.16	0.41	0.57	—	938	938	0.05	0.02	0.15	946
2026	2.22	2.04	6.83	8.29	0.02	0.23	0.11	0.34	0.21	0.03	0.24	—	1,530	1,530	0.06	0.02	0.18	1,538
2027	0.13	0.12	0.26	0.33	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	—	58.6	58.6	< 0.005	< 0.005	0.01	58.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.18	0.16	0.80	0.91	< 0.005	0.03	0.16	0.19	0.03	0.07	0.10	—	155	155	0.01	< 0.005	0.02	157
2026	0.40	0.37	1.25	1.51	< 0.005	0.04	0.02	0.06	0.04	< 0.005	0.04	—	253	253	0.01	< 0.005	0.03	255
2027	0.02	0.02	0.05	0.06	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.71	9.71	< 0.005	< 0.005	< 0.005	9.75

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.04	1.95	0.71	8.45	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,476	2,504	2.92	0.07	6.28	2,606

Mit.	2.04	1.95	0.71	8.45	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,438	2,466	2.91	0.07	6.28	2,567
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	—	—	1%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.90	1.82	0.80	6.94	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,376	2,404	2.92	0.08	0.52	2,502
Mit.	1.90	1.82	0.80	6.94	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,338	2,366	2.92	0.08	0.52	2,463
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	—	—	2%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.83	1.75	0.67	6.25	0.02	0.02	1.70	1.73	0.02	0.43	0.45	28.1	2,043	2,071	2.91	0.07	2.51	2,166
Mit.	1.83	1.75	0.67	6.25	0.02	0.02	1.70	1.73	0.02	0.43	0.45	28.1	2,004	2,032	2.90	0.07	2.51	2,127
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	—	—	2%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.33	0.32	0.12	1.14	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	4.65	338	343	0.48	0.01	0.42	359
Mit.	0.33	0.32	0.12	1.14	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	4.65	332	336	0.48	0.01	0.42	352
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	2%	2%	< 0.5%	1%	—	2%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.79	0.72	0.55	7.16	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,191	2,191	0.07	0.07	5.91	2,219

Area	1.23	1.22	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.45	3.45	< 0.005	< 0.005	—	3.46
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	278	278	0.03	< 0.005	—	279
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	2.04	1.95	0.71	8.45	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,476	2,504	2.92	0.07	6.28	2,606
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.78	0.71	0.65	6.87	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,094	2,094	0.08	0.07	0.15	2,118
Area	1.10	1.10	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	278	278	0.03	< 0.005	—	279
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	1.90	1.82	0.80	6.94	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,376	2,404	2.92	0.08	0.52	2,502
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.65	0.59	0.51	5.57	0.02	0.01	1.70	1.71	0.01	0.43	0.44	—	1,759	1,759	0.06	0.06	2.14	1,780
Area	1.16	1.16	0.01	0.60	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.70	1.70	< 0.005	< 0.005	—	1.71
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	278	278	0.03	< 0.005	—	279
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	1.83	1.75	0.67	6.25	0.02	0.02	1.70	1.73	0.02	0.43	0.45	28.1	2,043	2,071	2.91	0.07	2.51	2,166
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.12	0.11	0.09	1.02	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	291	291	0.01	0.01	0.35	295
Area	0.21	0.21	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.28	0.28	< 0.005	< 0.005	—	0.28
Energy	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	46.0	46.0	0.01	< 0.005	—	46.2

Water	—	—	—	—	—	—	—	—	—	—	—	0.34	0.71	1.05	0.04	< 0.005	—	2.19
Waste	—	—	—	—	—	—	—	—	—	—	—	4.31	0.00	4.31	0.43	0.00	—	15.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Total	0.33	0.32	0.12	1.14	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	4.65	338	343	0.48	0.01	0.42	359

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.79	0.72	0.55	7.16	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,191	2,191	0.07	0.07	5.91	2,219
Area	1.23	1.22	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.45	3.45	< 0.005	< 0.005	—	3.46
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	240	240	0.02	< 0.005	—	241
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	2.04	1.95	0.71	8.45	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,438	2,466	2.91	0.07	6.28	2,567
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.78	0.71	0.65	6.87	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,094	2,094	0.08	0.07	0.15	2,118
Area	1.10	1.10	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	240	240	0.02	< 0.005	—	241
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	1.90	1.82	0.80	6.94	0.02	0.02	2.09	2.12	0.02	0.53	0.55	28.1	2,338	2,366	2.92	0.08	0.52	2,463

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.65	0.59	0.51	5.57	0.02	0.01	1.70	1.71	0.01	0.43	0.44	—	1,759	1,759	0.06	0.06	2.14	1,780
Area	1.16	1.16	0.01	0.60	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	1.70	1.70	< 0.005	< 0.005	—	1.71
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	240	240	0.02	< 0.005	—	241
Water	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Waste	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Total	1.83	1.75	0.67	6.25	0.02	0.02	1.70	1.73	0.02	0.43	0.45	28.1	2,004	2,032	2.90	0.07	2.51	2,127
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.12	0.11	0.09	1.02	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	291	291	0.01	0.01	0.35	295
Area	0.21	0.21	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.28	0.28	< 0.005	< 0.005	—	0.28
Energy	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	39.7	39.7	< 0.005	< 0.005	—	39.8
Water	—	—	—	—	—	—	—	—	—	—	—	0.34	0.71	1.05	0.04	< 0.005	—	2.19
Waste	—	—	—	—	—	—	—	—	—	—	—	4.31	0.00	4.31	0.43	0.00	—	15.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06
Total	0.33	0.32	0.12	1.14	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	4.65	332	336	0.48	0.01	0.42	352

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.31	12.1	12.1	0.02	0.56	—	0.56	0.52	—	0.52	—	2,065	2,065	0.08	0.02	—	2,072

Dust From Material Movemen	—	—	—	—	—	—	6.26	6.26	—	3.00	3.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Dust From Material Movemen	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.88
Dust From Material Movemen	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.8	61.8	< 0.005	< 0.005	0.20	62.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.31	12.1	12.1	0.02	0.56	—	0.56	0.52	—	0.52	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movemen	—	—	—	—	—	—	6.26	6.26	—	3.00	3.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Dust From Material Movemen	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.88
Dust From Material Movemen	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.23	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.8	61.8	< 0.005	< 0.005	0.20	62.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	14.1	14.5	0.02	0.64	—	0.64	0.59	—	0.59	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movemen	—	—	—	—	—	—	7.09	7.09	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.17	1.54	1.59	< 0.005	0.07	—	0.07	0.06	—	0.06	—	269	269	0.01	< 0.005	—	270
Dust From Material Movemen	—	—	—	—	—	—	0.78	0.78	—	0.38	0.38	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.28	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	44.5	44.5	< 0.005	< 0.005	—	44.7
Dust From Material Movemen:	—	—	—	—	—	—	0.14	0.14	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.31	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	82.4	82.4	< 0.005	< 0.005	0.27	82.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.11	0.01	0.91	0.62	0.01	0.01	0.14	0.15	0.01	0.04	0.04	—	590	590	0.09	0.09	1.17	621
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.55	8.55	< 0.005	< 0.005	0.01	8.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	64.6	64.6	0.01	0.01	0.06	68.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.42	1.42	< 0.005	< 0.005	< 0.005	1.44
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.01	11.3

3.4. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	14.1	14.5	0.02	0.64	—	0.64	0.59	—	0.59	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movemen:	—	—	—	—	—	—	7.09	7.09	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.20	0.17	1.54	1.59	< 0.005	0.07	—	0.07	0.06	—	0.06	—	269	269	0.01	< 0.005	—	270
Dust From Material Movemen:	—	—	—	—	—	—	0.78	0.78	—	0.38	0.38	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.28	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	—	44.5	44.5	< 0.005	< 0.005	—	44.7

Dust From Material Movemen:	—	—	—	—	—	—	0.14	0.14	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.31	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	82.4	82.4	< 0.005	< 0.005	0.27	82.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.11	0.01	0.91	0.62	0.01	0.01	0.14	0.15	0.01	0.04	0.04	—	590	590	0.09	0.09	1.17	621
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.55	8.55	< 0.005	< 0.005	0.01	8.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	64.6	64.6	0.01	0.01	0.06	68.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.42	1.42	< 0.005	< 0.005	< 0.005	1.44
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.01	11.3

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.26	2.21	2.47	< 0.005	0.08	—	0.08	0.07	—	0.07	—	444	444	0.02	< 0.005	—	446
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.40	0.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	73.5	73.5	< 0.005	< 0.005	—	73.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.46	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	121	121	< 0.005	< 0.005	0.40	122
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	73.4	73.4	0.01	0.01	0.18	76.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	114	114	< 0.005	< 0.005	0.01	116
Vendor	0.01	< 0.005	0.11	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	73.4	73.4	0.01	0.01	< 0.005	76.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.3	28.3	< 0.005	< 0.005	0.04	28.7
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.1	18.1	< 0.005	< 0.005	0.02	18.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.68	4.68	< 0.005	< 0.005	0.01	4.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.00	3.00	< 0.005	< 0.005	< 0.005	3.13
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	0.26	2.21	2.47	< 0.005	0.08	—	0.08	0.07	—	0.07	—	444	444	0.02	< 0.005	—	446
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.40	0.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	73.5	73.5	< 0.005	< 0.005	—	73.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.46	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	121	121	< 0.005	< 0.005	0.40	122
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	73.4	73.4	0.01	0.01	0.18	76.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.42	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	114	114	< 0.005	< 0.005	0.01	116
Vendor	0.01	< 0.005	0.11	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	73.4	73.4	0.01	0.01	< 0.005	76.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	28.3	28.3	< 0.005	< 0.005	0.04	28.7
Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.1	18.1	< 0.005	< 0.005	0.02	18.9

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.68	4.68	< 0.005	< 0.005	0.01	4.75
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.00	3.00	< 0.005	< 0.005	< 0.005	3.13
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	0.72	6.12	7.11	0.01	0.21	—	0.21	0.19	—	0.19	—	1,286	1,286	0.05	0.01	—	1,291
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.16	0.13	1.12	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	213	213	0.01	< 0.005	—	214
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.42	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	119	119	< 0.005	< 0.005	0.35	119
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	0.17	75.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.39	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	112	112	< 0.005	< 0.005	0.01	114
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	< 0.005	75.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	80.3	80.3	< 0.005	< 0.005	0.11	81.4
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.4	51.4	< 0.005	0.01	0.05	53.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	13.3	13.3	< 0.005	< 0.005	0.02	13.5
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.51	8.51	< 0.005	< 0.005	0.01	8.91
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.87	0.72	6.12	7.11	0.01	0.21	—	0.21	0.19	—	0.19	—	1,286	1,286	0.05	0.01	—	1,291
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.12	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	213	213	0.01	< 0.005	—	214
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.42	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	119	119	< 0.005	< 0.005	0.35	119
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	0.17	75.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.39	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	112	112	< 0.005	< 0.005	0.01	114
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	< 0.005	75.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.27	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	80.3	80.3	< 0.005	< 0.005	0.11	81.4
Vendor	0.01	< 0.005	0.07	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	51.4	51.4	< 0.005	0.01	0.05	53.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	13.3	13.3	< 0.005	< 0.005	0.02	13.5
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.51	8.51	< 0.005	< 0.005	0.01	8.91
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.17	0.97	8.25	9.91	0.02	0.26	—	0.26	0.24	—	0.24	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.8	45.8	< 0.005	< 0.005	—	46.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.59	7.59	< 0.005	< 0.005	—	7.61
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.37	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.01	110
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	70.4	70.4	0.01	0.01	< 0.005	73.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.81	2.81	< 0.005	< 0.005	< 0.005	2.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.79	1.79	< 0.005	< 0.005	< 0.005	1.87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.46	0.46	< 0.005	< 0.005	< 0.005	0.47
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.17	0.97	8.25	9.91	0.02	0.26	—	0.26	0.24	—	0.24	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.21	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	45.8	45.8	< 0.005	< 0.005	—	46.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.59	7.59	< 0.005	< 0.005	—	7.61
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.03	0.37	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	110	110	< 0.005	< 0.005	0.01	110
Vendor	0.01	< 0.005	0.10	0.06	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	70.4	70.4	0.01	0.01	< 0.005	73.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.81	2.81	< 0.005	< 0.005	< 0.005	2.82
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.79	1.79	< 0.005	< 0.005	< 0.005	1.87
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.46	0.46	< 0.005	< 0.005	< 0.005	0.47
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.63	6.50	0.01	0.20	—	0.20	0.19	—	0.19	—	992	992	0.04	0.01	—	995
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.25	0.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.3	54.3	< 0.005	< 0.005	—	54.5
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.00	9.00	< 0.005	< 0.005	—	9.03
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.39	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.34	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.42
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.90
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.63	6.50	0.01	0.20	—	0.20	0.19	—	0.19	—	992	992	0.04	0.01	—	995
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.25	0.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	54.3	54.3	< 0.005	< 0.005	—	54.5
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.00	9.00	< 0.005	< 0.005	—	9.03
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.03	0.03	0.02	0.39	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	103	103	< 0.005	< 0.005	0.34	104
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.35	5.35	< 0.005	< 0.005	0.01	5.42
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.90
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.19	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.3	29.3	< 0.005	< 0.005	—	29.4
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.85	4.85	< 0.005	< 0.005	—	4.86
Architectural Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.2	24.2	< 0.005	< 0.005	0.08	24.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.9	22.9	< 0.005	< 0.005	< 0.005	23.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.03	5.03	< 0.005	< 0.005	0.01	5.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.19	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.3	29.3	< 0.005	< 0.005	—	29.4
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.85	4.85	< 0.005	< 0.005	—	4.86
Architectural Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.2	24.2	< 0.005	< 0.005	0.08	24.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.9	22.9	< 0.005	< 0.005	< 0.005	23.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.03	5.03	< 0.005	< 0.005	0.01	5.10
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.83	0.83	< 0.005	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.61	0.81	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.4	95.4	< 0.005	< 0.005	—	95.7
Architectural Coatings	1.20	1.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Architectural Coatings	0.22	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.7	23.7	< 0.005	< 0.005	0.07	23.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.4	22.4	< 0.005	< 0.005	< 0.005	22.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.02	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.66	2.66	< 0.005	< 0.005	< 0.005	2.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.16. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.09	0.61	0.81	< 0.005	0.02	—	0.02	0.02	—	0.02	—	95.4	95.4	< 0.005	< 0.005	—	95.7
Architectural Coatings	1.20	1.20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.11	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.8	15.8	< 0.005	< 0.005	—	15.8
Architectural Coatings	0.22	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.7	23.7	< 0.005	< 0.005	0.07	23.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.4	22.4	< 0.005	< 0.005	< 0.005	22.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.02	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.66	2.66	< 0.005	< 0.005	< 0.005	2.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.17. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.05	7.05	< 0.005	< 0.005	—	7.08
Architectural Coatings	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.17
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.0	22.0	< 0.005	< 0.005	< 0.005	22.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.18. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.69	1.69	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.05	7.05	< 0.005	< 0.005	—	7.08
Architectural Coatings	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.17
Architectural Coatings	0.02	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	22.0	22.0	< 0.005	< 0.005	< 0.005	22.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.17
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.39	0.36	0.27	3.55	0.01	0.01	1.04	1.04	0.01	0.26	0.27	—	1,087	1,087	0.03	0.03	2.93	1,101
Medical Office Building	0.33	0.30	0.23	2.95	0.01	< 0.005	0.86	0.86	< 0.005	0.22	0.22	—	900	900	0.03	0.03	2.43	911
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.07	0.07	0.05	0.67	< 0.005	< 0.005	0.19	0.20	< 0.005	0.05	0.05	—	204	204	0.01	0.01	0.55	206
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.79	0.72	0.55	7.16	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,191	2,191	0.07	0.07	5.91	2,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.39	0.35	0.32	3.40	0.01	0.01	1.04	1.04	0.01	0.26	0.27	—	1,039	1,039	0.04	0.04	0.08	1,051
Medical Office Building	0.32	0.29	0.27	2.83	0.01	< 0.005	0.86	0.86	< 0.005	0.22	0.22	—	860	860	0.03	0.03	0.06	870

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.07	0.07	0.06	0.64	< 0.005	< 0.005	0.19	0.20	< 0.005	0.05	0.05	—	195	195	0.01	0.01	0.01	197
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.78	0.71	0.65	6.87	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,094	2,094	0.08	0.07	0.15	2,118
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.06	0.06	0.05	0.54	< 0.005	< 0.005	0.16	0.17	< 0.005	0.04	0.04	—	154	154	0.01	0.01	0.19	156
Medical Office Building	0.04	0.04	0.03	0.38	< 0.005	< 0.005	0.12	0.12	< 0.005	0.03	0.03	—	108	108	< 0.005	< 0.005	0.13	109
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.01	0.01	0.01	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	29.0	29.0	< 0.005	< 0.005	0.04	29.3
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.12	0.11	0.09	1.02	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	291	291	0.01	0.01	0.35	295

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhous	0.39	0.36	0.27	3.55	0.01	0.01	1.04	1.04	0.01	0.26	0.27	—	1,087	1,087	0.03	0.03	2.93	1,101
Medical Office Building	0.33	0.30	0.23	2.95	0.01	< 0.005	0.86	0.86	< 0.005	0.22	0.22	—	900	900	0.03	0.03	2.43	911
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.07	0.07	0.05	0.67	< 0.005	< 0.005	0.19	0.20	< 0.005	0.05	0.05	—	204	204	0.01	0.01	0.55	206
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.79	0.72	0.55	7.16	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,191	2,191	0.07	0.07	5.91	2,219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.39	0.35	0.32	3.40	0.01	0.01	1.04	1.04	0.01	0.26	0.27	—	1,039	1,039	0.04	0.04	0.08	1,051
Medical Office Building	0.32	0.29	0.27	2.83	0.01	< 0.005	0.86	0.86	< 0.005	0.22	0.22	—	860	860	0.03	0.03	0.06	870
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.07	0.07	0.06	0.64	< 0.005	< 0.005	0.19	0.20	< 0.005	0.05	0.05	—	195	195	0.01	0.01	0.01	197
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.78	0.71	0.65	6.87	0.02	0.01	2.09	2.10	0.01	0.53	0.54	—	2,094	2,094	0.08	0.07	0.15	2,118
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhouse	0.06	0.06	0.05	0.54	< 0.005	< 0.005	0.16	0.17	< 0.005	0.04	0.04	—	154	154	0.01	0.01	0.19	156
Medical Office Building	0.04	0.04	0.03	0.38	< 0.005	< 0.005	0.12	0.12	< 0.005	0.03	0.03	—	108	108	< 0.005	< 0.005	0.13	109
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	0.01	0.01	0.01	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	29.0	29.0	< 0.005	< 0.005	0.04	29.3
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.12	0.11	0.09	1.02	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	291	291	0.01	0.01	0.35	295

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	38.2	38.2	0.01	< 0.005	—	38.6
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	37.4	37.4	0.01	< 0.005	—	37.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.80

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	6.29	6.29	< 0.005	< 0.005	—	6.35
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	84.7	84.7	0.01	< 0.005	—	85.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	38.2	38.2	0.01	< 0.005	—	38.6
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	37.4	37.4	0.01	< 0.005	—	37.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.80
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	6.29	6.29	< 0.005	< 0.005	—	6.35
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	84.7	84.7	0.01	< 0.005	—	85.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	6.33	6.33	< 0.005	< 0.005	—	6.39
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	6.20	6.20	< 0.005	< 0.005	—	6.26
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46	< 0.005	< 0.005	—	0.46

Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1.04	1.04	< 0.005	< 0.005	—	1.05
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	14.0	14.0	< 0.005	< 0.005	—	14.2

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	37.4	37.4	0.01	< 0.005	—	37.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.80
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	6.26	6.26	< 0.005	< 0.005	—	6.32
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.5	46.5	0.01	< 0.005	—	46.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/Townhous	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	37.4	37.4	0.01	< 0.005	—	37.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.77	2.77	< 0.005	< 0.005	—	2.80
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	6.26	6.26	< 0.005	< 0.005	—	6.32
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	46.5	46.5	0.01	< 0.005	—	46.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	6.20	6.20	< 0.005	< 0.005	—	6.26
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46	< 0.005	< 0.005	—	0.46
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	1.04	1.04	< 0.005	< 0.005	—	1.05
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	7.69	7.69	< 0.005	< 0.005	—	7.77

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	150
Medical Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1	24.1	< 0.005	< 0.005	—	24.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.2
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	194
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	150
Medical Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1	24.1	< 0.005	< 0.005	—	24.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.2

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	194
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.8	24.8	< 0.005	< 0.005	—	24.9
Medical Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.99	3.99	< 0.005	< 0.005	—	4.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.18	3.18	< 0.005	< 0.005	—	3.19
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	150
Medical Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1	24.1	< 0.005	< 0.005	—	24.2

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.2
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	194
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.01	0.01	0.12	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	—	150	150	0.01	< 0.005	—	150
Medical Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.1	24.1	< 0.005	< 0.005	—	24.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.2	19.2	< 0.005	< 0.005	—	19.2
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.02	< 0.005	—	194
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.8	24.8	< 0.005	< 0.005	—	24.9
Medical Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.99	3.99	< 0.005	< 0.005	—	4.00

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.18	3.18	< 0.005	< 0.005	—	3.19
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.0	32.0	< 0.005	< 0.005	—	32.1

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.94	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.12	0.12	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.45	3.45	< 0.005	< 0.005	—	3.46
Total	1.23	1.22	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.45	3.45	< 0.005	< 0.005	—	3.46
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.94	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.10	1.10	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.28	0.28	< 0.005	< 0.005	—	0.28
Total	0.21	0.21	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.28	0.28	< 0.005	< 0.005	—	0.28

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.94	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.12	0.12	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.45	3.45	< 0.005	< 0.005	—	3.46
Total	1.23	1.22	0.01	1.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.45	3.45	< 0.005	< 0.005	—	3.46
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.94	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.10	1.10	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.28	0.28	< 0.005	< 0.005	—	0.28
Total	0.21	0.21	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.28	0.28	< 0.005	< 0.005	—	0.28

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.11	2.26	3.37	0.11	< 0.005	—	7.05
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.76	1.62	2.38	0.08	< 0.005	—	4.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.39	0.60	0.02	< 0.005	—	1.29
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.11	2.26	3.37	0.11	< 0.005	—	7.05
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.76	1.62	2.38	0.08	< 0.005	—	4.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Apartments	—	—	—	—	—	—	—	—	—	—	—	0.21	0.39	0.60	0.02	< 0.005	—	1.29
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.18	0.37	0.56	0.02	< 0.005	—	1.17
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.13	0.27	0.39	0.01	< 0.005	—	0.81
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.03	0.07	0.10	< 0.005	< 0.005	—	0.21
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.34	0.71	1.05	0.04	< 0.005	—	2.19

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.11	2.26	3.37	0.11	< 0.005	—	7.05

Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.76	1.62	2.38	0.08	< 0.005	—	4.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.39	0.60	0.02	< 0.005	—	1.29
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.11	2.26	3.37	0.11	< 0.005	—	7.05
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.76	1.62	2.38	0.08	< 0.005	—	4.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.39	0.60	0.02	< 0.005	—	1.29
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.08	4.27	6.35	0.21	0.01	—	13.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	0.18	0.37	0.56	0.02	< 0.005	—	1.17

Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	0.13	0.27	0.39	0.01	< 0.005	—	0.81
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.03	0.07	0.10	< 0.005	< 0.005	—	0.21
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.34	0.71	1.05	0.04	< 0.005	—	2.19

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.37	0.00	6.37	0.64	0.00	—	22.3
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	18.4	0.00	18.4	1.84	0.00	—	64.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.12	0.00	—	4.36

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.37	0.00	6.37	0.64	0.00	—	22.3
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	18.4	0.00	18.4	1.84	0.00	—	64.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.12	0.00	—	4.36
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.05	0.00	1.05	0.11	0.00	—	3.69
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	3.05	0.00	3.05	0.30	0.00	—	10.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.72

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.31	0.00	4.31	0.43	0.00	—	15.1

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.37	0.00	6.37	0.64	0.00	—	22.3
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	18.4	0.00	18.4	1.84	0.00	—	64.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.12	0.00	—	4.36
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	6.37	0.00	6.37	0.64	0.00	—	22.3

Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	18.4	0.00	18.4	1.84	0.00	—	64.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.12	0.00	—	4.36
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.0	0.00	26.0	2.60	0.00	—	91.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1.05	0.00	1.05	0.11	0.00	—	3.69
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	3.05	0.00	3.05	0.30	0.00	—	10.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.72
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.31	0.00	4.31	0.43	0.00	—	15.1

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

Apartme Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.08	0.08
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.37	0.37

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Medical Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Apartments Low Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06	0.06

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	6/2/2025	6/3/2025	5.00	2.00	—
Grading	Grading	6/5/2025	7/30/2025	5.00	40.0	—
Building Construction	Building Construction	8/28/2025	1/13/2027	5.00	360	—
Paving	Paving	7/31/2025	8/27/2025	5.00	20.0	—
Architectural Coating	Architectural Coating	9/11/2025	1/27/2027	5.00	360	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29

Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37

Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	7.50	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	14.7	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	2.55	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.94	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	7.50	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	14.7	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	2.55	8.40	HHDT,MHDT

Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.94	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	82,075	27,358	4,748	1,583	680

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	1.88	0.00	—

Grading	2,400	—	40.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.26

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Condo/Townhouse	—	0%
Medical Office Building	0.00	0%
Parking Lot	0.13	100%
Apartments Low Rise	—	0%
Other Asphalt Surfaces	0.13	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	117	130	100	42,565	1,326	1,475	1,138	482,059
Medical Office Building	110	27.1	4.49	30,364	1,221	301	49.8	336,494

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	22.0	24.4	18.8	7,981	249	277	213	90,386
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	117	130	100	42,565	1,326	1,475	1,138	482,059
Medical Office Building	110	27.1	4.49	30,364	1,221	301	49.8	336,494
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apartments Low Rise	22.0	24.4	18.8	7,981	249	277	213	90,386
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	16

Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0
Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	3
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	16
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

Apartments Low Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	3
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
82075.275	27,358	4,748	1,583	680

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	68,392	204	0.0330	0.0040	467,593
Medical Office Building	66,999	204	0.0330	0.0040	75,170
Parking Lot	4,961	204	0.0330	0.0040	0.00
Apartments Low Rise	11,251	204	0.0330	0.0040	59,878
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	0.00	204	0.0330	0.0040	467,593
Medical Office Building	66,999	204	0.0330	0.0040	75,170
Parking Lot	4,961	204	0.0330	0.0040	0.00
Apartments Low Rise	11,205	204	0.0330	0.0040	59,878
Other Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	580,262	56,762
Medical Office Building	397,146	65,932
Parking Lot	0.00	0.00

Apartments Low Rise	108,799	0.00
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	580,262	56,762
Medical Office Building	397,146	65,932
Parking Lot	0.00	0.00
Apartments Low Rise	108,799	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	11.8	—
Medical Office Building	34.2	—
Parking Lot	0.00	—
Apartments Low Rise	2.31	—
Other Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	11.8	—
Medical Office Building	34.2	—
Parking Lot	0.00	—

Apartments Low Rise	2.31	—
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00
Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Medical Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.45	0.60	0.00	1.00

Medical Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Apartments Low Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Low Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Land Use	Changes made based on project-specific information. It should be noted that the low-rise apartment acreage and landscaping are reflected in commercial land use due to being a mixed-use building. On-site parking has 15 spaces under the parking lot category, and the improvements in Parcel 2 are included under the Other Asphalt Surfaces category.
Construction: Construction Phases	Changes made based on applicant-provided information. Demolition stage not required. Based on typical construction practices, architectural coating assumed to start two weeks after the start of building construction and last for the same number of days.
Operations: Hearths	Natural gas hearths removed due to City prohibition for residential structures.

AERMOD Model Options

Model Options

Pathway	Keyword	Description	Value
CO	TITLEONE	Project title 1	Crespi Drive Project Construction Health Risk Assessment
CO	TITLETWO	Project title 2	
CO	MODELOPT	Model options	DFAULT,CONC,NODRYDPLT,NOWETDPLT
CO	AVERTIME	Averaging times	1,24,ANNUAL
CO	URBANOPT	Urban options	
CO	POLLUTID	Pollutant ID	PM25 H1H
CO	HALFLIFE	Half life	
CO	DCAYCOEF	Decay coefficient	
CO	FLAGPOLE	Flagpole receptor heights	1.8
CO	RUNORNOT	Run or Not	RUN
CO	EVENTFIL	Event file	F
CO	SAVEFILE	Save file	F
CO	INITFILE	Initialization file	
CO	MULTYEAR	Multiple year option	N/A
CO	DEBUGOPT	Debug options	N/A
CO	ERRORFIL	Error file	F
SO	ELEVUNIT	Elevation units	METERS
SO	EMISUNIT	Emission units	N/A
RE	ELEVUNIT	Elevation units	METERS
ME	SURFFILE	Surface met file	I:\Projects\Active\Pacifica\570 Crespi Drive\Technical Reports\AQ\HRA\AERMOD\San Francisco International.SFC
ME	PROFFILE	Profile met file	I:\Projects\Active\Pacifica\570 Crespi Drive\Technical Reports\AQ\HRA\AERMOD\San Francisco International.PFL
ME	SURFDATA	Surf met data info.	23234 2009
ME	UAIRDATA	U-Air met data info.	23230 2009
ME	SITEDATA	On-site met data info.	
ME	PROFBASE	Elev. above MSL	2.4
ME	STARTEND	Start-end met dates	
ME	WDROTATE	Wind dir. rot. adjust.	
ME	WINDCATS	Wind speed cat. max.	
ME	SCIMBYHR	SCIM sample params	
EV	DAYTABLE	Print summary opt.	N/A
OU	EVENTOUT	Output info. level	N/A

OU	DAYTABLE	Print summary opt.	

Source Parameter Tables

All Sources

Source ID / Pollutant ID	Source Type	Description	UTM		Elev.	Emiss. Rate	Emiss. Units	Release Height
			East (m)	North (m)	(m)			(m)
29R3K7E1	VOLUME	Construction Equip	544210.9	4161358.8	0	0.0015941	(g/s)	5

Volume Sources

Source ID / Pollutant ID	Description	UTM		Elev.	Emiss. Rate	Release Height	Init. Lat. Dim.	Init. Vert. Dim.
		East (m)	North (m)	(m)	(g/s)	(m)	(m)	(m)
29R3K7E1	Construction Equip	544210.9	4161358.8	0	0.0015941	5	29.59	1

BREEZE AERMOD Model Results

Max. Annual (5 YEARS) Results of Pollutant: PM25 (ug/m**3)

Group ID	High	Avg. Conc.	UTM		Elev.	Hill Ht.	Flag Ht.	Rec. Type	Grid ID
			East (m)	North (m)	(m)	(m)	(m)		
ALL	1ST	0.01595	544313.30	4161379.00	0.00	0.00	1.80	DC	
	2ND	0.01584	544308.30	4161389.00	0.00	0.00	1.80	DC	
	3RD	0.01528	544313.30	4161384.00	0.00	0.00	1.80	DC	
	4TH	0.01520	544318.30	4161374.00	0.00	0.00	1.80	DC	
	5TH	0.01504	544167.10	4161255.70	0.00	0.00	1.80	DC	
	6TH	0.01498	544308.30	4161394.00	0.00	0.00	1.80	DC	
	7TH	0.01466	544318.30	4161379.00	0.00	0.00	1.80	DC	
	8TH	0.01457	544313.30	4161389.00	0.00	0.00	1.80	DC	
	9TH	0.01455	544177.10	4161250.70	0.00	0.00	1.80	DC	
	10TH	0.01455	544162.10	4161255.70	0.00	0.00	1.80	DC	

Highest Results of Pollutant: PM25

Avg. Per.	Grp ID	High	Type	Val	Units	Date	UTM		Elev.	Hill Ht.	Flag Ht.	Rec. Type	Grid ID
						YYMMDDHH	East (m)	North (m)	(m)	(m)	(m)		
1-HR	ALL	1ST	Avg. Conc.	1.92131	ug/m**3	09011618	544167.10	4161255.70	0.00	0.00	1.80	DC	

Summary of Total Messages

#	Message Type
0	Fatal Error Message(s)
4	Warning Message(s)
6306	Informational Message(s)
43872	Hours Were Processed
5804	Calm Hours Identified
502	Missing Hours Identified (1.14 Percent)

Error & Warning Messages

Msg. Type	Pathway	Ref. #	Description
WARNING	CO	W276	Special proc for 1h-NO2/SO2 24hPM25 NAAQS disabled PM25 H1H
WARNING	CO	W363	Multiyr 24h/Ann PM25 processing not applicable for PM25 H1H

WARNING	OU	W565	Possible Conflict With Dynamically Allocated FUNIT PLOTFILE
WARNING	MX	W481	Data Remaining After End of Year. Number of Hours= 48

www.breeze-software.com

*HARP - HRACalc v22118 7/8/2024 11:55:57 AM - Cancer Risk - Input File: C:\Users\jfahrney\Desktop\HARP Results\570 Crespi_HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK	SOIL_RISK	DERMAL_RISK	MMILK_RISK	WATER_RISK	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISK	PIG_RISK	CHICKEN_RISK	EGG_RISK	1ST_DRIVER	2ND_DRIVER	PASTURE_CONC	FISH_CONC	WATER_CONC
1			9901	DieselExhPM	0.01595	4.80E-06	1.75YrCancerHighEnd_Inh_FAH16to70	*	4.80E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	NA	NA	0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v22118 7/8/2024 11:55:57 AM - Chronic Risk - Input File: C:\Users\jfahmey\Desktop\HARP Results\570 Crespi_HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL	DETAILS	INH_CONC	SOIL_DOSE	DERMAL_DOSE	MMILK_DOSE	WATER_DOSE	FISH_DOSE	CROP_DOSE	BEEF_DOSE	DAIRY_DOSE	PIG_DOSE	CHICKEN_DOSE	EGG_DOSE	1ST_DRIVER	2ND_DRIVER	3RD_DRIVER	PASTURE_CONC	FISH_CONC	WATER_CONC
1			9901	DieselExhPM	0.016	NonCancerChronicHighEnd_Inh	########	########	########	########	########	0.00E+00	#######	########	########	0.00E+00	########	########	########	0.00E+00	"	1.60E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION	NA	NA	0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v22118 7/8/2024 11:55:57 AM - Acute Risk - Input File: C:\Users\jfahrney\Desktop\HARP Results\570 Crespi_HRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	ODOR	GENERAL
1			9901	DieselExhPM	1.92131	NonCancerAcute	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix B

Geotechnical Investigation and Response to Geotechnical Investigation Peer Review

GEOTECHNICAL INVESTIGATION
FOR PROPOSED
NEW TOWNHOUSE COMPLEX
at the
Crespi Drive Property

570 Crespi Drive
Pacifica, California

Report Prepared for:

Mr. Brendan Murphy

Report Prepared by:

GeoForensics, Inc.

January 2016

GEOFORENSICS INC. Consulting Soil Engineering

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File: 215247
January 5, 2016

Mr. Brendan Murphy
P.O. Box 301
San Mateo, CA 94401

Subject: **Crespi Drive Property**
570 Crespi Drive
Pacifica, California
GEOTECHNICAL INVESTIGATION FOR PROPOSED NEW TOWNHOUSE COMPLEX AND COMMERCIAL BUILDING

Dear Mr. Murphy:

In accordance with your authorization, we have performed a subsurface investigation into the geotechnical conditions present at the location of the proposed improvements. This report summarizes the conditions we measured and observed, and presents our opinions and recommendations for the design and construction of the proposed new townhouse complex and commercial building.

Site Description

The subject site is a relatively level, rectangularly-shaped parcel located on the south side of Crespi Drive (at the approximate location shown on Figure 1). For purposes of description in this report, it is assumed that the property faces north. The property is bounded by a commercial building to the east, the Pacifica Community Center to the west, developed single family residential lots to the south, and Crespi Drive to the north.

The site is currently occupied by a one-story, wood-framed residence situated on the northern end of the lot. There is an attached garage at the northwest corner of the house. The wooden house floors are supported above crawlspace areas, while the garage has a concrete slab-on-grade floor. A concrete driveway leads from the street to the garage.

The ground surface in the site vicinity has an overall gentle slope down towards the west (as shown on Figure 2). At the site, the ground also slopes gently down towards the west. Surface gradients range from level to 20:1 (horizontal:vertical, H:V).

The grounds around the residence are vegetated with a variety of small to medium sized bushes and shrubs, numerous small to large trees, and various other native plants and grasses. There is a concrete walkway across the front of the house.

Proposed Construction

We understand that the current development for the site proposes the demolition of the existing residence, and the subsequent construction of a new townhouse complex and a commercial building with upper level living space. The structures are to be of conventional, wood-framed construction. New foundation loads are expected to be typical for these types of structures (i.e. light).

Excavation work at the site is expected to be limited to crawlspace and foundation excavations. No significant fill placement is anticipated as part of this work. No significant retaining walls are anticipated for this scope of work. No basements are planned for the townhouses or commercial building.

INVESTIGATION

Scope and Purpose

The purpose of our investigation was to determine the nature of the subsurface soil conditions so that we could provide geotechnical recommendations for the construction of the proposed new townhouse complex and commercial building. In order to achieve this purpose, we have performed the following scope of work:

1 - visited the property to observe the geotechnical setting of the area to be developed;
2 - reviewed relevant published geotechnical maps;
3 - drilled three borings near the location of the proposed improvements;
4 - performed laboratory testing on collected soil samples;
5 - assessed the collected information and prepared this report.

The findings of these work items are discussed in the following sections of this report.

Site Observations

We visited the site on December 8, 2015 to observe the geotechnically relevant site conditions. During our visit, we noted the following conditions:

A - The existing house appears to be supported by a perimeter concrete footing with isolated interior wooden posts resting on concrete pedestals. The foundation system appeared to be in good condition, with no major cracks (as observed from the exterior).

B - We observed hairline to ¼ inch wide cracks in the concrete of the walkways and the driveway.

C - The exterior house walls were covered with wood siding. The wood siding walls were generally in a state of disrepair.

D - We consider the drainage around the house to be poor. The ground surface near the house, and over much of the lot, is flat without sufficient slope away from the house to adequately carry water away from the house. "Trapped" planters and low areas also exist near the house foundations. Additionally, there are no roof downspouts, as water is allowed to sheet flow onto the ground surface near the house foundations. Water which is discharged, collected, or trapped by the house foundations may seep into the crawlspace.

E - We would characterize the drainage over the majority lot to be sheet flow to the west.

Geologic Map Review

We reviewed the *Geology of the Onshore Part of San Mateo County, California: Derived from the Digital Database Open-File 98-137*, by Earl E. Brabb, R.W. Graymer, and D.L. Jones (1998). The relevant portion of the Brabb, Graymer, and Jones map has been reproduced in Figure 3.

The Brabb, Graymer, and Jones map indicate that the site is underlain by Alluvial Fan and Fluvial Deposits (map symbol "Qhaf") and Artificial Fill (map symbol "af").

Brabb, Graymer, and Jones describe Alluvial Fan and Fluvial Deposits as consisting of "brown or tan, medium dense to dense, gravelly sand or sandy gravel that generally grades upward to sandy or silty clay. Near the distal fan edges, the fluvial deposits are typically brown, medium dense sand that fines upward to sandy or silty clay."

Artificial Fill has been described as consisting of "loose to very well consolidated gravel, sand, silt, clay, rock fragments, organic matter, and man-made debris in various combinations. Thickness is variable and may exceed 30 meters in some places. Some is compacted and quite firm, but fill made before 1965 is nearly everywhere not compacted and consists simply of dumped materials."

Our subsurface exploration (see below) encountered silt, clay, sand, and organic materials which we judged to be consistent with the Artificial Fill mapping.

The active San Gregorio Fault is mapped approximately 2.0 miles (3.2 km) southwest of the site.

Subsurface Exploration

On December 8, 2015 we drilled three borings at the site at the locations shown on Figure 4. The borings were drilled using a Mobile B-24 truck-mounted drilling rig equipped with 4.0 inch diameter, helical flight augers. Logs of the soils encountered during drilling record our observations of the cuttings traveling up the augers and of relatively undisturbed samples collected from the base of the advancing holes. The final boring logs are based upon the field logs with occasional modifications made upon further laboratory examinations of the recovered samples and laboratory test results. The final logs are attached in Appendix A.

The relatively undisturbed samples were obtained by driving a 3.0 inch (outer diameter) Modified California Sampler and a Standard Penetration Sampler (as noted on logs) into the base of the advancing hole by repeated blows from a 140 pound hammer lifted 30 inches. On the logs, the number of blows required to drive the sampler the final 12 inches of the 18 inch drive, have been recorded as the Blow Counts. These blows have not been adjusted to reflect equivalent blows of any other type of sampler or hammer, or to account for the different samplers used.

Subsurface Conditions

Boring 1 first penetrated 4 feet of loose sand. This was underlain by clay with sand to a depth of 6.5 feet. Below this was soft to firm silt with an organic smell to 12.5 feet. At 12.5 feet, the boring encountered stiff silty clay with varying amounts of organics down to the terminated boring depth of 17.5 feet.

Borings 2 and 3 both penetrated 6 feet of loose to medium dense silty sand over soft silt with organics. This was underlain by stiff to very stiff silty clay with varying amounts of sand and rock fragments down to the terminated boring depths of 23.5 and 29.5 feet.

Please refer to Appendix A for a more detailed description of each boring.

Initially, groundwater was encountered at depths of 16 feet (Boring 1), 12.5 feet (Boring 2), and at 11 feet (Boring 3) during the drilling of the holes. In Boring 1, the level of the water rose to a depth of 13 feet after 3 hours. In Boring 2, the level of the water rose to 12 feet after 1.5 hours. However, during periods of heavy rain or late in the winter, groundwater seepage may exist at even shallower depths.

Laboratory Testing

The relatively undisturbed samples collected during the drilling process were returned to the laboratory for testing of engineering properties. In the lab, selected soil samples were tested for moisture content, density, plasticity, and consolidation. The results of the laboratory tests are attached to this report in Appendix B.

Organic Content Testing conducted on a sample of the site soils (Sample 2-2 @ 9 feet) indicated that 86.7 percent of the "soil" at this depth consists of organic matter. Due to the soils having greater than 50 percent organic matter, the testing lab and our office describe the soil as peat.

Plasticity Index (PI) testing performed on a sample of the site near surface materials (the sample of the peat at 9 feet) produced a PI result of 210. This testing showed that the peat has a very high liquid limit, which led to the high plasticity index of 210. Typically, a plasticity index of greater than about 30 correlates to a highly expansive soil. However, peat has a tendency to produce unusual test results. Therefore, this number does not necessarily indicate that the peat is highly expansive.

The Consolidation test conducted on a sample of the site soils (the sample of the peat at 9 feet) indicated that the soils have a preconsolidation pressure of about 1000 psf which is approximately the same as the overburden pressure currently pressing on top of these soils. Therefore, we consider the upper soils to be normally consolidated.

CONCLUSIONS AND RECOMMENDATIONS

General

Based upon our investigation, we believe that the proposed improvements can be safely constructed. Geotechnical development of the site is controlled by the presence of a layer of highly organic soils (peat) that is highly compressible. Therefore, it will be necessary to utilize a foundation system which derives its support from the deeper, more stable soils beneath the peat or use a stiff foundation system and accept some overall tilt of the structure. We recommend a mat slab supported by deep foundation elements be used to reach the more stable materials as the best alternative (avoiding settlements), or, alternatively, a waffle may be utilized under a mat slab if tilting is acceptable.

The recommendations in this report should be incorporated into the design and construction of the proposed new townhouse complex and commercial building.

Seismicity

The greater San Francisco Bay Area is recognized by Geologists and Seismologists as one of the most active seismic regions in the United States. Several major fault zones pass through the Bay Area in a northwest direction which have produced approximately 12 earthquakes per century strong enough to cause structural damage. The faults causing such earthquakes are part of the San Andreas Fault System, a major rift in the earth's crust that extends for at least 700 miles along western California. The San Andreas Fault System includes the San Andreas, San Gregorio, Hayward, Calaveras Fault Zones, and other faults.

During 1990, the U.S. Geological Survey cited a 67 percent probability that an earthquake of Richter magnitude 7, similar to the 1989 Loma Prieta Earthquake, would occur on one of the active faults in the San Francisco Bay Region in the following 30 years. Recently, this probability was increased to 70 percent, as a result of studies in the vicinity of the Hayward Fault. A 23 percent probability is still attributed specifically to the potential for a magnitude 7 earthquake to occur along the San Andreas Fault by the year 2020.

Ground Rupture - The lack of mapped active fault traces through the site, suggests that the potential for primary rupture due to fault offset on the property is low.

Ground Shaking - The subject site is likely to be subject to very strong to violent ground shaking during its life span due to a major earthquake in one of the above-listed fault zones. Current (2013) building code design may be followed by the structural engineer to minimize damages due to seismic shaking, using the following input parameters from the USGS Java Ground Motion Parameter Calculator based upon ASCE 7-10 design parameters:

Site Class - D	$SM_S = 2.065$	$SM_1 = 1.334$	$SD_S = 1.377$	$SD_1 = 0.889$

Landsliding - We note that the subject site and the surrounding area are generally level. Therefore, the hazard due to seismically-induced landsliding is, in our opinion, very low for the site.

Liquefaction - Liquefaction most commonly occurs during earthquake shaking in loose fine sands and silty sands associated with a high ground water table. These conditions were demonstrated to be absent in the upper 11 feet of site materials. Although there are some loose sand deposits at the site, they are not saturated, and hence are unlikely to be subject to liquefaction. Studies have found that when these soils are covered by at least 10 feet (3 meters) of non-liquefiable soils, the impacts of the liquefaction tend to be regional movements, rather than more dramatic localized problems. Although liquefaction is unlikely to have a significant effect on the subject property, the proposed rigid foundation should help to minimize any movements even further. Therefore, it is our opinion that the potential for any severe damages or collapse due to liquefaction at the site are very low.

Ground Subsidence - Ground subsidence may occur when poorly consolidated soils densify as a result of earthquake shaking. Since the proposed building site is underlain at shallow depths by resistant materials, the hazard due to ground subsidence is, in our opinion, considered to be low.

Lateral Spreading - Lateral spreading may occur when a weak layer of material, such as a sensitive silt or clay, loses its shear strength as a result of earthquake shaking. Overlying blocks of competent material may be translated laterally towards a free face. Free face conditions are not present proximate to the site, hence, the hazard due to lateral spreading is, in our opinion, considered to be low.

Site Preparation and Grading

All debris resulting from the demolition of existing improvements should be removed from the site and may not be used as fill. Any existing underground utility lines to be abandoned should be removed from within the proposed building envelope and their ends capped outside of the building envelope.

Any vegetation and organically contaminated soils should be cleared from the building area. All holes resulting from removal of tree stumps and roots, or other buried objects, should be overexcavated into firm materials and then backfilled and compacted with native materials.

The placement of fills at the site is expected to include: utility trench backfill, slab subgrade materials, and finished drainage and landscaping grading. These and all other fills should be placed in conformance with the following guidelines:

Fills may use organic-free soils available at the site or import materials. Import soils should be free of construction debris or other deleterious materials and be non-expansive. *A minimum of 3 days prior to the placement of any fill, our office should be supplied with a 30 pound sample (approximately a full 5 gallon bucket) of any soil or baserock to be used as fill (including native and import materials) for testing and approval.*

All areas to receive fills should be stripped of organics and loose or soft near-surface soils. Fills should be placed on level benches in lifts no greater than 6 inches thick (loose) and be compacted to at least 90 percent of their Maximum Dry Density (MDD), as determined by ASTM D-1557. In pavement (concrete or asphalt) areas to receive vehicular traffic, all baserock materials should be compacted to at least 95 percent of their MDD. Also, the upper 6 inches of soil subgrade beneath any pavements should be compacted to at least 95 percent of its MDD.

Unless additional work is done to strengthen and densify the upper 10 to 12 feet of site materials, the grades should not be increased more than 6 inches higher than existing site grades. Otherwise, excessive settlements of the underlying compressible soils may occur. If fills in excess of 6 inches are to be placed, our office should be contacted for further recommendations.

Temporary, dry-weather, vertical excavations should remain stable for short periods of time to heights of 3 feet. All excavations should be shored or sloped in accordance with OSHA standards. Cuts deeper than 11 feet may encounter groundwater and will require temporary (and perhaps permanent) dewatering.

Permanent cut and/or fill slopes should be no steeper than 2:1 (H:V). However, even at this gradient, minor sloughing of slopes may still occur in the future. Positive drainage improvements (e.g. drainage swales, catch basins, etc.) should be provided to prevent water from flowing over the tops of cut and/or fill slopes.

Townhouse and/or Commercial Building Foundation – Mat Slab with Piers

The townhouse and/or commercial building foundations may be supported by a mat slab supported by drilled piers, helix augers, or pipe piles founded in the deeper materials beneath the peat.

Drilled Piers - Piers should penetrate a minimum of 25 feet below lowest adjacent grade. The piers should have a minimum diameter of 16 inches and be nominally reinforced with a minimum of four #4 bars vertically. Piers should be spaced a maximum of 15 feet center to center, and be spaced no closer than 4 diameters, center to center.

Holes greater than 11 feet may encounter groundwater. The contractor should be prepared to tremmie the piers, drill and pour the piers, and/or case the piers in the event of caving.

Actual pier depth, diameter, reinforcement, and spacing should be determined by the structural engineer based upon the following design criteria:

A friction value of 500 psf may be assumed to act on that portion of the pier below a depth of 12 feet. Lateral support may be assumed to be developed along the length of the pier below 12 feet, using a passive pressure of 350 pcf Equivalent Fluid Weight (EFW). Passive resistance may be assumed to act over 1.5 projected pier diameters. Above 12 feet, no frictional or lateral support may be assumed. These design values may be increased 1/3 for transient loads (i.e. seismic and wind).

The upper 12 feet of the pier will experience down drag as the peat decomposes. We recommend that a down drag friction of 500 psf be used on the upper 11 feet of pier.

Even though piers are designed to derive their vertical resistance through skin friction, the bases of the piers holes should be clean and firm prior to setting steel and pouring concrete. If more than 6 inches of slough exists in the base of the pier holes after drilling, then the slough should be removed. If less than 6 inches of slough exists, the slough may be tamped to a stiff condition. Piers should not remain open for more than a few days prior to casting concrete. In the event of rain, shallow groundwater, or caving conditions it may be necessary to pour piers immediately.

All perimeter piers, and piers under load-bearing walls, should be connected by concrete grade beams. Perimeter grade beams should penetrate a minimum of 6 inches below crawlspace grade (unless a perimeter footing drain is installed to intercept water attempting to enter around the perimeter). Interior grade beams do not need to penetrate below grade. All other isolated floor supports must also be pier supported, however, they do not need to be connected by grade beams.

All improvements connected directly to any pier supported structure, also need to be supported by piers. This includes, but is not limited to: porches, decks, entry stoops and columns, etc. If the designer does not wish to pier support these items, then care must be taken to structurally isolate them (with expansion joints, etc.) from the pier supported structure.

If the above recommendations are followed, total foundation settlements should be less than 1 inch, while differential settlements should be less than ½ inches.

Pipe Piles – Pipe piles may be used in lieu of drilled concrete piers. If used, they should be driven into the ground until the required capacity for structural loading and down drag are achieved by the driving equipment, and then filled with grout. Actual pile depth, pipe diameter, and spacing should be determined by the structural engineer. However, we recommend the pipe piles should be driven a minimum of 25 feet below lowest adjacent grade.

Helical Piers - Helical piers (Chance Augers) consist of a solid metal shaft fitted with a metal plate (or series of plates) warped into a screw thread on the tip of the lead shaft. The auger is screwed down into the ground until the required torque is achieved, indicating that adequate bearing pressures are also available. The helix then will accept vertical loads from the foundations and

transmit them to bearing pressures on the plates at the tip of the augers. The design process of these augers is based upon proprietary information developed by the Chance Company, and the calculations and designs can be prepared based upon the information contained in other sections and figures in this report.

Floor - The townhouse or commercial building floors should consist of a mat slab spanning between support elements. The entire slab should be underlain by at least 6 inches of clean, crushed drain rock. The drain rock should be covered by a moisture barrier which conforms to ASTM E1745-97 (e.g. Stego Wrap or an approved equivalent). Perforated collector pipes should be embedded within the drain rock around the perimeter of the slab and at 20 foot spacing (one-way) under the slab to carry any water which gathers within the drain rock to the drain discharge location. The need for any sand over the top of the vapor barrier should be determined by the slab designer or architect.

Alternative Townhouse and/or Commercial Building Foundation – Waffle System

Alternatively, the new foundation system may consist of a series of interlocking grade beams which will create a rigid system to support a structurally spanning slab for the new townhouse/commercial building. To provide the most rigid system, it will be important that long, narrow protrusions be minimized from the design in favor of the most rectangular (ideally square) footprint geometry possible. It should be noted that use of a waffle system may still result in differential settlements relative to the grades surrounding the townhouse complex or commercial building, resulting in elevation differences across building/garage entrances and thresholds, as well as an overall tilt to the building.

The grade beams should be a minimum of 36 inches tall and be capable of spanning or cantilevering the following distances and amounts:

Settlements - 20 foot diameter area anywhere in the interior; 10 feet of lost support along the perimeter; and, 5 feet of lost support at any corner.

The movements under the foundations must not result in a deflection of the foundation grade beam system in excess of a ratio of 1:360. To achieve this rigidity, it is anticipated that foundation grade beams will need to be on the order of 3 feet tall, a minimum of 18 inches wide, and spaced at no more than 17 feet in any direction. Ideally, grade beams should be located under all first story interior walls so as to maximize the rigidity under these walls.

The grade beams will all need to bear on stiff soils as identified by our office in the field. Should localized areas of expansive soils be encountered, we may direct the contractor to specially treat those areas to eliminate localized uplift. Such directions may include: the use of void form materials in sub-slab areas, over-excavation, or other methodology deemed appropriate by our engineer.

The grade beam system may be designed for a bearing capacity of 2000 psf may be used. For resistance to lateral forces, the embedded faces of the grade beams may be assumed to develop a passive resistance of 200 psf.

Due to the presence of the peat layer, the total dead load across the building footprint should not exceed 500 psf. If this value is exceeded, please contact our office for further recommendations.

Slabs-on-Grade

The townhouse garage/lower level floors and the commercial building floors should not consist of conventional concrete slabs-on-grade, however, may consist of mat slabs supported by piers or waffle foundation elements. The driveway, any sidewalks or patios may consist of conventional concrete slabs-on-grade, though it should be expected that some post-construction shifting of such slabs may occur. We have provided guidelines to help reduce post-construction movements, however, it is nearly impossible to economically eliminate all shifting.

To help reduce cracking, we recommend slabs be a minimum of 5 inches thick and be nominally reinforced with #4 bars at 18 inches on center, each way. Slabs which are thinner or more lightly reinforced may experience undesirable cosmetic cracking. However, actual reinforcement and thickness should be determined by the structural engineer based upon anticipated usage and loading.

In large non-interior slabs (e.g. patios, garage, etc.), score joints should be placed at a maximum of 10 feet on center. In sidewalks, score joints should be placed at a maximum of 5 feet on center. All slabs should be separated from adjacent improvements (e.g. footings, porches, columns, etc.) with expansion joints. Interior floor slabs will experience shrinkage cracking. These cosmetic cracks may be sealed with epoxy or other measures specified by the architect.

All interior slabs (including garage slab) should be underlain by 4 inches of clean ¾ inch crushed drain rock. The drain rock should be covered by a vapor barrier which conforms to ASTM E1745-97 (e.g. Stego Wrap or an approved equivalent). The architect or structural engineer should determine if sand is required over the vapor barrier.

Slabs which will be subject to light vehicular loads and through which moisture transmission is not a concern (e.g. driveway) should be underlain by at least 6 inches of compacted baserock, in lieu of any sand and gravel. Exterior landscaping flatwork (e.g. patios and sidewalks) may be placed directly on proof-rolled soil subgrade materials (e.g. no granular subgrade), however, they will be potentially subject to shifting and moisture transmission.

As stated previously, in pavement (concrete or asphalt) areas to receive vehicular traffic, all baserock materials should be compacted to at least 95 percent of their MDD. Also, the upper 6 inches of native soil subgrade beneath any pavements should be compacted to at least 95 percent of its MDD.

The townhouse garage/lower level slabs and commercial building slabs should be tied to the foundations to limit differential movements.

Drainage

Due to the flat nature of the site, it will be important to provide good drainage improvements at the property.

Surface Drainage - Adjacent to any buildings, the ground surface should slope at least 5 percent away from the foundations within 5 feet of the perimeter. Impervious surfaces should have a minimum gradient of 2 percent away from the foundation.

Surface water should be directed away from all buildings into drainage swales, or into a surface drainage system (i.e. catch basins and a solid drain line). "Trapped" planting areas should not be created next to any buildings without providing means for drainage (i.e. area drains).

All roof eaves should be lined with gutters. The downspouts may be connected to solid drain lines, or may discharge onto paved surfaces which drain away from the structure. The downspouts may be connected to the same drain line as any catch basins, but must not connect to any perforated pipe drainage system. If splash blocks are preferred, then a perimeter footing drain system **must** be installed.

Footing Drain - Due to the potential for changes to surface drainage provisions, it would be wise (though not required) to install a perimeter footing drain to intercept water attempting to enter under the garage/floor slab. If a footing drain is not installed, some moisture transmission up through the slab may occur. Such penetration should not be detrimental to the performance of the structure, but can possibly cause humidity and mildew problems within the townhouse and commercial building, or seepage up through the slab floors.

The footing drain system, if installed, should consist of a 12 inch wide gravel-filled trench, *dug at least 12 inches below the elevation of the adjacent slab subgrade*. The trench should be lined with a layer of filter fabric (Mirafi 140N or equivalent) to prevent migration of silts and clays into the gravel, but still permit the flow of water. Then 1 to 2 inches of drain rock (clean crushed rock or pea gravel) should be placed in the base of the lined trench. Next a perforated pipe (minimum 3 inch diameter) should be placed on top of the thin rock layer. The perforations in the pipe should be face down. The trench should then be backfilled with more rock to within 6 inches of finished grade. The filter fabric should be wrapped over the top of the rock. Above the filter fabric 6 inches of native soils should be used to cap the drain. If concrete slabs are to directly overlay the drain, then the gravel should continue to the base of the slab, without the 6 inch soil cap. This drain should not be connected to any surface drainage system.

If a floor slab is used, an under-slab drain system may also be installed, consisting of a perforated collector pipes spread no more than 20 feet apart, embedded within the sub-slab drain rock, to evacuate any water which gathers within the drain rock.

Drainage Discharge - The surface drain lines should discharge at least 15 feet away from the townhouse and commercial building, preferably at the street. The discharge location(s) may need to be protected by energy dissipaters to reduce the potential for erosion. Care should be taken not direct concentrated flows of water towards neighboring properties. This may require the use of multiple discharge points.

The footing drain lines (if installed) should discharge independently from the surface drainage systems. A sump pump may be required for the footing drain discharge systems. The surface and subsurface drain systems should not be connected to one another.

Drainage Materials - Drain lines should consist of hard-walled pipes (e.g. SDR 35 or Schedule 40 PVC). In areas where vehicle loading is not a possibility, SDR 38 or HDPE pipes may be used. Corrugated, flexible pipes may not be used in any drain system installed at the property.

Surface drain lines (e.g. downspouts, area drains, etc.) should be laid with a minimum 2 percent gradient (¼ inch of fall per foot of pipe). Any subsurface drain systems (e.g. footing drains) should be laid with a minimum 1 percent gradient (1/8 inch of fall per foot of pipe).

Utility Lines

Unless they pass through the perimeter footing drain system, all utility trenches should be backfilled with compacted on-site clay-rich materials within 5 feet of any buildings. This will help to prevent migration of surface water into trenches and then underneath the structures' perimeter. The rest of the trenches may be compacted with other native soils or clean imported fill. Only mechanical means of compaction of trench backfill will be allowed. Jetting of sands is not acceptable. Trench backfill should be compacted to at least 90 percent of its MDD. However, under pavements, concrete flatwork, and footings the upper 12 inches of trench backfill must be compacted to at least 95 percent of its MDD.

If deeply supported foundations are used, flexible pipeline connections should be used where the utilities enter/exit the structures. Where on-grade foundations are used, it would be prudent to provide drainage lines with greater than normal slope, or to install such lines where access to replace any sags or reverse slopes can be easily corrected.

Pavement

The new driveway may consist of concrete, interlocking pavers, or asphaltic concrete over Caltrans Class II aggregate base (baserock). The asphalt should have a minimum thickness of 2½ inches. The baserock should have a minimum thickness of 6 inches. All of the baserock and the upper 6 inches of soil subgrade should attain a minimum compaction of 95 percent of its MDD. Any fill below this layer should attain a minimum of 90 percent relative compaction.

File: 215247
January 5, 2016

Plan Review and Construction Observations

The use of the recommendations contained within this report is contingent upon our being contracted to review the plans, and to observe geotechnically relevant aspects of the construction. We should be provided with a full set of plans to review at the same time the plans are submitted to the building/planning department for review. A minimum of one working week should be provided for review of the plans.

At a minimum, our observations should include: compaction testing of fills and subgrades; footing excavations; pier drilling; installation of helix piers or pipe piles; slab and driveway subgrade preparation; installation of any drainage system (e.g. under-slab, footing, and surface), and final grading. A minimum of 48 hours notice should be provided for all construction observations.

LIMITATIONS

This report has been prepared for the exclusive use of the addressee, and their architects and engineers for aiding in the design and construction of the proposed development. It is the addressee's responsibility to provide this report to the appropriate design professionals, building officials, and contractors to ensure correct implementation of the recommendations.

The opinions, comments and conclusions presented in this report were based upon information derived from our field investigation and laboratory testing. Conditions between or beyond our borings may vary from those encountered. Such variations may result in changes to our recommendations and possibly variations in project costs. Should any additional information become available, or should there be changes in the proposed scope of work as outlined above, then we should be supplied with that information so as to make any necessary changes to our opinions and recommendations. Such changes may require additional investigation or analyses, and hence additional costs may be incurred.

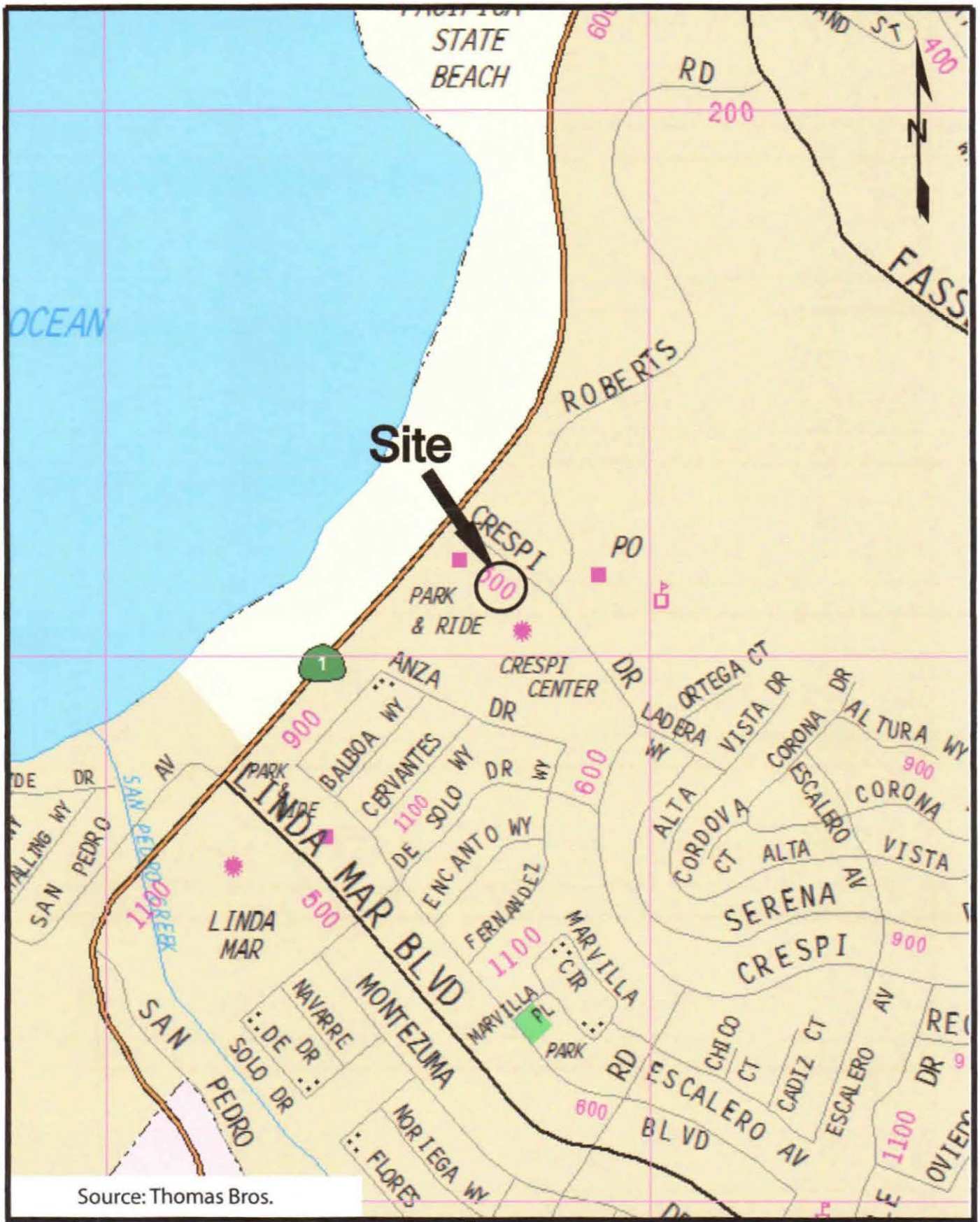
Our work has been conducted in general conformance with the standard of care in the field of geotechnical engineering currently in practice in the San Francisco Bay Area for projects of this nature and magnitude. We make no other warranty either expressed or implied. By utilizing the design recommendations within this report, the addressee acknowledges and accepts the risks and limitations of development at the site, as outlined within the report.

Respectfully Submitted;
GeoForensics, Inc.

Daniel F. Dyckman, PE, GE
Senior Geotechnical Engineer, GE 2145

Bernard A. Atendido
Field Engineer

cc: 5 to addressee



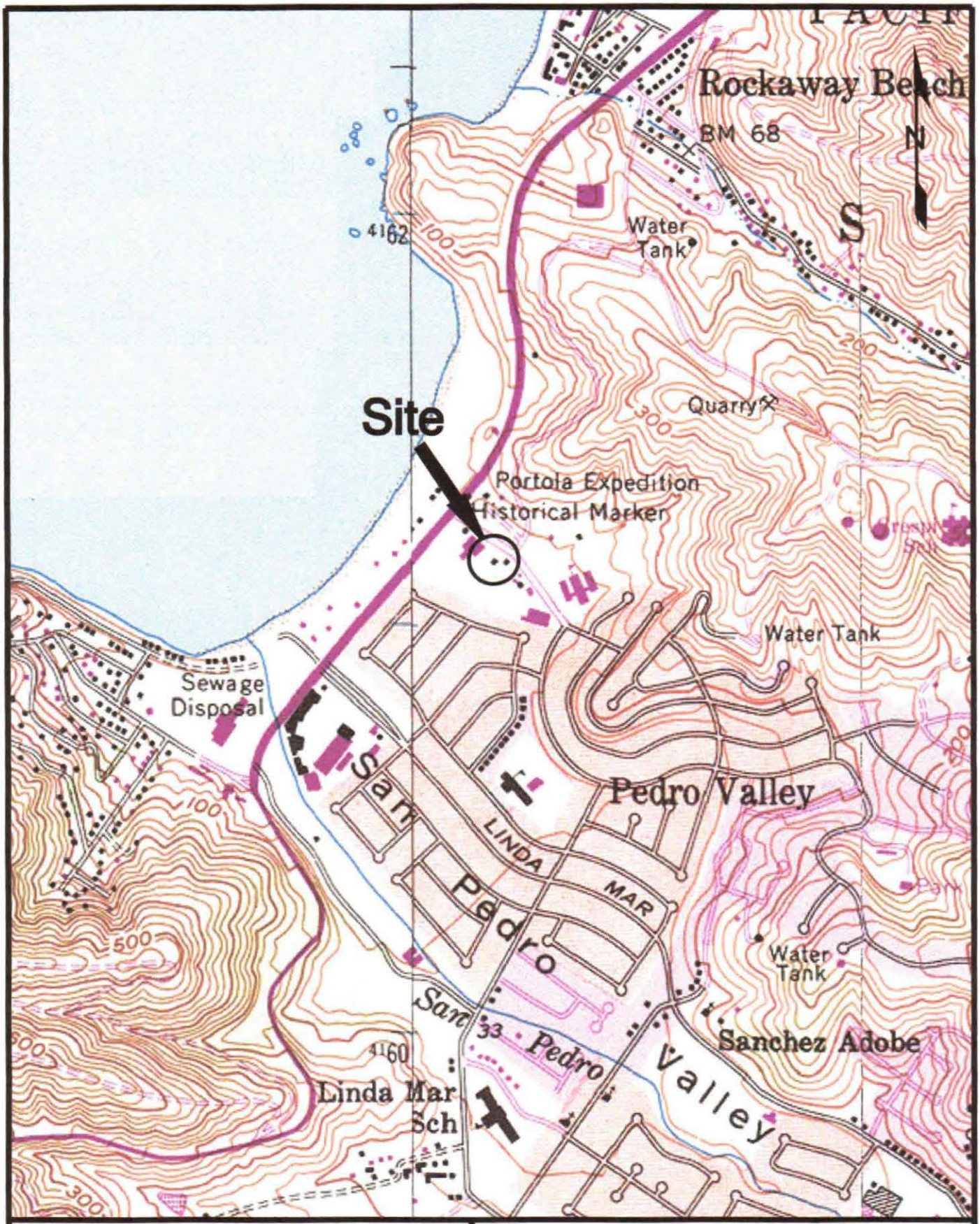
Source: Thomas Bros.

GEOFORENSICS, INC.

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Figure 1 - Site Location

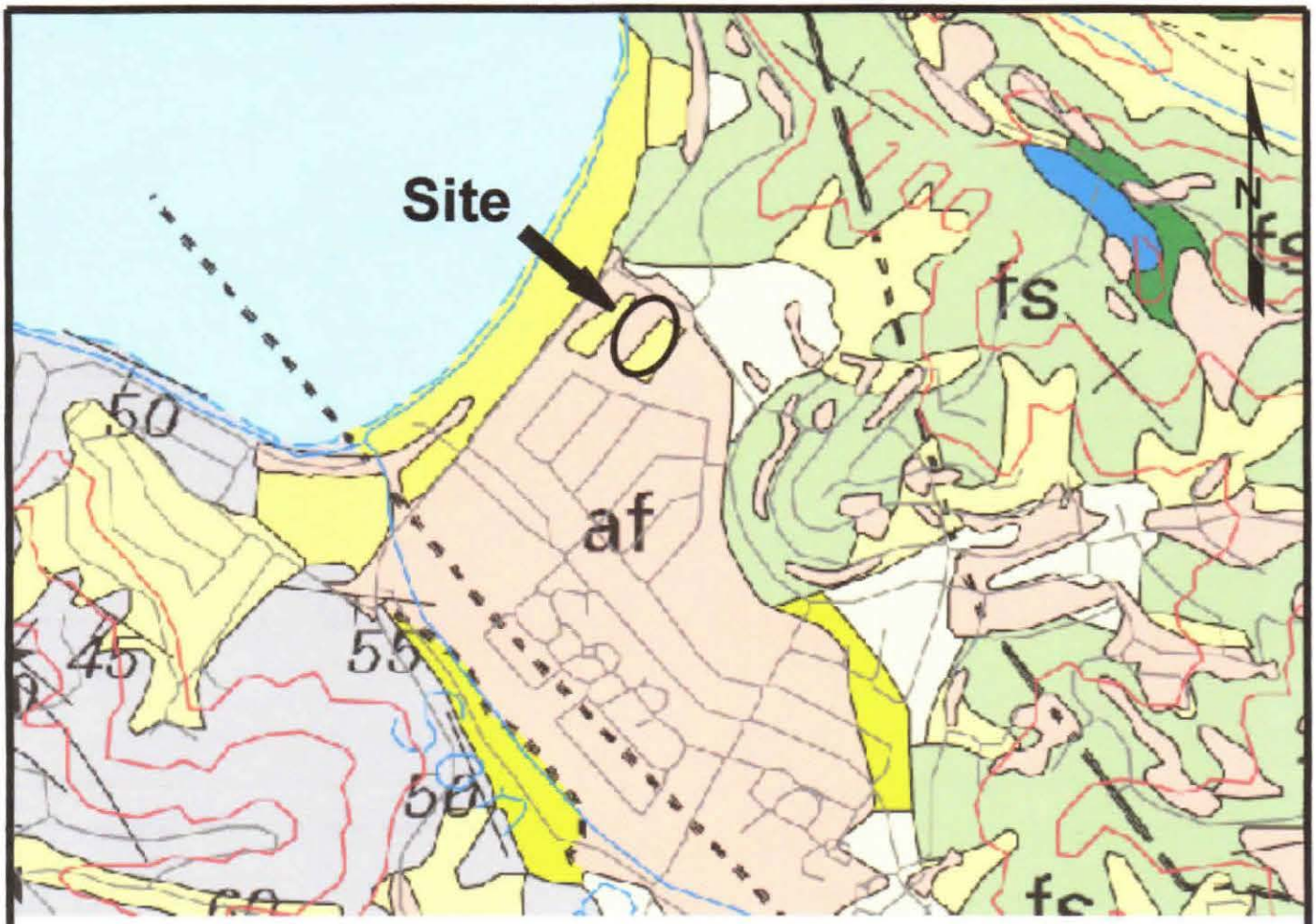


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Figure 2 - Vicinity Topography



Artificial fill (Historic)—Loose to very well consolidated gravel, sand, silt, clay, rock fragments, organic matter, and man-made debris in various combinations. Thickness is variable and may exceed 30 m in places. Some is compacted and quite firm, but fill made before 1965 is nearly everywhere not compacted and consists simply of dumped materials

af

Alluvial fan and fluvial deposits (Holocene)—Alluvial fan deposits are brown or tan, medium dense to dense, gravely sand or sandy gravel that generally grades upward to sandy or silty clay. Near the distal fan edges, the fluvial deposits are typically brown, never reddish, medium dense sand that fines upward to sandy or silty clay

Qhaf

Source: Geology of the Onshore part of San Mateo County, California: derived from the digital database open-file 98-137. E.E.. Brabb, R.W. Graymer, and D.L. Jones (1998)

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Figure 3 - Geologic Map

APPENDIX A - BORING LOGS

LOG OF BORING

DEPTH (ft)	SAMPLE NUMBER	SAMPLE LOC.	BLOW COUNTS (12 inches)	MATERIAL DESCRIPTION	DRY DENSITY (pcf)	MOISTURE CONTENT (70)
				loemy SAND; dark brown; slightly moist (SM)		
	1-1		8	silty SAND; green brown; slightly moist; loose (SM)	101.2	11.0
5				silty CLAY with sand; greenish gray to dark gray; moist (CH)		
	1-2		6	SILT with organics; dark brown; moist; soft to firm (ML) (strong organic smell)	-	-
10						
	1-3		5	No recovery. Soil pulled out of sampler.	-	-
	1-4		9	silty CLAY with some organics; blue green; slightly moist; stiff (CH)	-	21.5
15						
	1-5		17	silty CLAY; blue green; slightly moist; stiff (CH)	-	21.3`
20				**Bottom of Boring at 17.5 feet**		
				Groundwater innitially encountered at 16 feet		
25				**Rose to 13 feet after 3 hours**		
30						

Logged by: BA
Job# 215247
Drilled on 12/9/15

B-24 Truck Mounted Drilling Rig
140 Pound Hammer
Groundwater to 13 feet

Mod. Cal Sampler
SPT Sampler

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Figure A1 - Log of Boring 1

LOG OF BORING

DEPTH (ft)	SAMPLE NUMBER	SAMPLE LOC.	BLOW COUNTS (12 inches)	MATERIAL DESCRIPTION	DRY DENSITY (pcf)	MOISTURE CONTENT (70)
5	2-1		22	silty SAND; green brown; slightly moist; medium dense (SM)	109.7	8.0
10	2-2		5	SILT with organics; dark brown; slightly moist to moist; soft (ML) (strong organic smell)	-	-
15	2-3		11	silty CLAY; blue green; slightly moist; stiff (CH)	-	20.2
20	2-4		12	silty sandy CLAY with pockets of sand; green brown; slightly moist to moist; stiff (CL)	-	18.0
25	2-5		16	silty sandy CLAY with rock fragments; orange brown and green brown; slightly moist; very stiff (CL)	-	23.1
30	2-6		15	silty sandy CLAY; orange brown and green brown; slightly moist; stiff to very stiff (CL)	-	20.6
				Bottom of Boring at 29.5 feet **Groundwater initially encountered at 12.5 feet** **Rose to 12 feet after 1.5 hours**		

Logged by: BA
Job# 215247
Drilled on 12/9/15

B-24 Truck Mounted Drilling Rig
140 Pound Hammer
Groundwater to 12 feet

Mod. Cal Sampler
SPT Sampler

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Figure A2 - Log of Boring 2

LOG OF BORING

DEPTH (ft)	SAMPLE NUMBER	SAMPLE LOC.	BLOW COUNTS (12 inches)	MATERIAL DESCRIPTION	DRY DENSITY (pcf)	MOISTURE CONTENT (70)
	3-1		15	silty SAND; green brown; slightly moist; medium dense (SM)	-	9.6
5						
				SILT with organics; dark brown; moist (ML)		
10						
	3-2		12	silty sandy CLAY; blue green; slightly moist; stiff (CL)	-	18.3
15						
20						
	3-3		12	silty sandy CLAY; orange brown and green brown; slightly moist; stiff (CL)	-	19.1
25				**Bottom of Boring at 23.5 feet**		
				Groundwater encountered at 11 feet		
30						

Logged by: BA
Job# 215247
Drilled on 12/9/15

B-24 Truck Mounted Drilling Rig
140 Pound Hammer
Groundwater at 11 feet

Mod. Cal Sampler
SPT Sampler

GEOFORENSICS, INC.
561 Pilgrim Dr., Suite D, Foster City, CA 94404
Tel: (650) 349-3369 Fax: (650) 571-1878

Figure A3 - Log of Boring 3

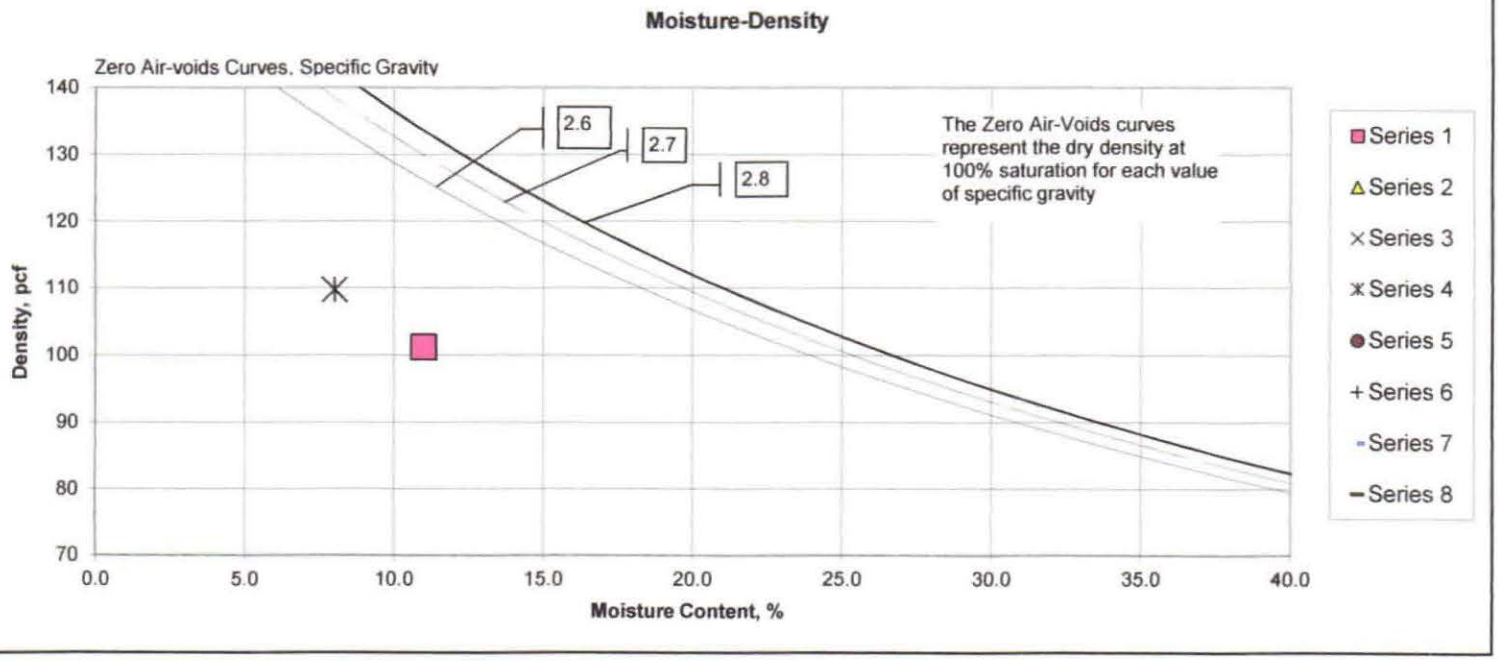
APPENDIX B - LABORATORY TEST RESULTS

Moisture-Density-Porosity Report
Cooper Testing Labs, Inc. (ASTM D7263b)

CTL Job No:	060-2387a	**Project No.**	215247	**By:**	RU
Client:	GeoForensics	**Date:**	12/16/15		
Project Name:	Crespi	**Remarks:**			

Boring:	1-1	1-4	1-5	2-1	2-3	2-4	2-5	2-6
Sample:								
Depth, ft:	2	14	17	4	14	1	24	29
Visual Description:	Olive Brown Clayey SAND w/ Gravel	Olive Gray CLAY w/ Sand	Olive Gray Sandy CLAY	Olive Brown Sandy CLAY	Olive Gray Sandy CLAY	Olive Brown Sandy CLAY	Olive Brown CLAY w/ Sand	Olive Brown CLAY w/ Sand
Actual G_s								
Assumed G_s	2.70			2.70				
Moisture, %	11.0	21.5	21.3	8.0	20.2	18.0	23.1	20.6
Wet Unit wt, pcf	112.3			118.5				
Dry Unit wt, pcf	101.2			109.7				
Dry Bulk Dens.ρb, (g/cc)	1.62			1.76				
Saturation, %	44.5			40.3				
Total Porosity, %	40.0			34.9				
Volumetric Water Cont,Θw,%	17.8			14.1				
Volumetric Air Cont., Θa,%	22.2			20.9				
Void Ratio	0.67			0.54				
Series	1	2	3	4	5	6	7	8

Note: All reported parameters are from the as-received sample condition unless otherwise noted. If an assumed specific gravity (Gs) was used then the saturation, porosities, and void ratio should be considered approximate.

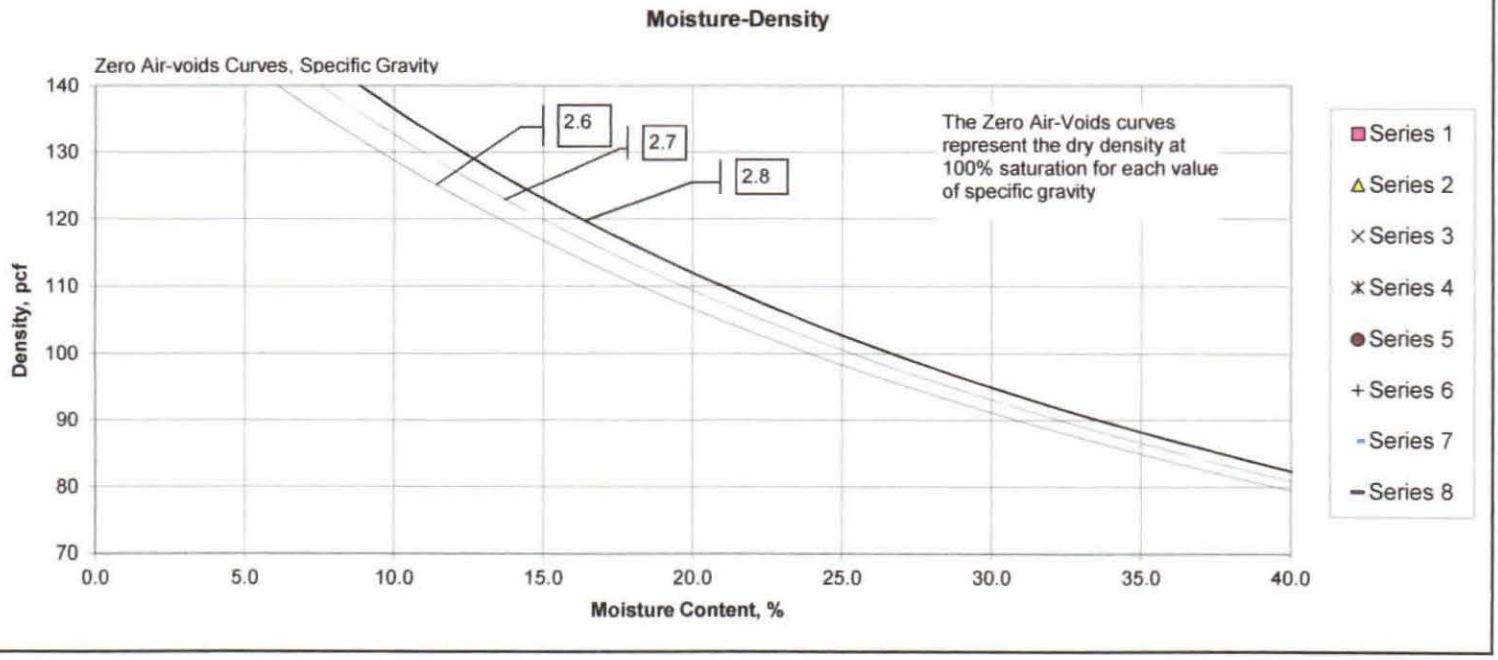


Moisture-Density-Porosity Report
Cooper Testing Labs, Inc. (ASTM D7263b)

CTL Job No:	060-2387b	**Project No.**	215247	**By:**	RU
Client:	GeoForensics	**Date:**	12/16/15		
Project Name:	Crespi	**Remarks:**	3-1 @ 3' - sample disturbed; m/c only.		

Boring:	3-1	3-2	3-3					
Sample:								
Depth, ft:	3	13.5	23					
Visual Description:	Olive Brown Sandy CLAY	Olive Gray CLAY w/ Sand	Olive Brown Sandy CLAY					
Actual G_s								
Assumed G_s								
Moisture, %	9.6	18.3	19.1					
Wet Unit wt, pcf								
Dry Unit wt, pcf								
Dry Bulk Dens.ρb, (g/cc)								
Saturation, %								
Total Porosity, %								
Volumetric Water Cont,Θw,%								
Volumetric Air Cont., Θa,%								
Void Ratio								
Series	1	2	3	4	5	6	7	8

Note: All reported parameters are from the as-received sample condition unless otherwise noted. If an assumed specific gravity (Gs) was used then the saturation, porosities, and void ratio should be considered approximate.



Organic Content Test
ASTM D 2974-00 (Method C - 440 °C)

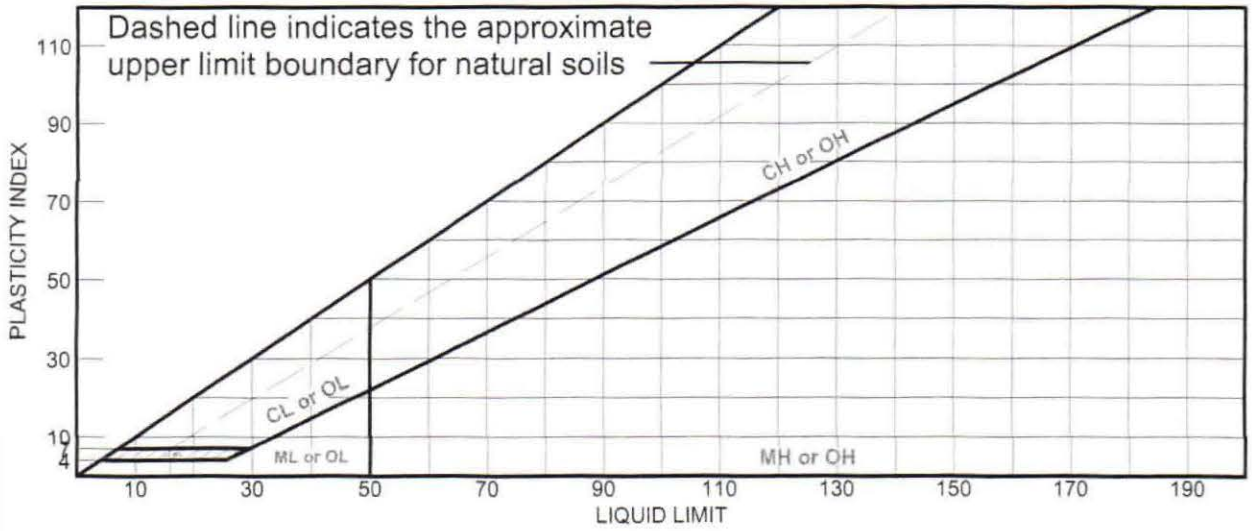
CTL JOB NO.	060-2387		**PROJECT:**	Crespi		**DATE:**	12/16/2015	
CLIENT :	GeoForensics		**PROJECT NO.:**	215247		**BY:**	RU	

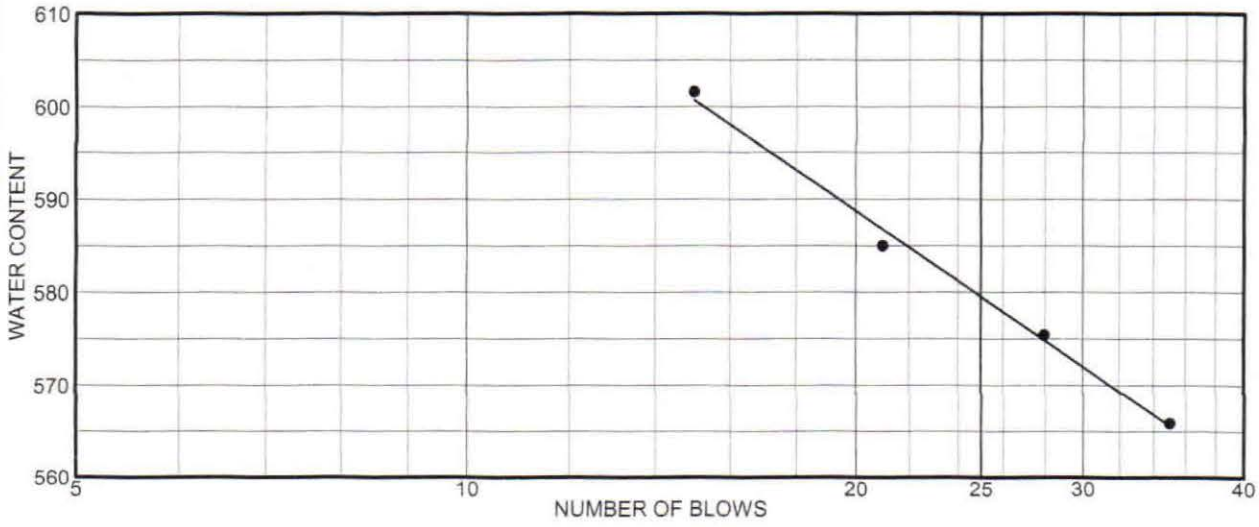
Boring :	1-2							
Sample :								
Depth (ft.):								
Visual Description:	Black Peat							
Dish No.								
Dish wt., gm	67.88							
Soil, Org, Dish & H_2O, gm	128.79							
Oven Dry wt (105°C), gm	78.29							
Furnace Dry wt. (440°C), gm	69.26							
Moisture Content, % of Oven Dry Mass	485.1							
Organic Matter, %	86.7							

Note: ASTM provides no guidelines for including information about the organic content of a sample in the description when the wet/dry liquid limit data is not available. CTL developed the following guidelines to fill this gap:

0-5%: The organics are either not mentioned or mentioned as being "trace".
5-15%: The soil is considered as inorganic and is classified, as per ASTM 2487, with "with organics" included in the desc
15-50%: The soil is considered as organic and is described, per ASTM 2487.
> 50%: The soil is described as "Peat".

LIQUID AND PLASTIC LIMITS TEST REPORT





	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
•	Black Peat	580	370	210			

Project No. 060-2387 **Client:** GeoForensics

Project: Crespi - 215247

• **Source:** 1-2

Remarks:

• Sample was prepared using the wet prep method.

LIQUID AND PLASTIC LIMITS TEST REPORT

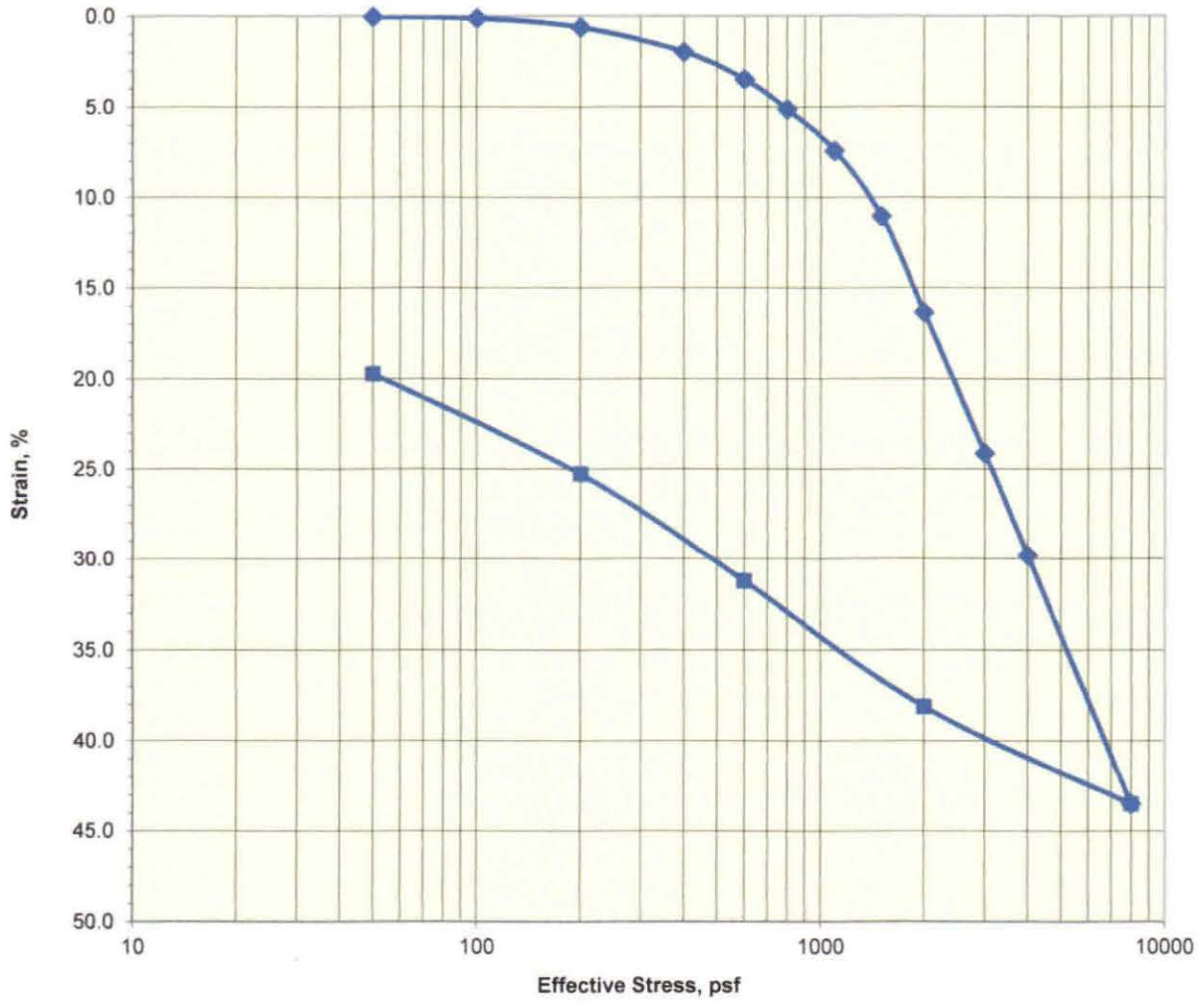
COOPER TESTING LABORATORY

Figure

Consolidation Test
ASTM D2435

Job No.:	060-2387	**Boring:**	2-2	**Run By:**	MD
Client:	GeoForensics	**Sample:**		**Reduced:**	PJ
Project:	Crespi - 215247	**Depth, ft.:**		**Checked:**	PJ/DC
Soil Type:	Black Peat			**Date:**	1/4/2016

Strain-Log-P Curve



Assumed Gs 2.2	Initial	Final
Moisture %:	313.6	275.4
Dry Density, pcf:	15.6	19.5
Void Ratio:	7.792	6.059
% Saturation:	88.5	100.0

Remarks:

Project No.
17099.000.000

March 2, 2020

Mr. Rod Stinson
Raney Planning & Management, Inc.
1501 Sports Drive, Suite A
Sacramento, CA 95834

Subject: 570 Crespi Drive
Pacifica, California

GEOTECHNICAL PEER REVIEW

References:
1. GeoForensics, Inc.; Geotechnical Investigation for Proposed New Townhouse Complex and Commercial Building; 570 Crespi Drive, Pacifica, California; January 5, 2016; File No. 215247.
2. Clifford Bechtel and Associates; Tentative Map, 570 Crespi Drive, Pacifica, California; October 21, 2019.

Dear Mr. Stinson:

At your request and with your authorization, we reviewed the geotechnical report prepared by GeoForensics, Inc. (GeoForensics) in 2016 for the proposed townhouse complex and commercial building development at the project site (Reference 1).

PROJECT DESCRIPTION

The property comprises approximately 1 acre and is currently mainly vacant land covered with seasonal grasses and a few trees. The northern portion of the site is used as a staging area associated with the construction of the Wet Weather Equalization Basin project for the City of Pacifica. The property is bounded by Crespi Drive to the northeast, residential development to the southwest, commercial and industrial business to the east, and the Pacifica Community Center to the west.

Historic aerial photographs dating back to the late 1950s show that the site was previously occupied by one single-family residence. Based on historical topographic maps, the site was located in a coastal lagoon prior to 1870. In 1896, the coastal lagoon shrunk in size and was called Lake Mathilde, which was filled between 1900 and 1915. In Reference 1, GeoForensics noted the residence was wood-framed with an attached garage at the northwest corner of the house. The wooden house was supported above crawlspace areas and the garage had a slab-on-grade floor. By November 2016, the residence and garage had been demolished and the site was left vacant. Mapping by Pampeyan (1994) indicates the site is underlain by Holocene-age beach deposits (Qhb) and Artificial Fill (Qf_1). Mapping by the United States Geologic Survey (USGS, 2019) indicates the site is underlain by artificial fill over estuarine mud (afem).

Based on the tentative map plans prepared by Clifford Bechtel and Associates (Reference 2), we understand the current development will likely comprise of 2 two-story town-home buildings, and a two-story, mix-used building. Additionally, private roadways, driveways, and parking areas are proposed.

SITE OBSERVATIONS

We conducted a site reconnaissance of the project site on February 27, 2020. The project site is relatively level and is generally covered in seasonal grasses, taller shrubs, and a few trees. Minor debris, consisting of rubber tires, plastic piping, and wood pieces, was also observed on-site. Additionally, the surface of the site appeared to be previously disked as dry grasses covered with new growth was observed. We probed the surficial subgrade and found that the site generally contained loose/soft soil ranging from 4 inches to the maximum probe length of approximately 3 feet. The northwestern corner of the site was currently being used as a staging area for ongoing construction for the site directly west of the subject site. We understand development for the site directly west included construction of a 2.1-million-gallon underground water storage tank, which was part of the Wet Weather Equalization Basin project for the City of Pacifica. Based on public files for the project, the storage tank extends to a depth of 55 feet below grade.

SUMMARY OF GEOFORENSICS, INC. GEOTECHNICAL STUDY

GeoForensics previously investigated the site in 2016 by drilling three boring using a 4-inch diameter helical flight auger drilling technique to depths between approximately 17½ and 29½ feet below the existing ground surface. Soil samples were collected at frequent intervals using either a Modified California Sampler or a Standard Penetration Test (SPT) sampler. Laboratory testing consisted of moisture content and unit weight on numerous samples. Plasticity index testing, organic content testing, and a consolidation test were performed on single soil samples. It does not appear strength and corrosion properties of the soil were obtained.

The GeoForensics subsurface description notes that Boring 1 encountered roughly 4 feet of loose sand underlain by clay with sand to a depth of 6½ feet. Below this was a soft to medium stiff silt with organic smell to 12½ feet. Stiff silty clay with varying amounts of organics was encountered below 12½ feet to the terminated boring depth of 17½ feet. In Borings 2 and 3, six feet of loose to medium dense silty sand was encountered, overlying a 5-foot thick layer of soft silt with organics. Below this, stiff to very stiff clay with varying amounts of sand and rock fragments was encountered to the terminated boring depths of 29½ and 23½ feet respectively. Groundwater was encountered at a depth between 11 feet and 16 feet at the time of drilling.

GeoForensics concluded that the primary geotechnical concern for the site was the highly compressible layer of highly organic soil, or peat. Based on the consolidation test, they concluded the upper soil to be considered as normally consolidated. An estimate of load-induced settlement or densification settlement of the near surface dry sand was not quantified in the report. Seismic design parameters were provided in the GeoForensics report based on the 2010 California Building Code (CBC), which is out of date currently.

GeoForensics provided foundation recommendations for the townhomes and commercial building, which included a mat slab with a deep foundation. The deep foundation included options for concrete drilled piers, pipe piles, and helical piers. Unit skin friction, passive resistance, and down drag friction was provided. Alternatively, GeoForensics recommended the proposed structures could be supported on a waffle foundation system. However, it was noted for the waffle foundation system, that differential settlement may occur, and result in an overall tilt to the buildings. This differential settlement or tilt was not quantified in the report. Additionally, with the shallow foundation system, the dead load across the building footprint should not exceed 500 pounds per square foot (psf) due to the presence of the peat layer.

REVIEW COMMENTS

Based on our review, the site is feasible for the planned development provided the geotechnical risks are addressed in the design. The GeoForensics report generally identified the geotechnical hazards at this site, but additional clarification and analyses are necessary to further assess the geotechnical implications to the project and provide more detailed design recommendations. We offer the following comments as they pertain to the current development concept:

1. At the time of the GeoForensics report in 2016, a former single-family residence was present at the site. The report describes the house being supported on perimeter concrete footings, with the floor supported above crawlspace areas. Since the preparation of the 2016 report, the former residence was demolished. No documentation was provided to us regarding compaction during placement of the excavated areas; without documentation, this fill should be considered non-engineered. Additionally, the site was historically located within a coastal lagoon, Lake Mathilde, which was filled in the early 1900s. As such, buried foundation elements, utilities, and non-engineered surficial fill may be present throughout the site. Debris, deleterious material, or existing foundation elements are typically not suitable for supporting buildings on shallow foundation and maybe obstruct deep foundation construction; therefore, we recommend they be removed. The nature of the fill should be characterized to determine the extent of fill needed to be removed and for determination of an appropriate disposal facility.

2. The previous GeoForensics study was prepared in accordance with the 2010 California Building Code (CBC). Design and permit application will require design to be prepared based on the current 2019 CBC, which utilizes design criteria set forth in the ASCE 7-16 Standard. The seismic design parameters have changed since the code used by GeoForensics; therefore, they will need to be updated. Based on the soils encountered, GeoForensics classified the site as Site Class D. As described in Section 11.4.8 of ASCE 7-16, a site response analysis is necessary for structures located on Site Class D sites with S_1 greater than or equal to 0.2 second. However, the structural engineer may determine to use the exception(s) of Section 11.4.8 of ASCE 7-16. We recommend to collaborate with the structural engineer of record to further evaluate the effects of taking the exceptions on the structural design and identify the need for performing a site-specific seismic hazard analysis.

3. GeoForensics noted the main geotechnical constraint for the site was the presence of the highly compressible, 6-foot layer of highly organic silty soils (peat). A consolidation test was done on one sample of the organic soil to determine the compressibility characteristics. Based on the testing, GeoForensics determined this upper soil to be normally consolidated. They recommended that unless additional work is done to strengthen and densify the upper 10 to 12 feet of site materials, the grades should not be increased by more than 6 inches. However,

GeoForensics did not quantify the load-induced consolidation settlement that may result from the grade change or additional building loads. Additionally, based on grading plans provided in Reference 2, it appears site grades are proposed to be raised approximately 1 to 4½ feet. Further analysis will be needed to determine the correct amount of load-induced settlement resulting from the proposed loads, which will determine the appropriate foundation design parameters and potential ground improvement measures needed. Organic soil, such as the peat present at the site is also typically susceptible to creep, which can be significant.

4. The previous GeoForensics study determined that based on their exploration, the soil encountered is unlikely to be susceptible liquefaction, and therefore the potential for liquefaction at the site is very low. Based on liquefaction susceptibility mapping by USGS (2006) the site is mapped in an area of moderate susceptibility. The State of California also maps the site within a liquefaction zone (Montara Mountain Quadrangle, 2019). Additionally, during the previous exploration, loose to medium dense sand was encountered above the groundwater table. Densification of granular soil above and below the groundwater table can cause settlement during an earthquake. GeoForensics did not quantify seismic settlement due to liquefaction or dry sand densification. Additional exploration may be necessary to characterize liquefaction susceptibility. Appropriate soil sampling and laboratory testing should be performed to analyze liquefaction settlement. The liquefaction analysis should be performed using seismic parameters and peak ground accelerations in accordance with the latest building code.

5. GeoForensics recommended the foundation for the townhome and commercial buildings be supported on a mat slab supported by drilled piers, helix piers, or pipe piles founded on soil below the peat, at a minimum depth of 25 feet bgs. Alternatively, they recommended the buildings could be supported by a waffle foundation system comprising of grade beams bearing on stiff soil. It is noted that the use of a waffle system may result in differential settlements resulting with elevation differences across the building and overall tilt to the building. Based on our project experience in the area, it is our opinion that the potential foundation option for the proposed structures include a combination of mat foundation on improved ground. Soil improvement measures include drilled displacement columns (DDC), or removal of the loose/soft soil and replacement with engineered fill. Additional exploration will be necessary to characterize subsurface conditions below the depth of soft material. Laboratory testing should also include corrosivity and sulfate testing as well as strength testing to further characterize subsurface conditions at the site.

6. GeoForensics recommends new driveways have a pavement section consisting of a minimum of 2½ inches of asphalt concrete over 6 inches of Class II aggregate base. Based on the plans in Reference 2, site improvements include private roadways, driveways, and parking areas. It is not clear what R-value GeoForensics assumed, as no R-value laboratory testing was performed. Additionally, it is not clear which traffic index the recommended pavement section is appropriate for. Depending on the traffic indices and various pavement loading requirements for the proposed development, updated pavement sections will be needed.

It is our opinion that the proposed project is feasible, but will require further exploration and laboratory testing to provide design-level recommendations appropriate for the proposed development.

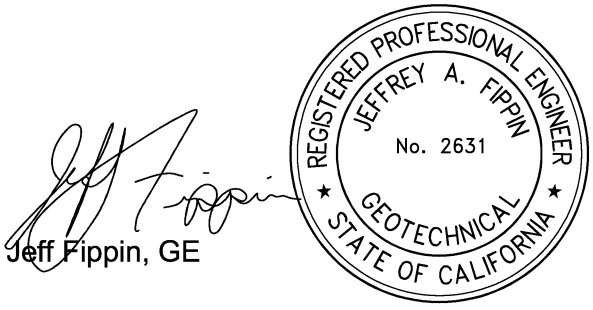
We strive to perform our professional services in accordance with generally accepted geotechnical engineering practices currently employed in the area. No warranty is expressed or implied. If you have any questions or comments regarding this letter, please call and we will be glad to discuss them with you.

Sincerely,

ENGEO Incorporated



Seema Barua, PE



Jeff Fippin, GE

sb/jf/cjn

GEOFORENSICS INC. **Consulting Soil Engineering**

303 Vintage Park Drive, Suite 220, Foster City, CA 94404 Phone: (650) 349-3369 Fax: (650) 571-1878

File: 215247
April 30, 2020

Mr. Brendan Murphy
P.O. Box 301
San Mateo, CA 94401

Subject: **Crespi Drive Property**
570 Crespi Drive
Pacifica, California
RESPONSE TO GEOTECHNICAL PEER REVIEW

Mr. Murphy:

This letter has been prepared to provide our responses to the issues raised in the March 2, 2020 Peer Review letter by Engeo. We have used the numbering system which starts on Page 3 of the report in order to avoid reproducing long sections of print.

1 – As noted in our report, any construction debris left on the site is to be removed from the site and may not be used as fill. While we concur that the old construction materials will need to be removed, it is our opinion that such work is best conducted during construction when the large equipment necessary to expose the site conditions is available, as opposed to doing massive disturbance to the site with localized backhoe test pits. Based upon our borings, the fills are relatively uniform at a thickness of 6 feet. This is consistent with subsurface information reported in the Construction Testing Services report (3/5/16) for the adjacent property at 540 Crespi Drive, who reported artificial fill to depths of 3 to 7 feet at their property.

2 – We have consulted with the project structural engineer who informs us that according to exception of Section 11.48 of ASCE 7-16, no site-specific response analysis is required. We have updated the values presented in our previous report to reflect current CBC (2019) and ASCE 7-16 values below:

Site Class	SM_S	S_1	SD_S	F_a	F_v	T_L	PGA_M
D	2.329	0.778	1.553	1.2	N/A	12	0.983

3 – From our review of the current civil plans, it appears that up to about 6 feet of fill is to be placed at the site, increasing in thickness from front to rear. Our calculations indicate that the placement of 6 feet of fill is likely to result in about 9.5 inches of total settlement, while 4 feet of fill is likely to result in roughly 8 inches of total settlement. We would therefore expect that differential settlements could be as great as 4 inches across the length of the building due to differential fill thicknesses and presence of peat (which tends to settle differentially to a greater degree than does bay mud). Building loads (assumed at a uniform 500 psf) would produce total settlements on the order of 8 inches. Differentials due to building loads would be dependent upon stiffness of foundation system.

4 – Our borings found a relatively level ground water table located between 11 and 13 feet below grade, which would place the ground water table at an elevation of approximately 1 foot. Water table measurements from the adjacent parcel borings report ground water at a depth of 3 feet, or elevation of

about 2 feet. Based upon that elevation of water table, the Peat materials and deeper soils would be saturated, but not the upper sandy fills. It is our belief that the Peat materials would not tend to be subject to liquefaction. However, the reviewer is correct, there could be some dry soil settlements associated with the upper relatively loose fill sands (note that the laboratory identified these materials as clayey sand or sandy clays, whereas we identified them as silty sands). The relatively high fines content will help to reduce seismic settlements for this relatively thin layer of fill to roughly 1 inch of potential differential settlement.

5 – While we have presented various options for foundation support, the review consultant has suggested the potential use of a mat slab over improved ground conditions. We concur that this is another viable option, particularly with the anticipated ground settlements to be spawned by the relatively thick amount of fill proposed for the site. The ground improvement may include the removal and recompaction of the upper 12 feet of soils as engineered fill (please note that excavations to this depth is likely to encounter ground water towards the base of the excavation). Based stabilization of the excavation would likely be required, and may consist of a 2 foot thick layer of drain rock, or control density fill (sand cement slurry), or other methods suggested by the contractor and approved by our office. Please note that only the existing sandy fills would be suitable for re-use as engineered fill (assuming that there is no construction debris included). Another alternative would be to use rammed stone displacement columns, soil concrete piers, or other methods to penetrate through the upper layers. These later options are typically design build options through various specialty contractors, so specific recommendations are not included in this letter, but the proposed design should be provided for our review prior to permitting.

Corrosion testing on the adjacent site (540 Crespi) was performed at depths of 15 feet, 20 feet, 76 feet, and 105 feet. None of the samples were considered to be corrosive. However, it is unlikely that the improvements at the subject site will be this deeply embedded. Further, the nature of the soils which may be used as fill is currently unknown. Hence we concur that once the foundation system and any remedial grading work has been determined, it would be wise to conduct corrosivity testing on the soils at the appropriate elevations (i.e. within the fills).

6 – Our pavement recommendations were provided assuming an R-value of 5, with a TI of 4. If the pavement will receive a higher traffic loading, please contact our office to revise the required pavement section. Also note that we have used a very low R-value, and depending upon the fill materials used to raise the grade, a better value may be achieved which could reduce the pavement section for any Traffic Index necessary.

Should you have any questions please contact the undersigned.

Respectfully Submitted;
GeoForensics, Inc.





Daniel F. Dyckman, PE, GE
Senior Geotechnical Engineer, GE 2145

Email cc: 1 to addressee

Appendix C

Environmental Noise Assessment

Environmental Noise Assessment

570 Crespi Drive

City of Pacifica, California

September 22, 2021

Project # 200204

Prepared for:

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INTRODUCTION

The 570 Crespi Drive residential project is located along the south side of Crespi Drive, east of Highway 1 in the City of Pacifica, California. The project consists of the construction of 3 separate buildings containing 15 residential units and 3,165 s.f. of commercial space.

Figure 1 shows the project site plan. **Figure 2** shows an aerial photo of the project site.

ENVIRONMENTAL SETTING

BACKGROUND INFORMATION ON NOISE

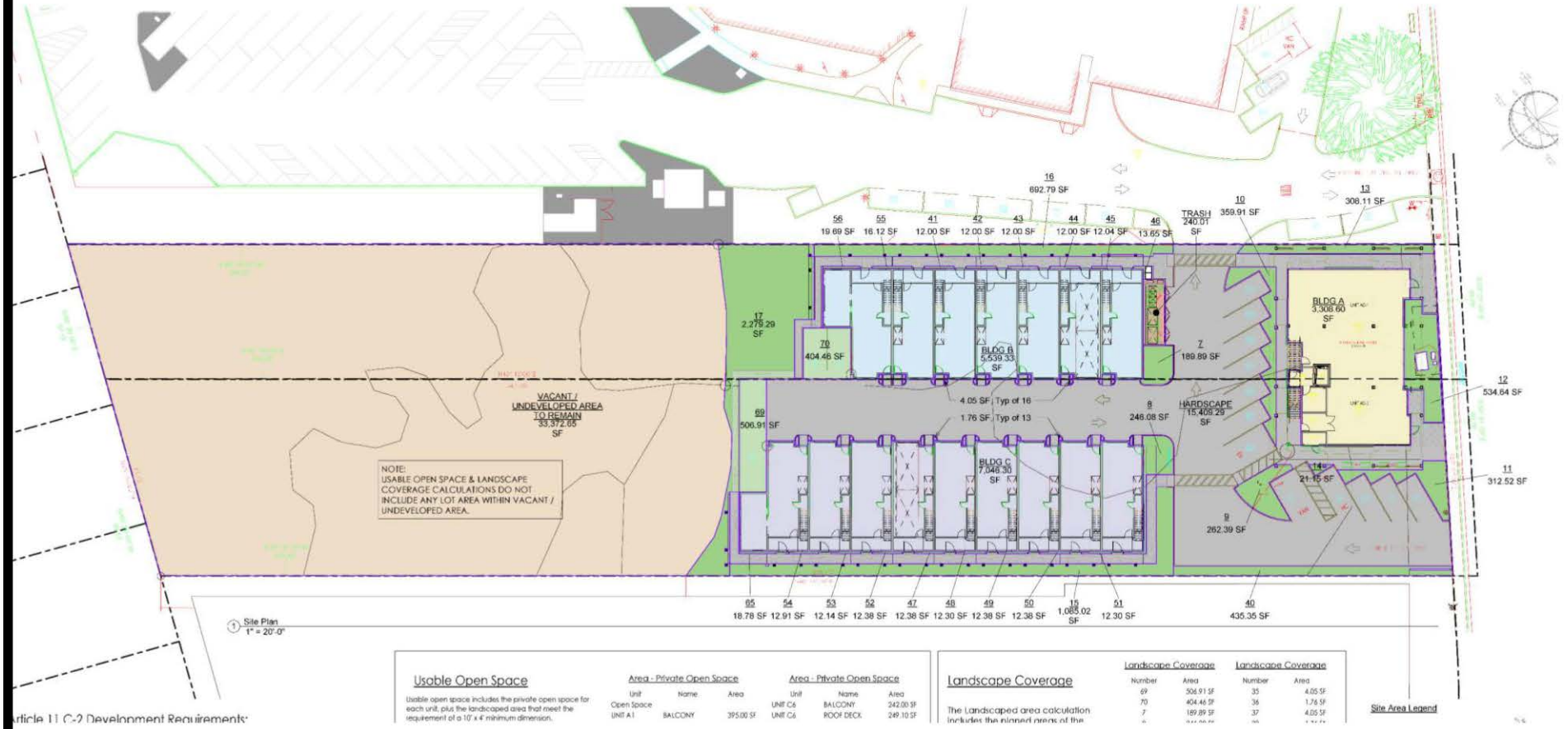
Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

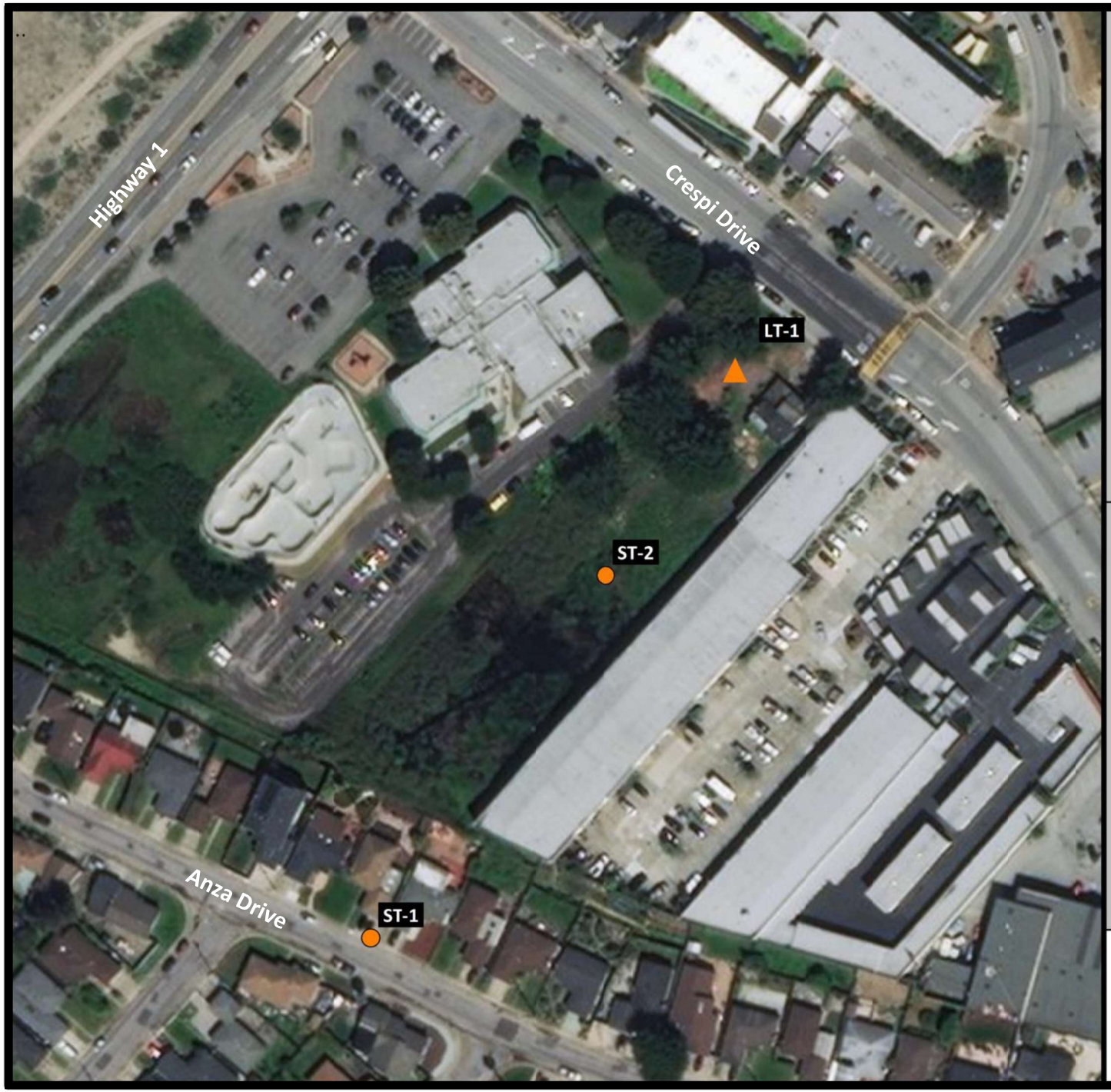
The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment.



570 Crespi Drive
City of Pacifica, California

Figure 1
Project Site Plan

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570 Crespi Drive

City of Pacifica, California

Figure 2

Noise Measurement Sites

Legend

- Noise Measurement - Long Term
- Noise Measurement - Short Term

0 ft 250 ft 500 ft 750 ft 1000 ft 1250 ft 1500 ft

Projection: State Plane (California Zone 3) / NAD83 / meters
Rev. Date: 04/13/2020

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The decibel scale is logarithmic, not linear. In other words, two sound levels 10-dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10-dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (DNL or L_{dn}) is based upon the average noise level over a 24-hour day, with a +10-decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. **Appendix A** provides a summary of acoustical terms used in this report.

TABLE 1: TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft.)	--100--	
Gas Lawn Mower at 1 m (3 ft.)	--90--	
Diesel Truck at 15 m (50 ft.), at 80 km/hr. (50 mph)	--80--	Food Blender at 1 m (3 ft.) Garbage Disposal at 1 m (3 ft.)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft.)	--70--	Vacuum Cleaner at 3 m (10 ft.)
Commercial Area Heavy Traffic at 90 m (300 ft.)	--60--	Normal Speech at 1 m (3 ft.)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. September, 2013.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6-dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE AND VIBRATION ENVIRONMENTS

EXISTING NOISE RECEPTORS

Some land uses are considered more sensitive to noise than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Sensitive noise receptors may also include threatened or endangered noise sensitive biological species, although many jurisdictions have not adopted noise standards for wildlife areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Sensitivity is a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. In the vicinity of the project site, sensitive land uses include existing single-family residential uses located towards the southwest and multi-family residential uses located to the north and northeast.

EXISTING GENERAL AMBIENT NOISE LEVELS

The existing noise environment in the project area is primarily defined by traffic on Highway 1 and Crespi Drive.

To quantify the existing ambient noise environment in the project vicinity, Saxelby Acoustics conducted continuous (24-hr.) noise level measurements at one location on the project site and short term measurements at 2 locations in the project vicinity.

Noise measurement locations are shown on **Figure 2**. A summary of the noise level measurement survey results is provided in **Table 2**. **Appendix B** contains the complete results of the noise monitoring.

The sound level meters were programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted L_{max}, represents the highest noise level measured. The average value, denoted L_{eq}, represents the energy average of all the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L_{50}, represents the sound level exceeded 50 percent of the time during the monitoring period.

Larson Davis Laboratories (LDL) model 820 and 831 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with a B&K Model 4230 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

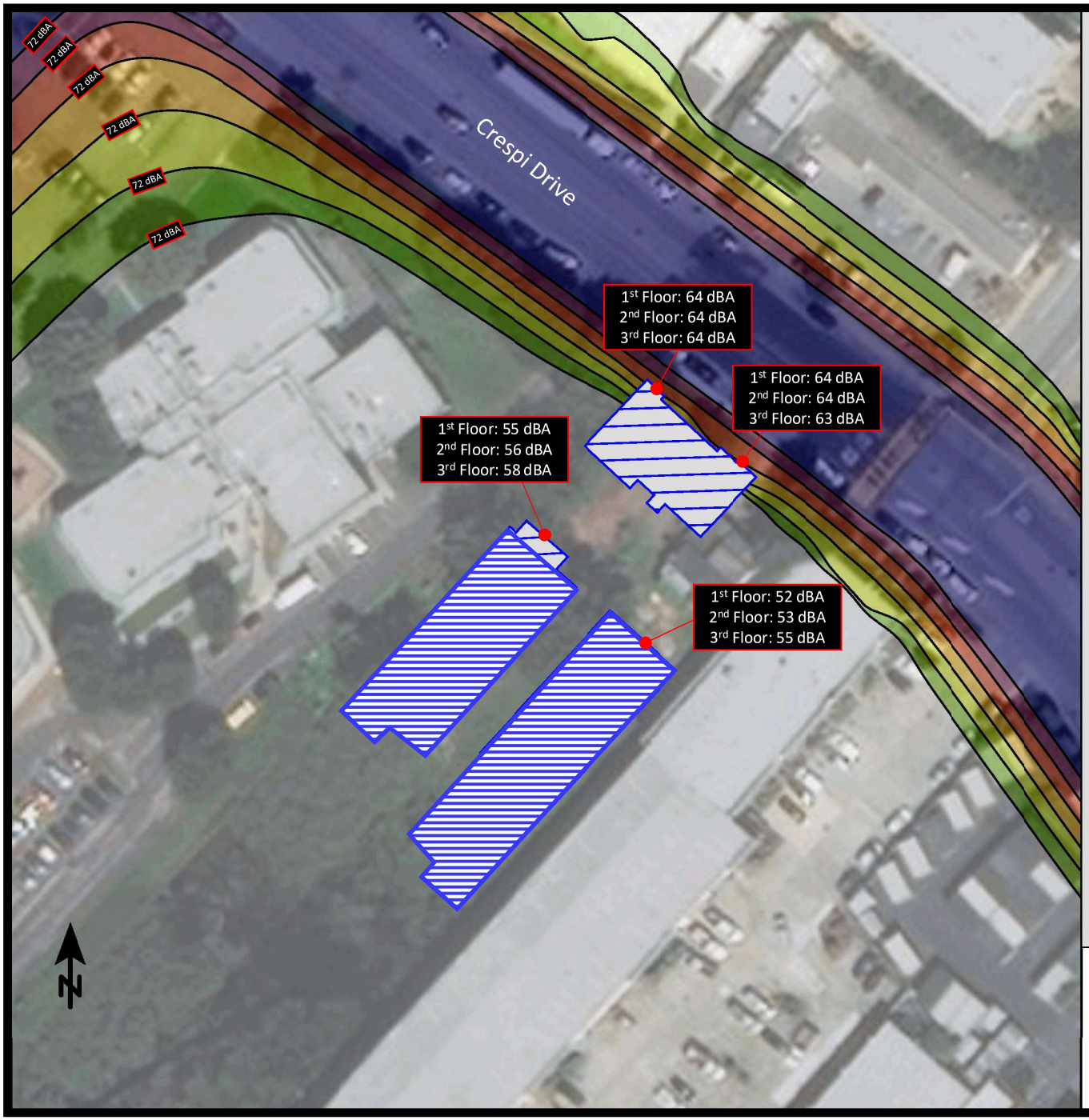
TABLE 2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

Site	Date	Average Measured Hourly Noise Levels, dBA						
			Daytime (7:00 am - 10:00 pm)			Nighttime (10:00 pm – 7:00 am)		
		CNEL/L_{dn}	L_{eq}	L_{50}	L_{max}	L_{eq}	L_{50}	L_{max}
LT-1	04/09/20-04/10/20	58	54	51	73	51	45	67
ST-1	04/09/20-1:05 p.m.	N/A	55	44	93	N/A	N/A	N/A
ST-2	04/10/20-1:21 p.m.	N/A	48	47	58	N/A	N/A	N/A
Source: Saxelby Acoustics – 2020								

EVALUATION OF TRANSPORTATION NOISE SOURCES ON THE PROJECT SITE

ON-SITE TRANSPORTATION NOISE PREDICTION METHODOLOGY

Saxelby Acoustics used the SoundPLAN noise model to calculate traffic noise levels at the proposed residential uses due to traffic on Crespi Drive and Highway 1. The proposed project buildings and surrounding structures were input into the SoundPLAN model to determine the traffic noise exposure on the project site. Future (2041) traffic noise levels were calculated by assuming a 1% per year increase in traffic volumes on Highway 1 and Crespi Drive. The results of this analysis are shown on **Figure 3**. Based upon the SoundPLAN noise model, **Table 3** shows the maximum predicted traffic noise levels at the residential floors of the projects closest to Crespi Drive.



570 Crespi Drive

City of Pacifica, California

Figure 3

Project Noise Contours (dBA L_{dn})

Signs and symbols

Proposed Building

Levels in dB(A)

<= 60
60 - 61
61 - 62
62 - 63
63 - 64
64 - 65
> 65

1 : 900

0 4.5 9 18 27 36 m

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TABLE 3: TRAFFIC NOISE LEVELS AT PROJECT FACADES

Location	Exterior Noise Level, L_{dn}	Estimated Interior Noise Level, L_{dn}[1]
Building A - Northwest	63.6 dBA	38.6 dBA
Building A - Northeast	63.2 dBA	38.2 dBA
Multifamily West	58.4 dBA	33.4 dBA
Multifamily East	54.9 dBA	29.9 dBA
[1] Assumes typical 25 dBA exterior-to-interior noise level reduction.		

FUTURE TRAFFIC NOISE ENVIRONMENT AT OFF-SITE RECEPTORS

OFF-SITE TRAFFIC NOISE IMPACT ASSESSMENT METHODOLOGY

To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels are predicted at sensitive receptors for existing and future, project and no-project conditions.

Existing, Background, and Cumulative noise levels due to traffic are calculated using the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108). The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To predict traffic noise levels in terms of L_{dn}, it is necessary to adjust the input volume to account for the day/night distribution of traffic.

Project trip generation volumes were provided by the project traffic engineer (RKH Civil and Transportation Engineering 2020), truck usage and vehicle speeds on the local area roadways were estimated from field observations. The predicted increases in traffic noise levels on the local roadway network for Existing, Baseline, and Cumulative conditions which would result from the project are provided in terms of L_{dn}.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. In some locations sensitive receptors may not receive full shielding from noise barriers, or may be located at distances which vary from the assumed calculation distance.

Table 4, 5, and 6 summarize the modeled traffic noise levels at the nearest sensitive receptors along each roadway segment in the Project area. **Appendix C** provides the complete inputs and results of the FHWA traffic modeling.

TABLE 4: EXISTING TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Predicted Exterior Noise Level (dBA L_{dn}) at Closest Sensitive Receptors		
		Existing No Project	Existing + Project	Change
Highway 1	Hwy 1 North to Reina Del Mar Ave	69.8	69.8	0.0
Highway 1	Reina Del Mar Ave to Fassler Ave	72.4	72.4	0.0
Highway 1	Fassler Ave to Crespi Dr	70.2	70.2	0.0
Highway 1	Crespi Dr to Linda Mar Blvd	66.3	66.3	0.0
Highway 1	Linda Mar Blvd to Hwy 1 South	66.6	66.6	0.0
Reina Del Mar Ave	Hwy 1 to Reina Del Mar Ave East	62.3	62.3	0.0
Fassler Ave	Hwy 1 to Fassler Ave East	61.2	61.2	0.1
Crespi Dr	Murphy Rd to McHenry Ave	62.7	62.8	0.1

TABLE 5: BACKGROUND TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Predicted Exterior Noise Level (dBA L_{dn}) at Closest Sensitive Receptors		
		Existing No Project	Existing + Project	Change
Highway 1	Hwy 1 North to Reina Del Mar Ave	69.8	69.9	0.0
Highway 1	Reina Del Mar Ave to Fassler Ave	72.4	72.5	0.0
Highway 1	Fassler Ave to Crespi Dr	70.2	70.2	0.0
Highway 1	Crespi Dr to Linda Mar Blvd	66.3	66.3	0.0
Highway 1	Linda Mar Blvd to Hwy 1 South	66.6	66.6	0.0
Reina Del Mar Ave	Hwy 1 to Reina Del Mar Ave East	62.3	62.3	0.0
Fassler Ave	Hwy 1 to Fassler Ave East	61.2	61.3	0.1
Crespi Dr	Murphy Rd to McHenry Ave	62.8	62.9	0.1

TABLE 6: CUMULATIVE TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Predicted Exterior Noise Level (dBA L_{dn}) at Closest Sensitive Receptors		
		Existing No Project	Existing + Project	Change
Highway 1	Hwy 1 North to Reina Del Mar Ave	69.9	69.9	0.0
Highway 1	Reina Del Mar Ave to Fassler Ave	72.5	72.5	0.0
Highway 1	Fassler Ave to Crespi Dr	70.2	70.3	0.0
Highway 1	Crespi Dr to Linda Mar Blvd	66.4	66.4	0.0
Highway 1	Linda Mar Blvd to Hwy 1 South	66.6	66.6	0.0
Reina Del Mar Ave	Hwy 1 to Reina Del Mar Ave East	62.3	62.3	0.0
Fassler Ave	Hwy 1 to Fassler Ave East	61.3	61.3	0.0
Crespi Dr	Murphy Rd to McHenry Ave	62.7	62.8	0.1

CONSTRUCTION NOISE ENVIRONMENT

The Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM) was used to predict noise levels for standard construction equipment used for roadway improvement projects. The assessment of potential significant noise effects due to construction is based on the standards and procedures described in the Federal Transit Authority (FTA) guidance manual and FHWA's RCNM.

The RCNM is a Windows-based noise prediction model that enables the prediction of construction noise levels for a variety of construction equipment based on a compilation of empirical data and the application of acoustical propagation formulas. It enables the calculation of construction noise levels in more detail than the manual methods, which eliminates the need to collect extensive amounts of project-specific input data. RCNM allows for the modeling of multiple pieces of construction equipment working either independently or simultaneously, the character of noise emission, and the usage factors for each piece of equipment.

Construction noise varies depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week), and the duration of the construction work.

Noise sources in the RCNM database include actual noise levels and equipment usage percentages. This source data was used in this construction noise analysis. **Table 7** shows predicted construction noise levels for each of the project construction phases.

TABLE 7: CONSTRUCTION EQUIPMENT NOISE LEVELS FOR PRIMARY CONSTRUCTION PHASES

Equipment	Quantity	Usage (%)	Maximum, Lmax (dBA at 50 feet)	Hourly Average, Leq (dBA at 50 feet)
Site Preparation				
Graders	1	40	85	81
Rubber Tired Dozers	1	40	82	78
Tractors/Loaders/Backhoes	1	40	78	74
			Total:	**83**
Grading				
Graders	1	40	85	81
Rubber Tired Dozers	1	40	82	78
Tractors/Loaders/Backhoes	1	40	78	74
			Total:	**83**
Foundations				
Pile Driver	1	20	101	94
			Total:	**94**
Building Construction				
Cranes	1	16	81	73
Forklifts	1	40	83	79
Generator Sets	1	50	73	70
Tractors/Loaders/Backhoes	1	40	78	74
Welders	3	40	74	70
			Total:	**82**
Paving				
Cement and Mortar Mixers	1	40	79	75
Pavers	1	50	77	74
Paving Equipment	1	50	77	74
Rollers	1	20	80	73
Tractors/Loaders/Backhoes	1	40	78	74
			Total:	**81**
Architectural Coating				
Air Compressors	1	40	78	74
			Total:	**74**

Source: FHWA, Roadway Construction Noise Model (RCNM), January 2006.

Based upon the **Table 7** data, the loudest phase of construction with an average noise exposure of 94 dBA Leq at 50 feet would occur during pile driving activities. The next loudest phase would be grading and site preparation at 83 dBA Leq at 50 feet. Saxelby Acoustics used the SoundPLAN noise model to calculate noise levels at the nearest sensitive receptors in terms of the City's day/night average (Ldn) noise level criterion. It should be noted that the Ldn calculation conservatively assumes twelve hours

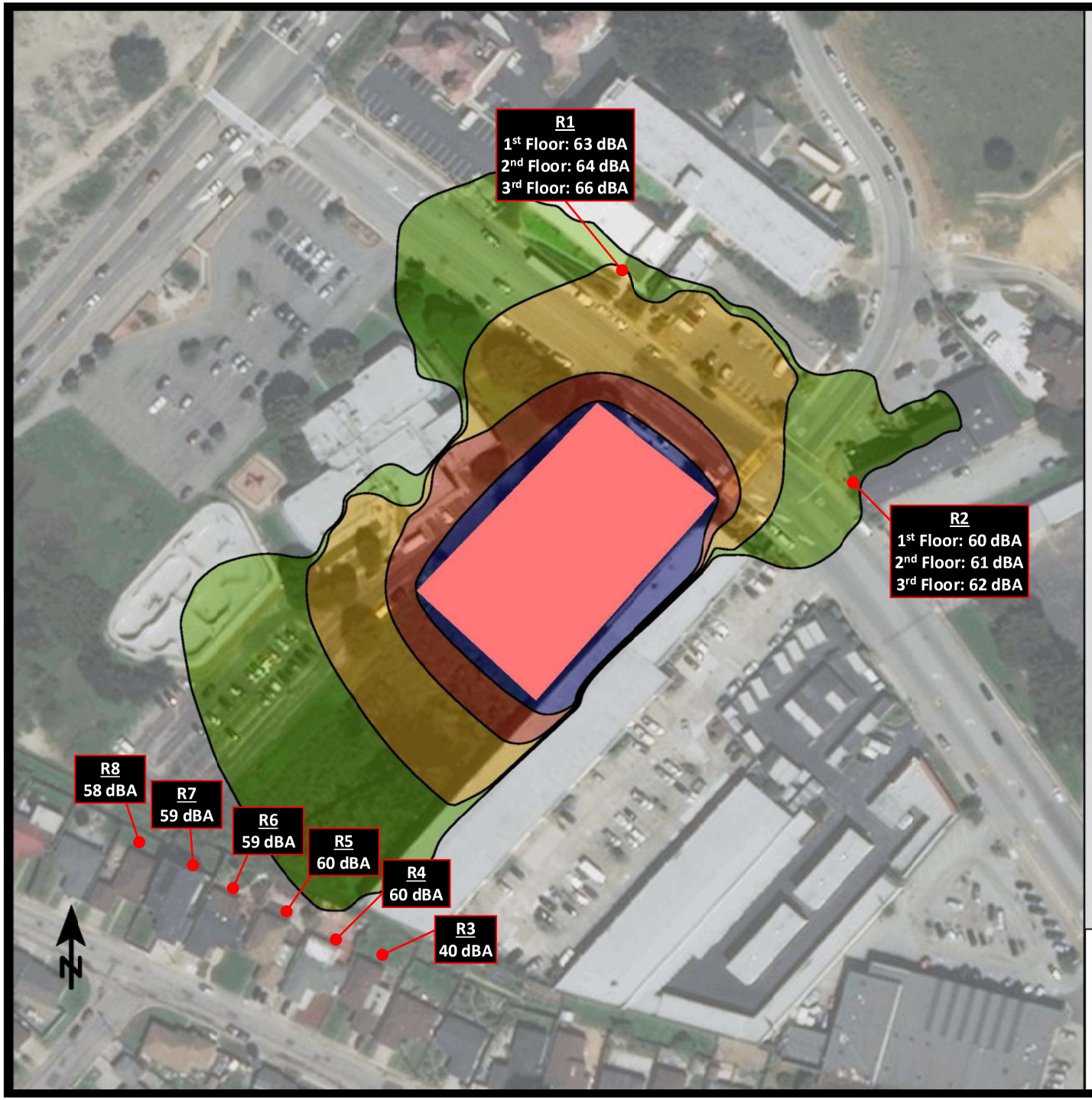
of continuous construction between the hours of 7:00 a.m. to 7:00 p.m. The results of the construction noise analysis are shown graphically on **Figure 4** (without pile driving) and **Figure 5** (with pile driving). A summary of the noise prediction results for each phase of construction are shown in **Table 8**.

TABLE 8: PREDICTED CONSTRUCTION NOISE LEVELS BY LOUDEST PHASES

Receiver (Use)	Measured Daytime Noise Level, L_{dn}[1]	Predicted Construction Noise Level, L_{dn}	Change
Site Preparation			
R1 (Residential)	58 dBA	66 dBA	+8 dBA
R2 (Residential)	58 dBA	62 dBA	+4 dBA
R3 (Residential)	52-58 dBA	40 dBA	+0 dBA
R4 (Residential)	52-58 dBA	60 dBA	+8 dBA
R5 (Residential)	52-58 dBA	60 dBA	+8 dBA
R6 (Residential)	52-58 dBA	59 dBA	+7 dBA
R7 (Residential)	52-58 dBA	59 dBA	+7 dBA
R8 (Residential)	52-58 dBA	58 dBA	+6 dBA
Grading			
R1 (Residential)	58 dBA	66 dBA	+8 dBA
R2 (Residential)	58 dBA	62 dBA	+4 dBA
R3 (Residential)	52-58 dBA	40 dBA	+0 dBA
R4 (Residential)	52-58 dBA	60 dBA	+8 dBA
R5 (Residential)	52-58 dBA	60 dBA	+8 dBA
R6 (Residential)	52-58 dBA	59 dBA	+7 dBA
R7 (Residential)	52-58 dBA	59 dBA	+7 dBA
R8 (Residential)	52-58 dBA	58 dBA	+6 dBA
Foundations (Pile Driving)			
R1 (Residential)	58 dBA	76 dBA	+18 dBA
R2 (Residential)	58 dBA	72 dBA	+14 dBA
R3 (Residential)	52-58 dBA	51 dBA	+0 dBA
R4 (Residential)	52-58 dBA	71 dBA	+19 dBA
R5 (Residential)	52-58 dBA	71 dBA	+19 dBA
R6 (Residential)	52-58 dBA	70 dBA	+18 dBA
R7 (Residential)	52-58 dBA	70 dBA	+18 dBA
R8 (Residential)	52-58 dBA	69 dBA	+17 dBA
Building Construction			
R1 (Residential)	58 dBA	65 dBA	+7 dBA
R2 (Residential)	58 dBA	61 dBA	+3 dBA

R3 (Residential)	52-58 dBA	39 dBA	+0 dBA
R4 (Residential)	52-58 dBA	59 dBA	+7 dBA
R5 (Residential)	52-58 dBA	59 dBA	+7 dBA
R6 (Residential)	52-58 dBA	58 dBA	+6 dBA
R7 (Residential)	52-58 dBA	58 dBA	+6 dBA
R8 (Residential)	52-58 dBA	57 dBA	+5 dBA
Paving			
R1 (Residential)	58 dBA	64 dBA	+6 dBA
R2 (Residential)	58 dBA	60 dBA	+2 dBA
R3 (Residential)	52-58 dBA	38 dBA	+0 dBA
R4 (Residential)	52-58 dBA	58 dBA	+6 dBA
R5 (Residential)	52-58 dBA	58 dBA	+6 dBA
R6 (Residential)	52-58 dBA	57 dBA	+5 dBA
R7 (Residential)	52-58 dBA	57 dBA	+5 dBA
R8 (Residential)	52-58 dBA	56 dBA	+4 dBA
Architectural Coating			
R1 (Residential)	58 dBA	57 dBA	+0 dBA
R2 (Residential)	58 dBA	53 dBA	+0 dBA
R3 (Residential)	52-58 dBA	31 dBA	+0 dBA
R4 (Residential)	52-58 dBA	51 dBA	+0 dBA
R5 (Residential)	52-58 dBA	51 dBA	+0 dBA
R6 (Residential)	52-58 dBA	50 dBA	+0 dBA
R7 (Residential)	52-58 dBA	50 dBA	+0 dBA
R8 (Residential)	52-58 dBA	49 dBA	+0 dBA

[1] As measured at Site LT-1.



570 Crespi Drive

City of Pacifica, California

Figure 4

Predicted Typical Construction Noise Levels (dBA, Ldn)

Signs and symbols

Construction Area

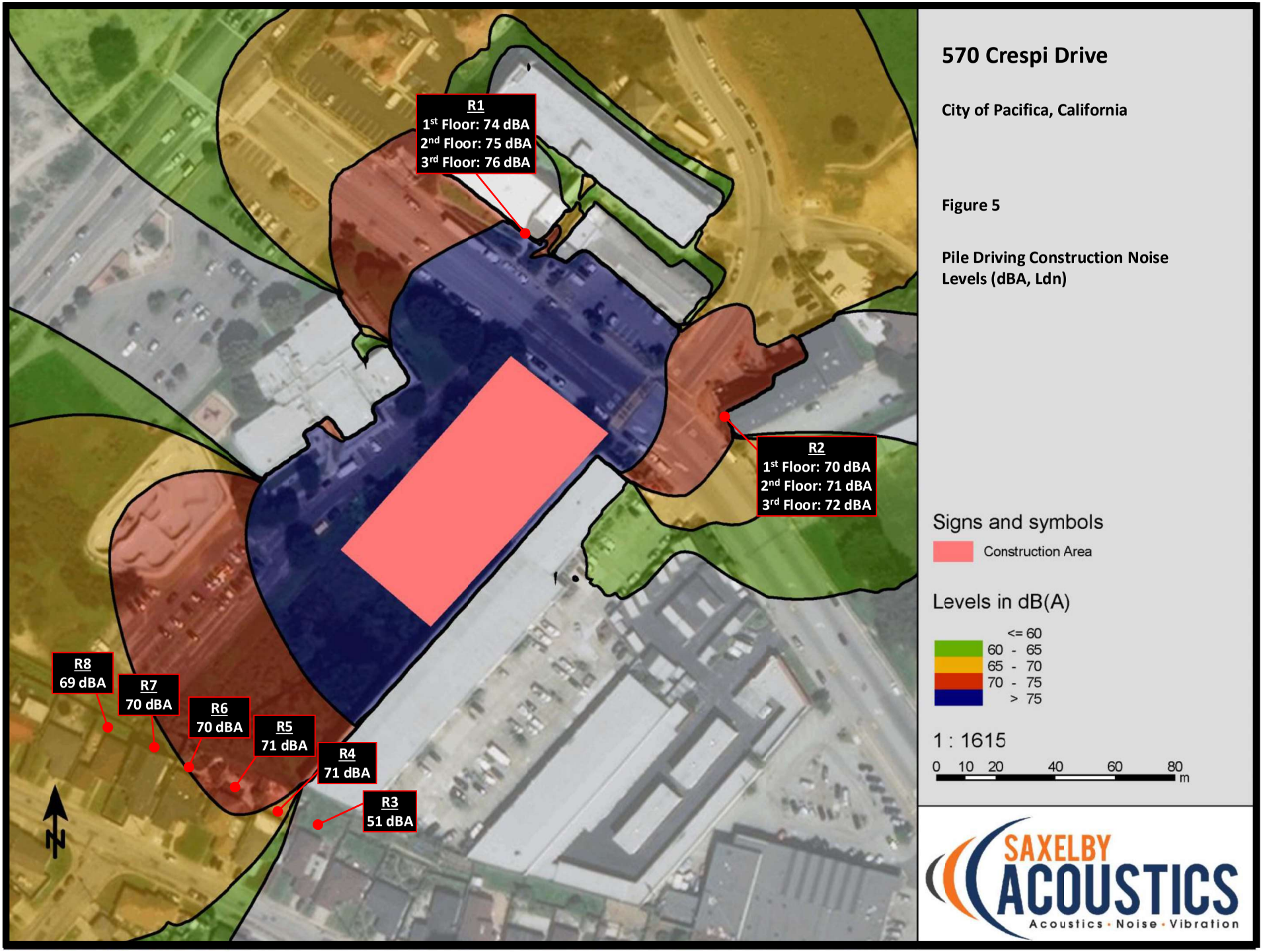
Levels in dB(A)

<= 60
60 - 65
65 - 70
70 - 75
> 75

1 : 1615

0 10 20 40 60 80 m

SAXELBY ACOUSTICS
Acoustics · Noise · Vibration


R1
1st Floor: 74 dBA
2nd Floor: 75 dBA
3rd Floor: 76 dBA
R2
1st Floor: 70 dBA
2nd Floor: 71 dBA
3rd Floor: 72 dBA
R3
51 dBA
R4
71 dBA
R5
71 dBA
R6
70 dBA
R7
70 dBA
R8
69 dBA
N
570 Crespi Drive
City of Pacifica, California
Figure 5
Pile Driving Construction Noise Levels (dBA, Ldn)
Signs and symbols
Construction Area
Levels in dB(A)
<= 60
60 - 65
65 - 70
70 - 75
> 75
1 : 1615
0 10 20 40 60 80
m
SAXELBY ACOUSTICS
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CONSTRUCTION VIBRATION ENVIRONMENT

The primary vibration-generating activities would occur during pile driving, grading, utilities placement, and parking lot construction. **Table 9** shows the typical vibration levels produced by construction equipment.

TABLE 9: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

Type of Equipment	Peak Particle Velocity at 25 feet (inches/second)	Peak Particle Velocity at 50 feet (inches/second)	Peak Particle Velocity at 100 feet (inches/second)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Pile Driving (impact)	0.644	0.228	0.081
Pile Driving (sonic)	0.170	0.060	0.023
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

Source: *Transit Noise and Vibration Impact Assessment Guidelines.* Federal Transit Administration. May 2006.

REGULATORY CONTEXT

FEDERAL

There are no federal regulations related to noise that apply to the Proposed Project.

STATE

The State Building Code, Title 24, Part 2 of the State of California Code of Regulations, establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses, and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB L_{dn} or CNEL in any habitable room. Title 24 also mandates that for structures containing noise-sensitive uses to be located where the L_{dn} or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify mechanisms for limiting exterior noise to the prescribed allowable interior levels. If the interior allowable noise levels are met by requiring that windows be kept closed, the design for the structure must also specify a ventilation or air conditioning system to provide a habitable interior environment.

LOCAL

City of Pacifica 1980 General Plan

The 1980 City of Pacifica General Plan has a Noise Element. However, that document suggests that 60 dB CNEL / Ldn is considered to be a "higher noise level". The City staff have used the 60 dB threshold as the test of significance when evaluating projects. The City of Pacifica is in the process of updating the General Plan. However, that General Plan Update and associated EIR have not been adopted.

City of Pacifica General Plan Update

The noise level standards and guiding policies in the City of Pacifica General Plan are consistent with the State of California guidelines for determining land use compatibility and are similar to those used throughout the State. The thresholds for community land use compatibility which are contained within the proposed General Plan Noise Element are shown in **Table 10**. For proposed land uses in areas where noise exposure may be expected to be greater than the “normally acceptable” threshold, maximum allowable noise exposure with noise mitigation measure is defined in **Table 11**. **Table 12** provides noise emission standards for new stationary noise sources. Listed below are the noise goals, policies, and implementation measures that would be applicable to the proposed project:

Community Noise Exposure

Table 9-1 presents the community noise exposure matrix, establishing criteria the City can use to evaluate land use compatibility based on noise levels. This matrix is adapted from guidelines provided by the Office of Planning and Research. Noise exposure levels are classified as being “normally

acceptable," "conditionally acceptable," "normally unacceptable," or "clearly unacceptable" for different land use types.

Normally Acceptable

- **Indoor Uses:** Either the activities associated with the land use are inherently noisy or standard construction methods will sufficiently attenuate exterior noise to an acceptable level; for land use types that are compatible because of inherent noise levels, sound attenuation must be provided for associated office, retail, and other noise-sensitive indoor spaces sufficient to reduce exterior noise to an interior maximum of 50 dB CNEL.
- **Outdoor Uses:** Outdoor activities associated with the land use may be carried out with minimal interference.

Conditionally Acceptable

- **Indoor Uses:** Noise reduction measures must be incorporated into the design of the project to attenuate exterior noise to the indoor noise levels listed in Table 9-2
- **Outdoor Uses:** Noise reduction measures must be incorporated into the design of the project to attenuate exterior noise to the outdoor noise levels listed in Table 9-2. Acceptability is dependent upon characteristics of the specific use

Normally Unacceptable

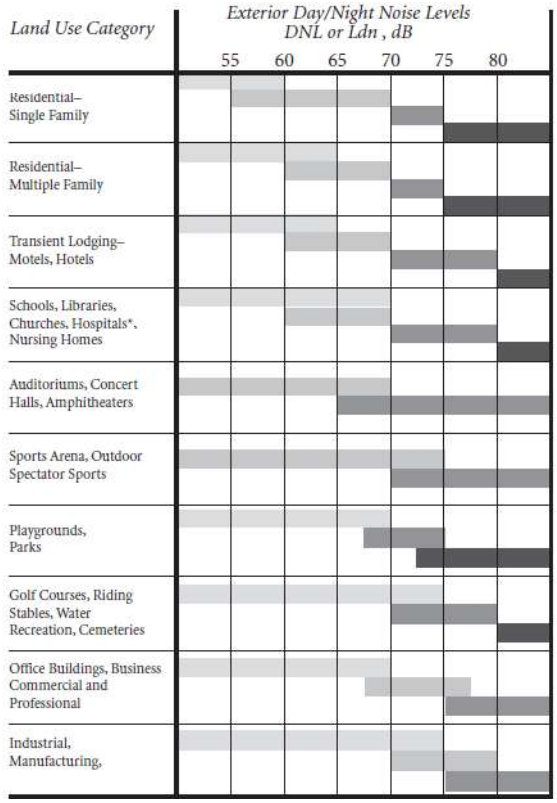
- **Indoor Uses:** Extensive mitigation techniques are required to make the indoor environment accept- able for indoor activities. Noise level reductions necessary to attenuate exterior noise to the indoor noise levels listed in Table 9-2 are difficult to achieve and may not be feasible.
- **Outdoor Uses**: Severe noise interference makes the outdoor environment unacceptable for out- door activities. Noise level reductions necessary to attenuate exterior noise to the outdoor noise levels listed in Table 9-2 are difficult to achieve and may not be feasible.

Clearly Unacceptable

- New construction or development should generally not be undertaken.

TABLE 10: PROPOSED GENERAL PLAN UPDATE LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

TABLE 9-1: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



Source: Office of Planning and Research, State of California General Plan Guidelines, Appendix A: Guidelines for the Preparation and Content of the Noise Element of the General Plan.

*Because hospitals are often designed and constructed with high noise insulation properties, it is possible for them to be satisfactorily located in noisier areas.

INTERPRETATION

Normally Acceptable:
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements

Conditionally Acceptable:
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

Normally Unacceptable:
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable:
New construction or development clearly should not be undertaken.

TABLE 11: PROPOSED GENERAL PLAN UPDATE ALLOWABLE NOISE EXPOSURE

TABLE 9-2: ALLOWABLE NOISE EXPOSURE			
	Outdoor Activity Areas[1]	Interior Spaces	
Noise-Sensitive Land Use	DNL/CNEL[2], dB	DNL/CNEL2, dB	Leq dB[3]
Residential	65	45	–
Transient Lodging (Hotels, Motels)	65	45	–
Hospitals, Nursing Homes	65	45	–
Theaters, Auditoriums, Music Halls	–	–	35
Churches, Meeting Halls	65	–	45
Office Buildings	–	–	45
Schools, Libraries, Museums	–	–	45

1 Outdoor activity areas generally include backyards of single-family residences and outdoor patios, decks or common recreation areas of multi-family developments.
2 The CNEL is used for quantification of aircraft noise exposure as required by CAC Title 21.
3 As determined for a typical worst-case hour during periods of use.

TABLE 12: PROPOSED GENERAL PLAN NOISE LEVEL PERFORMANCE STANDARDS FOR STATIONARY NOISE SOURCES

TABLE 9-3: NOISE LEVEL PERFORMANCE STANDARDS FOR STATIONARY NOISE SOURCES[1]		
	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)
Hourly Equivalent Sound Level (Leq), dBA	50	45
Maximum Sound Level (Lmax), dBA	70	65

1 As determined at the property line of the receiving noise-sensitive use.

Guiding Policies

NO-G-1 Coordination with Other Agencies
Continue to work with other agencies, airports and jurisdictions to reduce noise levels in Pacifica created by their operations.

NO-G-2 Acceptable Noise Environment
Strive to achieve an acceptable noise environment for the environmental, health and safety needs of present and future residents of Pacifica.

NO-G-3 Sensitive Land Uses
Protect noise sensitive land uses, such as schools, hospitals, and senior care facilities, from encroachment of and exposure to excessive levels of noise.

Implementing Policies

NO-I-1 Community Noise Level Standards

Use the Community Noise Level Exposure Standards, shown in Table 9-1, as review criteria for new land uses. Require all new development that would be exposed to noise greater than the "normally accept- able" noise level range to reduce interior noise through design, sound insulation, or other measures.

NO-I-2 Design Features for Noise Reduction

Require noise-reducing mitigation to meet allowable outdoor and indoor noise expo- sure standards in Table 9-2. Noise mitigation measures that may be approved to achieve these noise level targets include but are not limited to the following:

- Construct façades with substantial weight and insulation;
- Use sound-rated windows for primary sleeping and activity areas;
- Use sound-rated doors for all exterior entries at primary sleeping and activity areas;
- Use minimum setbacks and exterior barriers;
- Use acoustic baffling of vents for chimneys, attic and gable ends;
- Install a mechanical ventilation system that provides fresh air under closed window conditions.

Alternative acoustical designs that achieve the prescribed noise level standards may be approved, provided that a qualified Acoustical Consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces.

NO-I-3 Best Available Control Technology

Require new, fixed noise sources (e.g. mechanical equipment) to use best avail- able control technology (BACT) to minimize noise and vibration.

Noise from mechanical equipment can often be reduced by applying soundproofing materials, mufflers, or other controls provided by the manufacturer.

NO-I-4 Mechanical Equipment for New Residential Development

Ensure that building regulations require that noise-generating appliances serving new multi-family or mixed-use residential development are located or adequately insulated to protect residents from the noise.

NO-I-5 Noise Criteria for City Equipment
Develop noise criteria for new equipment purchased by the City.

NO-I-6 Construction Noise
Continue to limit hours for certain construction and demolition work to reduce construction-related noises.

NO-I-7 Noise from Highways and Buses
Work with Caltrans and Sam Trans to mitigate transportation-related noise impacts on residential areas and sensitive uses. This may include encouraging installation of sound barriers or bus stop relocation in selected locations.

NO-I-8 Airport Noise Disclosure Requirements
Update the Municipal Code to ensure that special disclosure requirements concerning airport noise refer to the most current CNEL noise contours developed for San Francisco International Airport.

NO-I-9 Airport Noise Abatement Program
Continue to work with the airport in improving and implementing its noise abatement program.

NO-I-10 Residential Sound Insulation Program
If the airport's federally-approved 65 dB CNEL annual noise contour is mapped within the City, request that the San Fran- cisco Airport's Residential Sound Insulation Program allocate available federal and airport funding to sensitive, noise-affected properties in Pacifica.

NO-I-11 Noise Ordinance
Update the noise ordinance to implement General Plan policies and noise standards.

NO-I-12 Noise Enforcement
Establish a Noise Abatement Unit made up of members of the Police and other departments to enforce the City's noise regulations and assign primary responsibility for coordinating overall noise control effort to one City department.

City of Pacifica Municipal Code

The City of Pacifica Municipal Code - Section 8-1.08 limits hours of construction to 7:00 a.m. to 7:00 p.m. on weekdays, and 9:00 a.m. to 5:00 p.m. on weekends.

Criteria for Acceptable Vibration

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. **Table 13**, which was developed by Caltrans, shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second.

Table 13 indicates that the threshold for architectural damage to structures is 0.20 in/sec p.p.v. A threshold of 0.20 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

TABLE 13: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

Peak Particle Velocity		Human Reaction	Effect on Buildings
mm/second	in/second		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: *Transportation Related Earthborne Vibrations.* Caltrans. TAV-02-01-R9601. February 20, 2002.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines states that a project would normally be considered to result in significant noise impacts if noise levels conflict with adopted environmental standards or plans or if noise generated by the project would substantially increase existing noise levels at sensitive receivers on a permanent or temporary basis. Significance criteria for noise impacts are drawn from CEQA Guidelines Appendix G (Items XI [a-c]).

Would the project:

a. Generate 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. Generate excessive groundborne vibration or groundborne noise levels?

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The proposed project is not located within two miles of a public or private airport, therefore item "c" is not discussed any further in this study.

The City of Pacifica General Plan Noise Element does not establish any specific criteria for evaluating noise level increases. Therefore, the following increase criteria are recommended.

Noise Level Increase Criteria for Long-Term Project-Related Noise Level Increases

The California Environmental Quality Act (CEQA) guidelines define a significant impact of a project if it "increases substantially the ambient noise levels for adjoining areas." Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and
- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project-noise conditions. **Table 14** is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn}.

TABLE 14: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

Ambient Noise Level Without Project, Ldn	Increase Required for Significant Impact
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON)

Based on the **Table 14** data, an increase in the traffic noise level of 5 dB or more would be significant where the pre-project noise levels are less than 60 dB Ldn, or 3 dB or more where existing noise levels are between 60 to 65 dB Ldn. Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 65 dB Ldn. The rationale for the **Table 14** criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

Noise Level Increase Criteria for Short-Term Noise Level Increases

For short-term noise associated with project construction, Saxelby Acoustics recommends use of the Caltrans increase criteria of 12 dBA (Caltrans 2011).

PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES

IMPACT 1: WOULD THE PROJECT GENERATE 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?

Exterior noise at New Sensitive Receptors

Based upon ambient noise measurements conducted on the project site, exterior noise levels ranged between 52-63 dBA Ldn. This exceeds the City of Pacifica existing General Plan standard of 60 dBA Ldn but complies with the proposed General Plan update standard of 65 dBA Ldn.

The City of Pacifica general plan requires that where noise levels exceed 60 dBA, noise reduction measures must be incorporated into the design of the project to attenuate exterior noise levels listed in Table 9-2. For residential land uses, the interior noise level must be 45 dBA or less. Standard construction methods typically yield a 25 dBA noise reduction. Where noise levels reach 63 dBA L_{dn} the interior noise level would be 38 dBA. This complies with City of Pacifica allowable traffic noise exposure limits. This is a **less-than-significant** impact and no mitigation is required.

Traffic Noise Increases

The CEQA guidelines specify criteria to determine the significance of traffic noise impacts. Where existing traffic noise levels are greater than 65 dB L_{dn}, at the outdoor activity areas of noise-sensitive uses, a +1.5 dB L_{dn} increase in roadway noise levels will be considered significant. The maximum increase is traffic noise at the nearest sensitive receptor is predicted to be 0.1 dBA.

Therefore, impacts resulting from increased traffic noise would be considered ***less-than-significant***.

Construction Noise

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. Based upon the **Table 8** data, the proposed project is predicted to generate construction noise levels ranging between 38-66 dBA L_{dn} at the nearest noise-sensitive receptors (excluding use of pile drivers). Measured ambient noise levels were found to be between 52-58 dBA L_{dn} in the vicinity of these uses. Therefore, the proposed project construction could result in periods of typical construction noise +0 to +8 dBA higher than ambient noise in the project area. However, pile driving activities during foundation construction would result in substantially higher noise levels with increases in ambient noise of approximately 14-19 dBA.

The City of Pacifica Noise Ordinance exempts construction activities from the noise standards, provided that they take place between the hours of 7:00 AM and 6:00 PM Monday through Saturday and 9:00 AM and 6:00 PM Sundays and holidays.

Construction activities (excluding pile driving) could result in periods of noise which exceed existing noise levels by up to 8 dBA. This complies with the 12 dBA increase criteria. However, pile driving is predicted to result in noise level increases of 14-19 dBA, thereby exceeding the 12 dBA increase criteria.

Although construction activities are temporary in nature and would occur during normal daytime working hours, construction-related noise, especially pile driving, could result in sleep interference at existing noise-sensitive land uses in the vicinity of the construction if construction activities were to occur outside the normal daytime hours. Therefore, impacts resulting from noise levels temporarily exceeding the threshold of significance due to construction would be considered ***significant***.

<u>Mitigation Measure(s)</u>
Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

MM1: *Prior to issuance of a grading permit, the project applicant shall prepare a construction noise management plan that identifies measures to be taken to minimize construction noise on surrounding sensitive land uses and include specific noise management measures to be included within the project plans and specifications, subject to review and approval by the City Planning Division. The project applicant shall demonstrate, to the satisfaction of the City that the project complies with the following:*

- *Construction activities shall only take place between the hours limited 7:00 a.m. to 6:00 p.m. on weekdays, and 9:00 a.m. to 6:00 p.m. on Saturday and Sunday.*

- *All heavy construction equipment used on the proposed project shall be maintained in good operating condition, with all internal combustion, engine-driven equipment fitted with intake and exhaust mufflers that are in good condition.*
- *All mobile or fixed noise producing equipment used on the proposed project that is regulated for noise output by a local, state, or federal agency shall comply with such regulations while in the source of project activity.*
- *Where feasible, electrically-powered equipment shall be used instead of pneumatic or internal combustion powered equipment.*
- *All stationary noise-generating equipment shall be located as far away as possible from neighboring property lines.*
- *Signs prohibiting unnecessary idling of internal combustion engines shall be posted.*
- *A truck route haul plan shall be created to avoid residential areas.*
- *The use of noise-producing signals, including horns, whistles, alarms and bells shall be for safety warning purposes only.*
- *Notify neighbors within 500 feet of the construction site of the construction schedule and that there could be noticeable vibration levels resulting from pile driving.*
- *Foundation pile holes shall be pre-drilled to minimize the number of impacts required to seat the pile.*
- *Jet or partially jet piles into place to minimize the number of impacts required to seat the pile.*
- *For impact pile driving, multiple-pile drivers shall be considered to expedite construction. Although noise levels generated by multiple pile drivers would be higher than the noise generated by a single pile driver, the total duration of pile driving activities would be reduced.*
- *For impact pile driving, temporary noise control blanket barriers shall shroud pile drivers or be erected in a manner to shield the adjacent land uses.*
- *A noise complaint coordinator shall be retained amongst the construction crew to be responsible for responding to any local complaints about construction noise. When a complaint is received, the coordinator shall notify the City within 24 hours of the complaint and determine the cause of the noise complaint and shall implement reasonable measures to resolve the compliant, as deemed acceptable by the City.*

IMPACT 2: WOULD THE PROJECT GENERATE EXCESSIVE GROUNDBORNE VIBRATION OR GROUNDBORNE NOISE LEVELS?

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural.

The **Table 9** data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec threshold at distances of 26 feet (excluding pile driving). Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 26 feet, or further, from typical construction activities. At these distances construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

For pile driving activities, uses located within approximately 50-100 feet could experience levels of vibration exceeding 0.2 in/sec PPV. Therefore, this impact is **significant**.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

MM2: *A construction vibration monitoring plan shall be implemented to document conditions prior to, during, and after pile driving. The construction vibration monitoring plan should be implemented to include the following tasks:*

- *Identification of sensitivity to ground-borne vibration of nearby structures. A vibration survey (generally described below) would need to be performed.*
- *Performance of a photo survey, elevation survey, and crack monitoring survey for each of these structures. Surveys shall be performed prior to any pile driving activity, in regular interval during pile driving, and after completion and shall include internal and external crack monitoring in structures, settlement, and distress and shall document the condition of foundations, walls and other structural elements in the interior and exterior of said structures.*
- *Development of a vibration monitoring and construction contingency plan to identify structures where monitoring would be conducted, set up a vibration monitoring schedule, define structure-specific vibration limits, and address the need to conduct photo, elevation, and crack surveys to document before and after pile driving. Alternative construction methods would be identified for when vibration levels approach safe limits.*

- *If vibration levels approach limits, suspend construction and implement alternative construction methods to either lower vibration levels or secure the affected structures.*
- *Conduct post-survey on structures where either monitoring has indicated high levels or complaints of damage has been made. Make appropriate repairs or compensation where damage has occurred as a result of construction activities.*

IMPACT 3: FOR A PROJECT LOCATED WITHIN THE VICINITY OF A PRIVATE AIRSTRIP OR AN AIRPORT LAND USE PLAN OR, WHERE SUCH A PLAN HAS NOT BEEN ADOPTED, WITHIN TWO MILES OF A PUBLIC AIRPORT OR PUBLIC USE AIRPORT, WOULD THE PROJECT EXPOSE PEOPLE RESIDING OR WORKING IN THE PROJECT AREA TO EXCESSIVE NOISE LEVELS?

There are no airports in the project vicinity. Therefore, this impact is not applicable to the proposed project.

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Appendix A: Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
ASTC	Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA.
DNL	See definition of Ldn.
IIC	Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
NIC	Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation.
NNIC	Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
RT60	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.
SPC	Speech Privacy Class. SPC is a method of rating speech privacy in buildings. It is designed to measure the degree of speech privacy provided by a closed room, indicating the degree to which conversations occurring within are kept private from listeners outside the room.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B: Continuous and Short-Term Ambient Noise Measurement Results

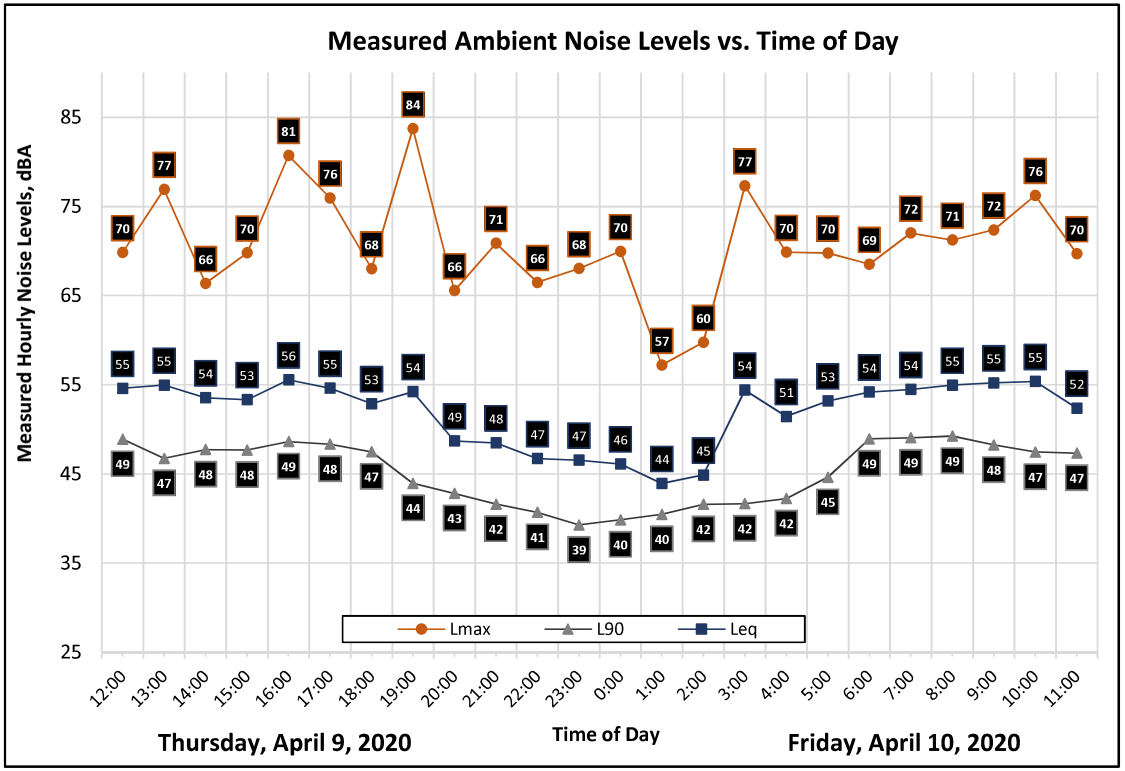


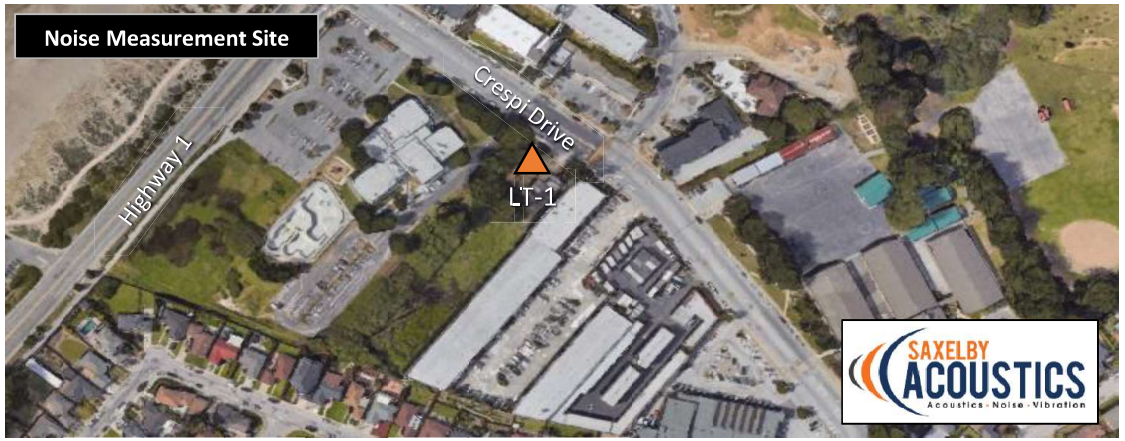
Appendix B1: Continuous Noise Monitoring Results

Site: LT-1
Project: 570 Crespi Drive IS
Meter: LDL 820-1
Location: Northern Project Boundary
Calibrator: CAL200
Coordinates: 37.5984580°, -122.4989071°

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Thursday, April 9, 2020	12:00	55	70	53	49
Thursday, April 9, 2020	13:00	55	77	51	47
Thursday, April 9, 2020	14:00	54	66	52	48
Thursday, April 9, 2020	15:00	53	70	51	48
Thursday, April 9, 2020	16:00	56	81	52	49
Thursday, April 9, 2020	17:00	55	76	51	48
Thursday, April 9, 2020	18:00	53	68	51	47
Thursday, April 9, 2020	19:00	54	84	48	44
Thursday, April 9, 2020	20:00	49	66	46	43
Thursday, April 9, 2020	21:00	48	71	45	42
Thursday, April 9, 2020	22:00	47	66	43	41
Thursday, April 9, 2020	23:00	47	68	42	39
Friday, April 10, 2020	0:00	46	70	42	40
Friday, April 10, 2020	1:00	44	57	43	40
Friday, April 10, 2020	2:00	45	60	43	42
Friday, April 10, 2020	3:00	54	77	45	42
Friday, April 10, 2020	4:00	51	70	45	42
Friday, April 10, 2020	5:00	53	70	50	45
Friday, April 10, 2020	6:00	54	69	52	49
Friday, April 10, 2020	7:00	54	72	52	49
Friday, April 10, 2020	8:00	55	71	53	49
Friday, April 10, 2020	9:00	55	72	52	48
Friday, April 10, 2020	10:00	55	76	52	47
Friday, April 10, 2020	11:00	52	70	50	47

Statistics	Leq	Lmax	L50	L90
Day Average	54	73	51	47
Night Average	51	67	45	42
Day Low	48	66	45	42
Day High	56	84	53	49
Night Low	44	57	42	39
Night High	54	77	52	49
Ldn	58	Day %		78
CNEL	58	Night %		22





Appendix B2: Short Term Noise Monitoring Results

Site: ST-1
Project: 570 Crespi Drive
Location: South of Project Site
Coordinates: 37.5970769°, -122.4999696°

Meter: LDL 831-4
Calibrator: CAL200

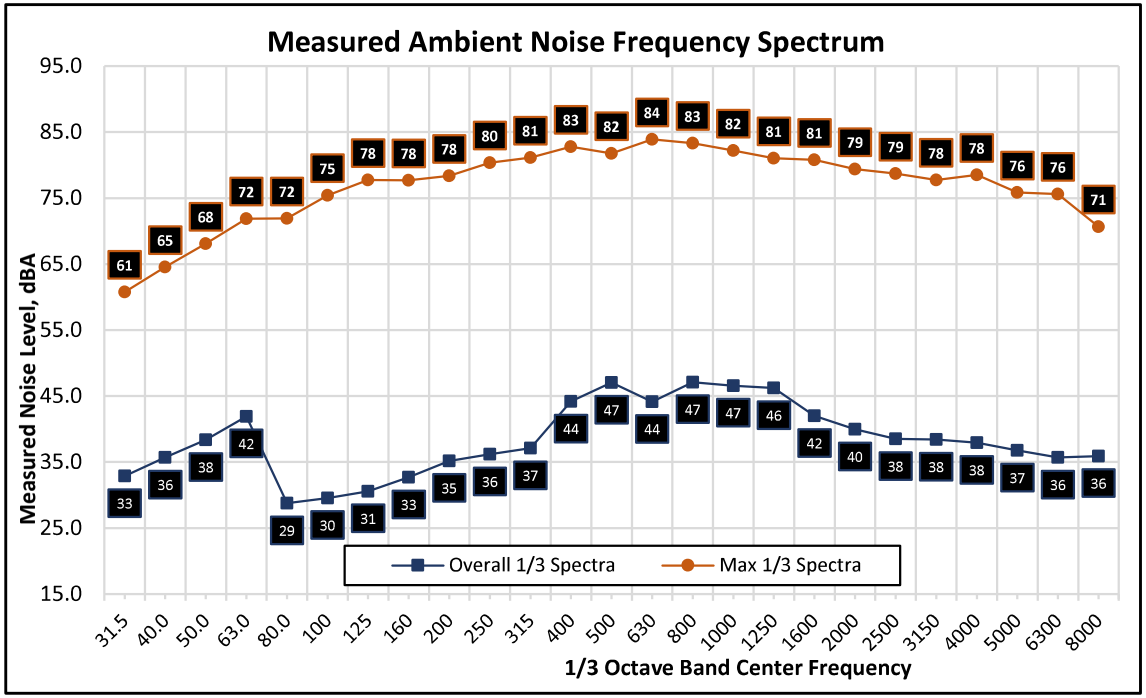
Start: 2020-04-09 13:05:52
Stop: 2020-04-09 13:15:52
SLM: Model 831
Serial: 2893

Measurement Results, dBA

Duration:	0:10
L_{eq}:	55
L_{max}:	93
L_{min}:	40
L_{50}:	44
L_{90}:	42

Notes

Highway 1 audible. Lmax caused by passing cars on Anza Drive.





Appendix B3: Short Term Noise Monitoring Results

Site: ST-2
Project: 570 Crespi Drive
Location: Center of Project Site
Coordinates: 37.5979586°, -122.4992836°

Meter: LDL 831-4
Calibrator: CAL200

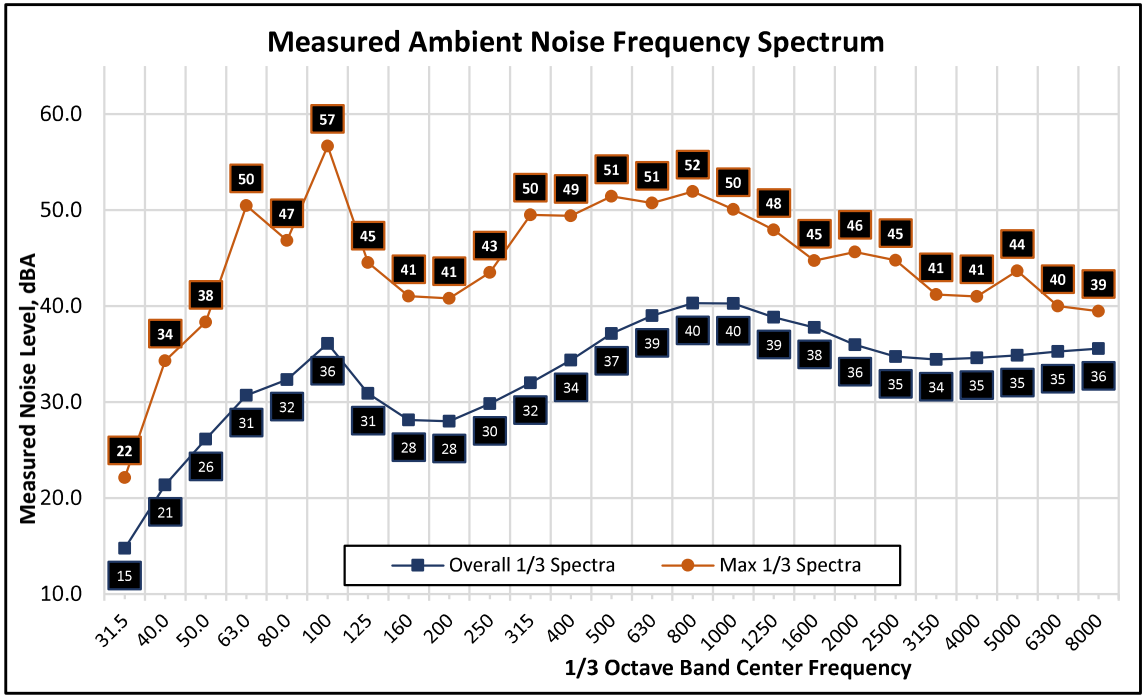
Start: 2020-04-10 13:21:54
Stop: 2020-04-10 13:31:54
SLM: Model 831
Serial: 2893

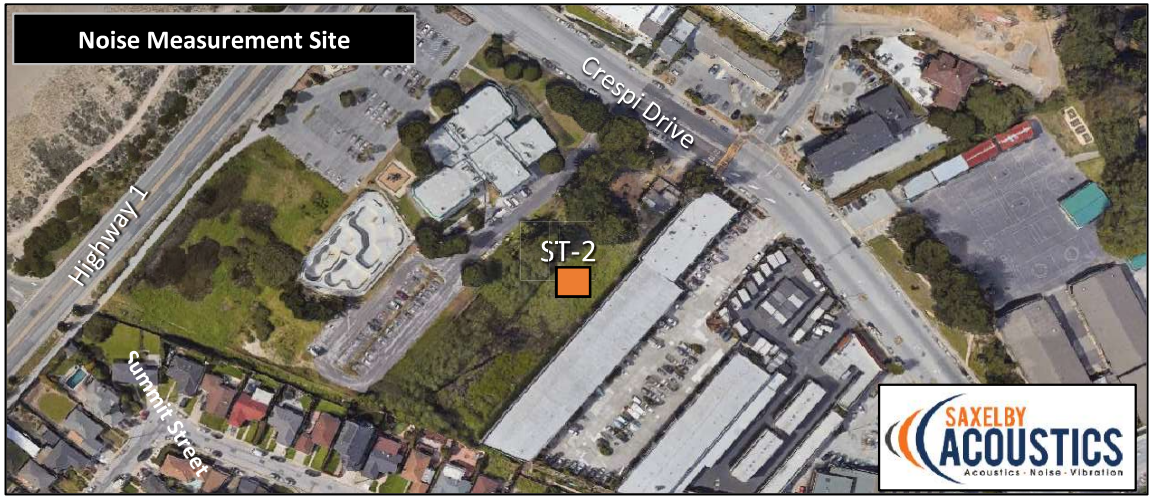
Measurement Results, dBA

Duration:	0:10
L_{eq}:	48
L_{max}:	58
L_{min}:	43
L_{50}:	47
L_{90}:	45

Notes

Highway 1 is primary noise source. Lmax caused by passing vehicle on Crespi Drive.





Appendix C: Traffic Noise Calculation Inputs and Results



Appendix C-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 200204
Description: 570 Crespi Drive IS - Existing
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Linda Mar Boulevard	East of Highway 1	15,440	78	0	22	1.0%	1.0%	25	50	0	102	47	22	64.6
2	Highway 1	North of Linda Mar Boulevard	24,620	78	0	22	1.0%	1.0%	45	100	0	315	146	68	67.5
3	Highway 1	North of Crespi Drive	29,740	78	0	22	1.0%	1.0%	45	60	0	357	166	77	71.6
4	Crespi Drive	East of Highway 1	7,080	78	0	22	1.0%	1.0%	25	55	0	61	28	13	60.6
5	Highway 1	South of Crespi Drive	24,960	78	0	22	1.0%	1.0%	45	110	0	318	148	68	66.9
6	Highway 1	North of Fassler Avenue	40,210	78	0	22	1.0%	1.0%	45	60	0	437	203	94	72.9
7	Fassler Avenue	East of Highway 1	11,500	78	0	22	1.0%	1.0%	25	65	0	84	39	18	61.6
8	Highway 1	North of Reina Del Mar Avenue	42,230	78	0	22	1.0%	1.0%	45	50	0	451	209	97	74.3

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Appendix C-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 200204
Description: 570 Crespi Drive IS - Existing Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Linda Mar Boulevard	East of Highway 1	15,510	78	0	22	1.0%	1.0%	25	50	0	102	47	22	64.7
2	Highway 1	North of Linda Mar Boulevard	24,710	78	0	22	1.0%	1.0%	45	100	0	316	147	68	67.5
3	Highway 1	North of Crespi Drive	29,830	78	0	22	1.0%	1.0%	45	60	0	358	166	77	71.6
4	Crespi Drive	East of Highway 1	7,080	78	0	22	1.0%	1.0%	25	55	0	61	28	13	60.6
5	Highway 1	South of Crespi Drive	25,050	78	0	22	1.0%	1.0%	45	110	0	319	148	69	66.9
6	Highway 1	North of Fassler Avenue	40,350	78	0	22	1.0%	1.0%	45	60	0	438	203	94	72.9
7	Fassler Avenue	East of Highway 1	11,650	78	0	22	1.0%	1.0%	25	65	0	84	39	18	61.7
8	Highway 1	North of Reina Del Mar Avenue	42,370	78	0	22	1.0%	1.0%	45	50	0	452	210	97	74.3

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Appendix C-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 191204
Description: 570 Crespi Drive IS - Background
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Linda Mar Boulevard	East of Highway 1	15,510	78	0	22	1.0%	1.0%	25	50	0	102	47	22	64.7
2	Highway 1	North of Linda Mar Boulevard	24,710	78	0	22	1.0%	1.0%	45	100	0	316	147	68	67.5
3	Highway 1	North of Crespi Drive	29,830	78	0	22	1.0%	1.0%	45	60	0	358	166	77	71.6
4	Crespi Drive	East of Highway 1	7,080	78	0	22	1.0%	1.0%	25	55	0	61	28	13	60.6
5	Highway 1	South of Crespi Drive	25,050	78	0	22	1.0%	1.0%	45	110	0	319	148	69	66.9
6	Highway 1	North of Fassler Avenue	40,350	78	0	22	1.0%	1.0%	45	60	0	438	203	94	72.9
7	Fassler Avenue	East of Highway 1	11,650	78	0	22	1.0%	1.0%	25	65	0	84	39	18	61.7
8	Highway 1	North of Reina Del Mar Avenue	42,370	78	0	22	1.0%	1.0%	45	50	0	452	210	97	74.3

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Appendix C-4

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 191204
Description: 570 Crespi Drive IS - Background Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Linda Mar Boulevard	East of Highway 1	15,510	78	0	22	1.0%	1.0%	25	50	0	102	47	22	64.7
2	Highway 1	North of Linda Mar Boulevard	24,710	78	0	22	1.0%	1.0%	45	100	0	316	147	68	67.5
3	Highway 1	North of Crespi Drive	29,830	78	0	22	1.0%	1.0%	45	60	0	358	166	77	71.6
4	Crespi Drive	East of Highway 1	7,080	78	0	22	1.0%	1.0%	25	55	0	61	28	13	60.6
5	Highway 1	South of Crespi Drive	25,050	78	0	22	1.0%	1.0%	45	110	0	319	148	69	66.9
6	Highway 1	North of Fassler Avenue	40,350	78	0	22	1.0%	1.0%	45	60	0	438	203	94	72.9
7	Fassler Avenue	East of Highway 1	11,650	78	0	22	1.0%	1.0%	25	65	0	84	39	18	61.7
8	Highway 1	North of Reina Del Mar Avenue	42,370	78	0	22	1.0%	1.0%	45	50	0	452	210	97	74.3

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Appendix C-5

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 200204
Description: 570 Crespi Drive IS - Cumulative
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Linda Mar Boulevard	East of Highway 1	15,990	78	0	22	1.0%	1.0%	25	50	0	104	48	22	64.8
2	Highway 1	North of Linda Mar Boulevard	25,140	78	0	22	1.0%	1.0%	45	100	0	319	148	69	67.6
3	Highway 1	North of Crespi Drive	30,210	78	0	22	1.0%	1.0%	45	60	0	361	168	78	71.7
4	Crespi Drive	East of Highway 1	7,130	78	0	22	1.0%	1.0%	25	55	0	61	28	13	60.7
5	Highway 1	South of Crespi Drive	25,480	78	0	22	1.0%	1.0%	45	110	0	322	150	69	67.0
6	Highway 1	North of Fassler Avenue	40,840	78	0	22	1.0%	1.0%	45	60	0	441	205	95	73.0
7	Fassler Avenue	East of Highway 1	11,760	78	0	22	1.0%	1.0%	25	65	0	85	39	18	61.7
8	Highway 1	North of Reina Del Mar Avenue	42,860	78	0	22	1.0%	1.0%	45	50	0	456	212	98	74.4

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Appendix C-6

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 200204
Description: 570 Crespi Drive IS - Cumulative Plus Project
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	Linda Mar Boulevard	East of Highway 1	16,010	78	0	22	1.0%	1.0%	25	50	0	104	48	22	64.8
2	Highway 1	North of Linda Mar Boulevard	25,160	78	0	22	1.0%	1.0%	45	100	0	320	148	69	67.6
3	Highway 1	North of Crespi Drive	30,270	78	0	22	1.0%	1.0%	45	60	0	361	168	78	71.7
4	Crespi Drive	East of Highway 1	7,210	78	0	22	1.0%	1.0%	25	55	0	61	28	13	60.7
5	Highway 1	South of Crespi Drive	25,500	78	0	22	1.0%	1.0%	45	110	0	322	150	69	67.0
6	Highway 1	North of Fassler Avenue	40,900	78	0	22	1.0%	1.0%	45	60	0	442	205	95	73.0
7	Fassler Avenue	East of Highway 1	11,760	78	0	22	1.0%	1.0%	25	65	0	85	39	18	61.7
8	Highway 1	North of Reina Del Mar Avenue	42,920	78	0	22	1.0%	1.0%	45	50	0	456	212	98	74.4

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