

REVISED DRAFT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Norumbega Drive Residence Project



LEAD AGENCY:

**City of Monrovia
Planning Division**
415 South Ivy Avenue
Monrovia, California 91016
Contact: Sheri Bermejo, Planning Division Manager
(626) 932-5539

PREPARED BY:

SWCA Environmental Consultants
320 N. Halstead Street, Suite 120
Pasadena, CA 91107
Contact: Bobbette Biddulph
(626) 240-0587

February 2024

SWCA Project No. 67447

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1.0 INTRODUCTION

The proposed Norumbega Drive Residence Project (project) is located on Norumbega Drive near the intersection of Norumbega Drive and Norumbega Road, Monrovia, California (Assessor's Parcel Number [APN] 8523-002-045). The project would construct one single-family residence on the 1.295-acre lot. The single-family residence would be a 3,758-square-foot, two-story dwelling with a 1,348-square-foot four-car garage and would include patios and retaining walls. The site would be landscaped, and utility improvements would be installed to serve the proposed residence. The project site is zoned Public/Quasi Public.

Following a preliminary review of the project, the City of Monrovia (City) determined the project is subject to the guidelines and regulations of the California Environmental Quality Act (CEQA). This Initial Study analyzes the potential direct, indirect, and cumulative environmental effects of the project.

1.1 CEQA Statutory Authority and Requirements

In accordance with Sections 15051 and 15367 of the California Code of Regulations (CCR), the City is identified as the Lead Agency for the project. Under CEQA (Public Resources Code [PRC] Section 21000-21177) and pursuant to Section 15063 of the CCR, the City is required to undertake the preparation of an Initial Study to determine if the project would have a significant environmental impact. If, as a result of the Initial Study, the Lead Agency finds that there is evidence that any aspect of the project may cause a significant environmental effect, the Lead Agency shall further find that an Environmental Impact Report (EIR) is warranted to analyze project-related and cumulative environmental impacts. Alternatively, if the Lead Agency finds that there is no evidence that the project, either as proposed or as modified to include the mitigation measures identified in the Initial Study, may cause a significant effect on the environment, the Lead Agency shall find that the project would not have a significant effect on the environment and shall prepare a Negative Declaration (or Mitigated Negative Declaration). Such determination can be made only if "there is no substantial evidence in light of the whole record before the Lead Agency" that such impacts may occur (PRC Section 21080[c]).

The environmental documentation, which is ultimately selected by the City in accordance with CEQA, is intended as an informational document undertaken to provide an environmental basis for considering discretionary actions necessary to approve or undertake the project. The resulting documentation is not, however, a policy document and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits and other discretionary approvals would be required.

1.2 Purpose

CEQA Guidelines Section 15063 identifies the following specific contents for inclusion in an Initial Study:

- A description of the project, including the location of the project;
- An identification of the environmental setting;



- An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
- A discussion of ways to mitigate significant effects identified, if any;
- An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls; and
- The name(s) of the person(s) who prepared or participated in the preparation of the Initial Study.

1.3 Consultation

Pursuant to CEQA Guidelines Section 15063(g), as soon as the Lead Agency (in this case, the City) has determined that an Initial Study would be required for the project, the Lead Agency is directed to consult informally with all Responsible Agencies and Trustee Agencies that are responsible for resources affected by the project, in order to obtain the recommendations of those agencies as to whether an EIR or Negative Declaration should be prepared for the project. Following receipt of any written comments from those agencies, the Lead Agency considers any recommendations of those agencies in the formulation of the preliminary findings. Following completion of this Initial Study, the Lead Agency initiates formal consultation with these and other governmental agencies as required under CEQA and its implementing guidelines.

1.4 Incorporation by Reference

The following documents were used during preparation of this Initial Study and are incorporated into this document by reference. These documents are available for review at the City of Monrovia Community Development Department, 415 South Ivy Avenue, Monrovia, California, 91016.

- **Monrovia General Plan (February 2020).** The Monrovia General Plan (General Plan), updated February 2020, is a long-range planning document that guides decisions related to land use. The General Plan includes the following seven elements: Land Use, Circulation, Housing, Safety, Noise, Open Space, and Conservation.
- **Monrovia General Plan Proposed Land Use and Circulation Elements Environmental Impact Report (January 2008).** The Monrovia General Plan Proposed Land Use and Circulation Elements Environmental Impact Report (State Clearinghouse Number [SCH No.] 2007021135) (LUC EIR) evaluates the environmental effects associated with the adoption and implementation of the proposed Land Use and Circulation Elements initiated by the City.
- **Monrovia Municipal Code.** The Monrovia Municipal Code (Municipal Code), Codified through Ordinance 2013-15 Section 2, 2003, consists of codes and ordinances adopted by the City. These include standards intended to regulate land use, development, health and sanitation, water quality, public facilities, and public safety. Title 17, Zoning (Zoning Ordinance), includes an official land use plan for the City and is adopted and established to serve the public health, safety, and general welfare and to provide the economic and social advantages resulting from an orderly planned use of land resources.



2.0 PROJECT DESCRIPTION

2.1 Project Location and Setting

PROJECT LOCATION

The Norumbega Drive Residence Project site is located on Norumbega Drive, approximately across the street from 554 Norumbega Drive, Monrovia, California (Assessor's Parcel Number [APN] 8523-002-045); refer to Figure 2-1, Regional Vicinity. Regionally, the site is located approximately 1.9 miles north of Interstate (I-) 210, and approximately 2.7 miles northwest of the junction with I-605. Locally, the site is located on the north side of the street, approximately 530 feet northeast of the intersection with Norumbega Road; refer to Figure 2-2, Site Vicinity.

EXISTING CONDITIONS

The project site is entirely within the City of Monrovia. The project site is at the western end of Norumbega Drive, across the street from 554 Norumbega Drive and approximately 330 feet northeast of the junction with Norumbega Road. The project site is a 1.295-acre undeveloped parcel, with disturbed chaparral and coastal sage scrub as well as oak woodlands. The project area boundaries are depicted in Figure 2-3, Proposed Site and Grading Plan.

The project site and immediate surroundings include steep hillsides. The project site varies from approximately 823 feet above mean sea level (amsl) at Norumbega Drive to 978 feet amsl at the northwestern corner, which is its highest point. The property slopes steeply toward Norumbega Drive, which in turn slopes toward the Sawpit Wash and continues south as Norumbega Drive.

In the vicinity of the project site, the southwest, south, and east sides of the parcel are developed with one-, two-, and three-story single-family homes. Open space, including a steep hillside, exists immediately north of the project site. Approximately 380 feet northwest of the project site are the Sawpit Spreading Grounds, which are used to divert water from the Sawpit Reservoir and Sawpit Debris Basin for groundwater recharge.¹ Undeveloped hillsides leading up to the San Gabriel Mountains are north and east of the project site. The Angeles National Forest is 0.75 mile east and 0.92 mile northwest at its closest points. Municipal development, primarily residential, exists to the south and west. Sawpit Wash is approximately 350 feet southwest of the project site.

¹ Los Angeles County Department of Public Works. 2021. Spreading Grounds: Sawpit Spreading Ground. Available at: <https://ladpw.org/wrd/spreadingGround/information/facdept.cfm?facinit=2>. Accessed July 13, 2021.



Norumbega Drive Residence Project
 Revised Draft Initial Study/Mitigated Negative Declaration

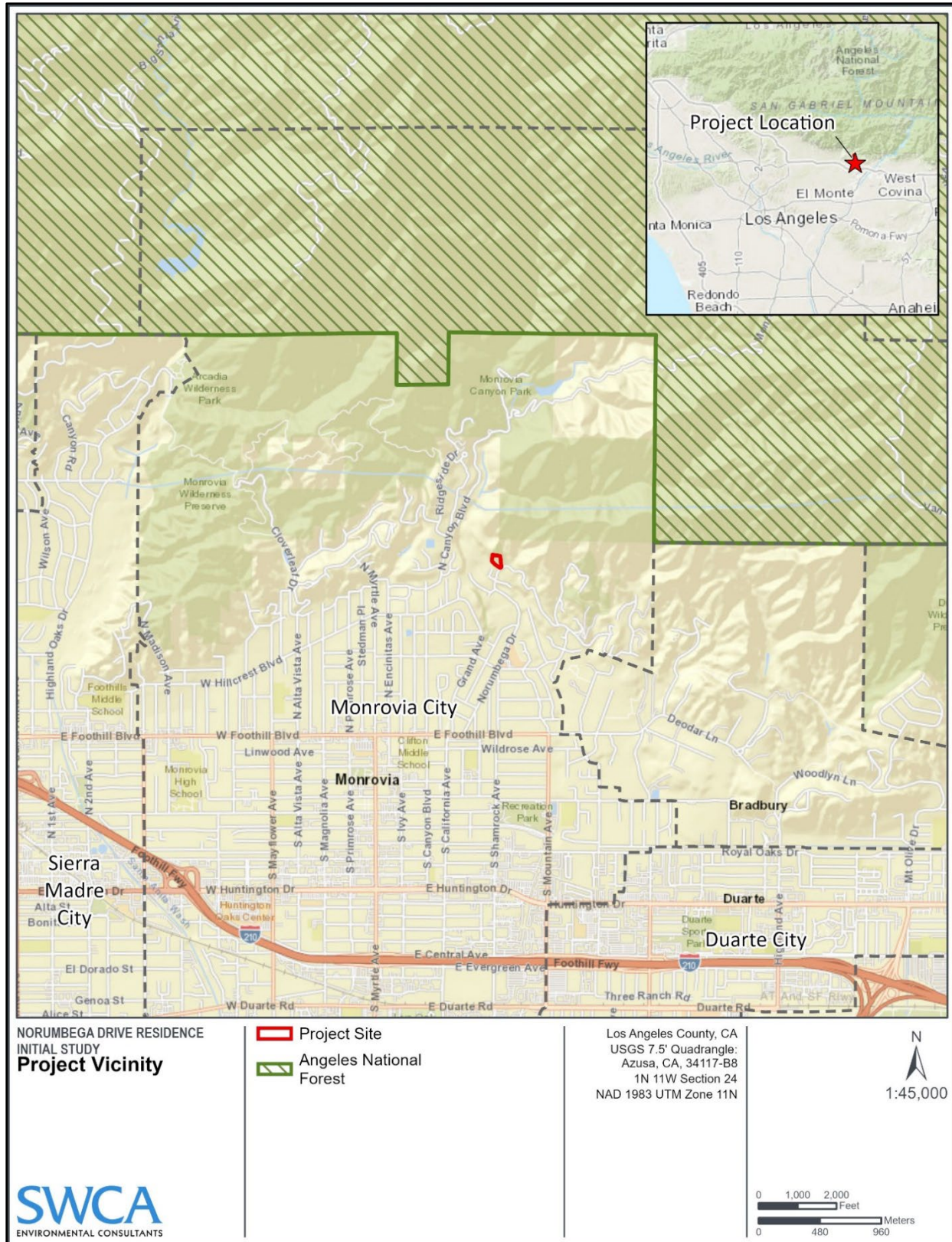


Figure 2-1 Regional Vicinity



Figure 2-2 Site Vicinity



Surrounding uses primarily consist of residential and open space or vacant land. Table 2-1 further describes the adjacent development.

**Table 2-1
Surrounding Land Uses**

Direction	General Plan Designation	Zoning	Existing Uses
North	Public/Quasi Public	P/QP	Vacant – City owned
East	Residential Foothill	RF	Single-family residences
South	Residential-Low Density and Residential Foothill	RL, RF	Single-family residences
West	Public/Quasi Public	P/QP	Sawpit Spreading Grounds- LA County Flood Control owned

Notes: P/QP = Public/Quasi Public; RF = Residential Foothill; RL = Residential - Low density

EXISTING GENERAL PLAN LAND USE AND ZONING

Per the General Plan Land Use Map, the project site is designated Public/Quasi Public (P/QP). Properties designated Public/Quasi Public are intended for “all public uses such as schools, and government offices and facilities, as well as quasi-governmental offices and facilities such as those for the telephone company and other utilities.” Per the City of Monrovia Zoning Ordinance, single-family residential development is not a permitted use or a conditional use. Per the City of Monrovia Zoning Map, the project site is zoned P/QP. The project would require a General Plan Amendment and rezoning of the site to Residential Foothill.

2.2 Project Characteristics

The project would rezone the existing lot from Public/Quasi Public to Residential Foothill (RF) and construct one single-family residence on Norumbega Drive. The two-story residence would be 3,758 square feet of livable space. As well, a four-car garage on the lowest level would add an additional 1,348 square feet. The lot is 56,410 square feet (1.295 acres). The lot is a wedge-shape and the narrowest part, which fronts the street, is just over 38 feet in width. The project design plans are shown in Figure 2-3, Proposed Site and Grading Plan, and Figure 2-4, Proposed Building Renderings and Section, and are included in Appendix A.² All utilities are available in Norumbega Drive and would be extended to the new residence.

Since the project would require a zoning change to Residential Foothill, the following analysis uses the design requirements for the RF zoning designation. According to the design plans submitted to the City by the Project Sponsor, Group Atom Development, the project proposes one retaining wall with wrought-iron fencing on top to be constructed in excess of the maximum height allowed; refer to Table 4-11, Project Consistency with Residential Foothill (RF) Zone. The Project Sponsor is requesting a Minor Exception to allow the retaining wall with wrought-iron fencing on top on the west side of the property to be 10 feet in height, more than the 6-foot maximum height allowed under Zoning Ordinance Section 17.12.040. In addition to this Minor Exception request, the approval of a Neighborhood Compatibility Design Review (Level 6) is required. This review would be incorporated into the project’s approval process as listed in Section 2.3, with reviews from the Development Review Committee, Planning Commission, and City Council. The proposed

² Herrera, G. 2023. New Residence. Norumbega Rd. Monrovia CA, 91016. Site Plan. A+G Concepts. Glendora, CA.



residence would meet all other requirements of the City's Zoning Ordinance for residential foothill lots as described below (see Figure 2-3, Proposed Site and Grading Plan):

- **Height.** The maximum allowable building height on a lot in the Residential Foothill zoning designation is 27 feet above finished grade for lots less than 75 feet in width. The maximum height of the proposed dwelling would be 25 feet 6 inches above finished grade.
- **Setbacks.** Under the City's Zoning Ordinance, a Residential Foothill lot must have a front setback of 25 feet for the main residence. The first-story side setbacks must be 10 percent (%) of lot width, with a minimum of 5 feet and maximum of 15 feet; second-floor side setbacks must be 15 feet. Rear setbacks are 25% of the lot depth and a minimum of 20 feet; for this lot the estimated required setback is approximately 98 feet. The project has a front setback of 25 feet, a rear setback of more than 310 feet, first-floor side setbacks of 6 feet, and second-floor side setbacks of 15 feet.
- **Floor Area Ratio (FAR).** The City's Zoning Ordinance requires the main dwelling to have a maximum FAR based on the following calculation: 35% of the net lot area for the first 20,000 square feet, plus an additional 10% of the remaining net lot area. This FAR calculation results in an allowable floor area of 10,641 square feet. The FAR of the residence, including the garage, would be 5,106 square feet.
- **Access and Parking.** The proposed driveway would be directly connected to Norumbega Drive. The Zoning Ordinance for a residential hillside lot requires a two-car garage. The proposed residence would include a four-car garage.

The project would also meet all requirements of the Monrovia Fire and Rescue regarding fire hazard. Monrovia Fire and Rescue has reviewed the plans and approved them with the following notations:

1. Structure shall be fire sprinklered per California Residential Code (CRC) 313 and Monrovia Municipal Code amendments.
2. Structure is located in the Wildland-Urban Interface and shall comply with CRC 337 requirements.
3. A vegetation management plan in compliance with California Fire Safe Council 4906 and the Monrovia Municipal Code shall be provided with architectural submittal.

The Monrovia Fire and Rescue comment letter is included as Appendix B.

CONSTRUCTION

Construction and Grading. The one single-family residence would be expected to take approximately 16 months to construct. Construction would require extensive grading, to a depth of up to 11 feet, and would result in approximately 576 cubic yards of cut and 266 cubic yards of fill. Approximately 252 cubic yards of soil would be exported from the site. The grading plan is shown in Figure 2-3, Proposed Site and Grading Plan.

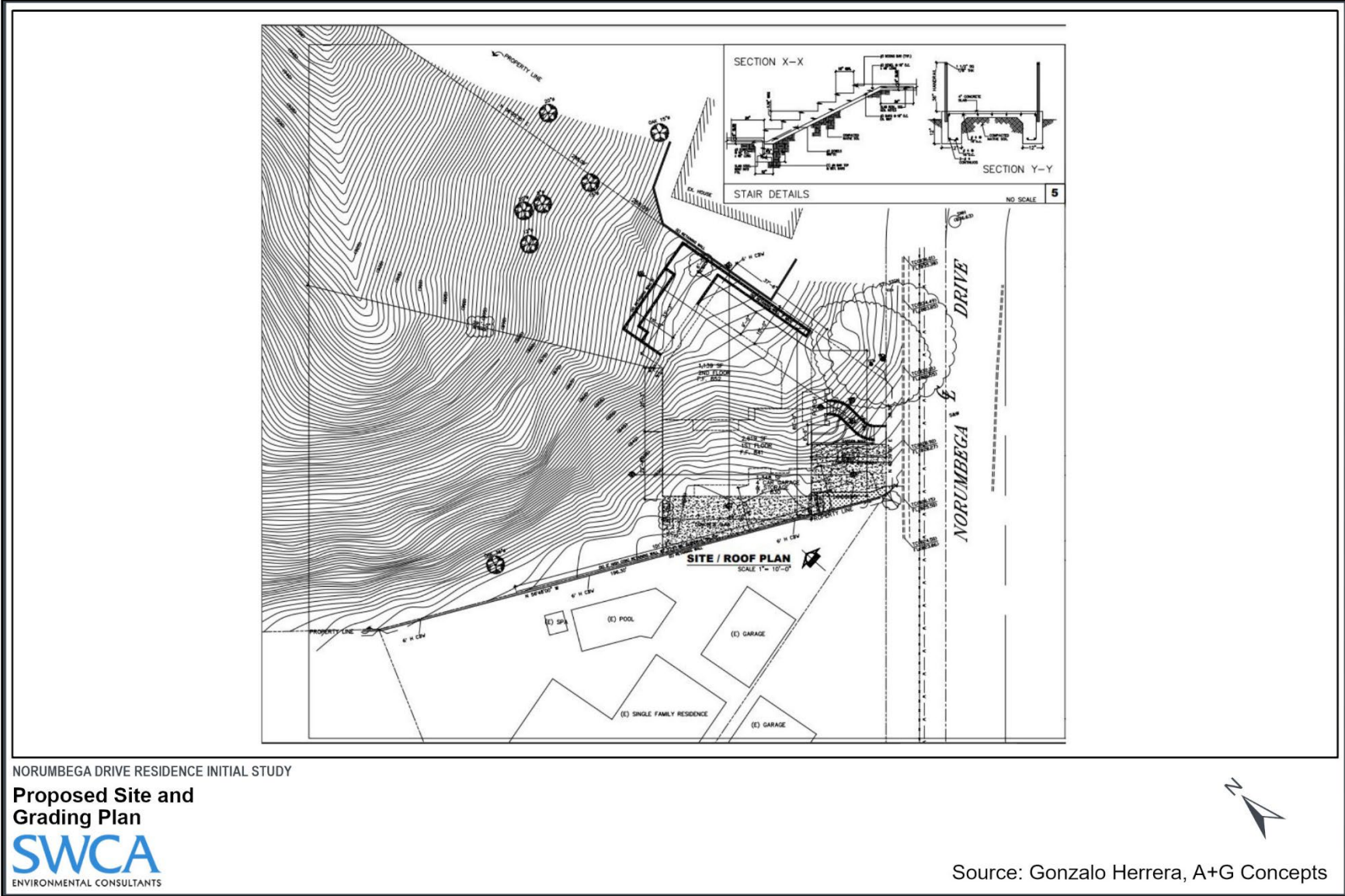


Figure 2-3 Proposed Site and Grading Plan



Figure 2-4 Proposed Building Renderings and Section



Construction equipment would include, but is not limited to, half-ton truck, forklift, grader, rubber-tired dozer, crane, backhoe, cement truck, 10-cubic-yard dump/haul truck, a semi-truck flatbed, site delivery truck, paver, water truck, welder, and air compressor, as well as power tools. Construction traffic would access the site from I-210, East Foothill Boulevard, and Norumbega Drive, via South Mountain Avenue.

Construction would start after September 15, 2024 and be expected to last approximately 16 months. Construction would occur Monday through Friday, from 7:00 a.m. to 7:00 p.m. and Saturdays (and holidays, from 9:00 a.m. to 6:00 p.m. as permitted by the Municipal Code (Monrovia Municipal Code Section 9.44.080)(F)).

UTILITIES

Utilities would be supplied to the project as follows:

- **Water:** There is an existing water line in Norumbega Drive that would serve the project. The project would run water laterals for domestic water and fire flow from the existing water line to the residence. The project would require a will serve letter from the City Department of Public Works Water Department.
- **Sewer:** There is an existing sewer line in Norumbega Drive that would serve the project. The project would run a sewer lateral from the existing sewer line to the residence. The project would require a will serve letter from the City Department of Public Works.
- **Landscape Irrigation Requirements:** The City has adopted the State of California's Model Water Efficient Landscape Ordinance (MWELo).³ All new irrigation for landscaping will be required to comply with the State's Water Efficiency Landscape Ordinance (Ordinance 2016-01). The project will be required to provide a complete Landscape Ordinance Documentation Package including the items listed in Section 492.3 of the Ordinance.
- **Stormwater Management:** Stormwater in the project area flows southwest on Norumbega Drive and drains to Sawpit Wash via a storm drain. No impervious surfaces currently exist within the project site. The project would result in an increase of impervious surface compared to existing conditions of approximately 3,900 square feet. The City would need to approve the landscaping and stormwater retention plan.
- **Electricity and Gas:** Existing utilities include an overhead electrical line on the north side of Norumbega Drive and an existing natural gas line in Norumbega Drive. Natural gas and electricity access has not been defined to date. All connections would be through underground service connections. Existing infrastructure exists in the Norumbega Drive right-of-way. Southern California Edison and SoCal Gas would need to approve the location and engineering details of electrical and gas extensions, respectively, to supply the project. As required by the adopted 2022 Green Building Code, a solar system is required for the residence.⁴

³ California Department of Water Resources. 2015. Model Water Efficient Landscape Ordinance. Title 23 CCR 2.7. Available at: <https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=I55B69DB0D45A11DEA95CA4428EC25FA0&originationContext=documenttoc&transitionType=Default&contextData=%28sc.Default%29>. Accessed July 15, 2021.

⁴ California Building Standards Commission. 2022. *2022 California Green Building Standards Code. Cal Green. California Code of Regulations Title 24, Part 11*. CALGreen. Available at: <https://codes.iccsafe.org/content/CAGBC2022P3/california-code-of-regulations-title-24>. Accessed February 1, 2021.



PROJECT SITE HABITAT AND PROPOSED LANDSCAPING

The project site is covered by disturbed chaparral/coastal sage scrub, 0.17 acre of oak woodland, and one isolated coast live oak (*Quercus agrifolia*) (see below discussion for a more detailed description of existing conditions and the proposed project in relation to the individual oak trees).

The project would comply with the California Department of Water Resources (DWR) MWELO and would be required to submit a landscape plan to the City for approval.⁵ The landscape submittal would include the following:

- water efficient landscape worksheet;
- hydrozone information table;
- water budget calculations;
- soil management report; and
- irrigation design plan.

The project would also be required to comply with the Monrovia Fire and Rescue landscaping requirements for fire-safe landscaping in the Wildland-Urban Interface (WUI) and Very High Fire Hazard Severity Zone (VHFHSZ) and would need to receive approval from the Monrovia Fire and Rescue. The landscaping plan would:

- retain all existing native oak trees;
- include water-efficient and native species;
- include fire-resistant plants that meet the requirements of the Monrovia Fire and Rescue;⁶
- exclude invasive exotic plants; and
- include adequate irrigation to maintain a healthy landscape.

EXISTING OAK TREES AND EFFECTS OF PROPOSED PROJECT

A revised and final arborist report published on June 25, 2023⁷ provides an assessment of the existing conditions related to the oak trees on the project site as well as the oak trees that are off-property (OP) but are in close proximity of the project site. The tree survey area was the project parcel and immediate surrounding areas within 50-feet. A 50-foot buffer area was determined to be appropriate to ensure that OP impacts were properly addressed. The survey included a basic visual assessment of each tree and was limited to ground level visual observations. The influence of adjacent trees and other factors affecting the growth of a subject tree, such as wires, cables, or nesting holes, were also taken into consideration when assessing tree condition. A summary of the tree survey results is provided in Table 2-2 and Figure 2-5, which shows the location of all the trees including Oak 3 that was removed (marked with an X). Oak 3 was removed in 2020

⁵ California Department of Water Resources (DWR). 2015. *Model Water Efficient Landscape Ordinance*. Available at: <https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Model-Water-Efficient-Landscape-Ordinance>. Accessed July 15, 2021.

⁶ Los Angeles County Department of Public Works. 2003. *Smart Gardening information Sheet. Fire-Wise Gardening*. Available at: https://dpw.lacounty.gov/epd/sg/tech_sheets/fwg_info.pdf. Accessed September 16, 2021.

⁷ Rebecca Latta Arboricultural Consulting. 2023. REVISED – Arborist Report, Norumbega Drive (APN: 8523-002-045). Glendora, CA. June 25.



because it had died. Rebecca Latta Consulting (the Certified Arborist that has been managing the tree assessment and conditions on-site) was notified in July 2020 of the death of this tree. An inspection was performed by Rebecca Latta Consulting, and it was determined that the tree died from Invasive Shot Hole Borer Disease Complex (ISHB). A tree removal permit from the City of Monrovia was approved and Oak 3 was removed to avoid breeding more ISHB on the property. For this reason, Oak 3 is not reflected in Table 2-2.

**Table 2-2
Summary of Oak Tree Survey Results and Impacts**

Protected Oak Tree Effects	On-property Oak Trees	Total Number of On-property Oak Trees	Off-property Oak Trees	Total Number of Off-property Oak Trees	Total Number of Oak Trees Assessed
Protected Oak Trees (no impacts)	Oak 4 Oak 6 Oak 7 Oak 8	4	Oak OP-1 Oak OP-2 Oak OP-5	3	7
Protected Oak Trees (impacts)	--	0	--	0	0
Total		0		0	0

Notes:

OP = Off-property. Denotes oak trees that are not located within the property boundary but are in close enough proximity to the proposed construction that an impact assessment considering root damage and other potential impacts was conducted.

In July 2020, Rebecca Latta Consulting was notified that that Oak 3 had died. An inspection was performed, and it was determined that the tree died from ISHB. A tree removal permit from the City of Monrovia was approved and Oak 3 was removed to avoid breeding more ISHB on the property. Figure 2-5 shows the location of all the trees, including Oak 3 that was removed (marked with an X).



Figure 2-5 Oak Trees on the Project Site



A total of seven coast live oaks are within the study area considered in the arborist report, which includes a 50-foot buffer around the project site. Four of these trees are located on the property and the other three are located on adjacent properties (i.e., within the 50-foot study area buffer). All seven of these trees are protected by the Monrovia Tree Preservation Ordinance. Figure 2-5 shows the location of all the trees, including Oak 3, which was removed in 2020 (marked with an X). Oaks 4, 6, 7 and 8 are located well away from any construction and away from any construction related impacts. Impacts are outside the dripline of Oaks OP-1 and OP-2. The project would not remove any oak trees.

2.3 Project Approvals and Permitting Agencies

The Initial Study/Mitigated Negative Declaration (IS/MND) is intended to provide environmental review for full implementation of the project, including all discretionary actions and ministerial permits associated with it. The list of permits and approvals herein does not limit the applicability of the IS/MND to other permits or approvals that may be required because the IS/MND has analyzed the full scope of potential environmental impacts that could be associated with the project. The City is the Lead Agency with approval authority over the project.

The following City approvals and permits are required for the project:

- General Plan Amendment from Public/Quasi Public to Residential Foothill
- Zone Change from Public/Quasi Public to Residential Foothill
- Minor Exception (to exceed wall heights on southwest side)
- Advisory Review from the Development Review Committee
- Hillside Development Permit
- Neighborhood Compatibility Design Review (Level 6)



3.0 ENVIRONMENTAL CHECKLIST

3.1 Background

1.	Project Title: Norumbega Drive Residence Project
2.	Lead Agency Name and Address: City of Monrovia Planning Division 415 South Ivy Avenue Monrovia, CA 91016
3.	Contact Person and Telephone Number: Sheri Bermejo, Planning Division Manager (626) 932-5539
4.	Project Location: The Norumbega Drive Residence Project (project) site is located on Norumbega Drive, near the intersection of Norumbega Drive and Norumbega Road, Monrovia, California (Assessor's Parcel Number [APN] 8523-002-045); refer to Figure 2-1, Regional Vicinity. Regionally, the site is located approximately 1.9 miles north of Interstate 210 (I-210), and approximately 2.7 miles northwest of the junction with I-605. Locally, the site is located on the north side of the street, approximately 330 feet northeast of the intersection with Norumbega Road; refer to Figure 2-2, Site Vicinity.
5.	Project Sponsor's Name and Address: Mr. Miguel Uribe Group Atom Development 802 South Ditman Avenue Los Angeles, California 90023
6.	General Plan Designation: Based on the General Plan Land Use Map, the project site is designated Public/Quasi Public.
7.	Zoning: The project site is zoned Public/Quasi Public (P/QP).
8.	Description of the Project: The project would rezone one lot from Public/Quasi Public to Residential Foothill, and construct one single-family residence on the 1.295-acre lot. This would require a General Plan Amendment and zone change. The single-family residence would be a 3,758-square-foot, two-story dwelling with a 1,348-square-foot four-car garage and would include patios and retaining walls. The site would be landscaped, and utility improvements would be installed to serve the proposed residence. Refer to Section 2.0, Project Description.
9.	Environmental Setting: Refer to Section 2.1, Project Location and Setting
10.	Public Agency Approvals and Recommendations: The Initial Study/Mitigated Negative Declaration (IS/MND) is intended to provide environmental review for full implementation of the project, including all discretionary actions associated with it. The list of approvals herein does not limit the applicability of the IS/MND to other permits or approvals that may be required because the IS/MND has analyzed the full scope of potential environmental impacts that could be associated with the project. The City is the Lead Agency with approval authority over the project.



11. California Native American Tribal Consultation: In compliance with Assembly Bill (AB) 52, the City distributed letters notifying Tribes of the opportunity to consult regarding the project. Refer to Section 4.5, Cultural Resources, and Section 4.18, Tribal Cultural Resources.

3.2 Environmental Factors Potentially Affected

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

Aesthetics (Section 4.1)	Mineral Resources Section (4.12)
Agriculture and Forestry Resources (Section 4.2)	Noise (Section 4.13)
Air Quality (Section 4.3)	Population and Housing (Section 4.14)
Biological Resources (Section 4.4)	Public Services (Section 4.15)
Cultural Resources (Section 4.5)	Recreation (Section 4.16)
Energy (Section 4.6)	Transportation (Section 4.17)
Geology and Soils (Section 4.7)	Tribal Cultural Resources (Section 4.18)
Greenhouse Gas Emissions (Section 4.8)	Utilities and Service Systems (Section 4.19)
Hazards and Hazardous Materials (Section 4.9)	Wildfire (Section 4.20)
Hydrology and Water Quality (Section 4.10)	Mandatory Findings of Significance (Section 4.21)
Land Use and Planning (Section 4.11)	



3.3 Evaluation of Environmental Impacts

This section analyzes the potential environmental impacts associated with the project. The environmental factors evaluated in this Initial Study include:

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

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines and used by the City in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the development's impacts and to identify mitigation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- No Impact. The project will not have any measurable impact on the environment.
- Less Than Significant Impact. The project has the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.
- Less Than Significant Impact With Mitigation Incorporated. The project has the potential to generate impacts which may be considered as a significant effect on the environment, although mitigation measures or changes to the project's physical or operational characteristics can reduce these impacts to levels that are less than significant.
- Potentially Significant Impact. The project has impacts which are considered significant, and additional analysis is required to identify mitigation measures that could reduce these impacts to less than significant levels.

Where potential impacts are anticipated to be significant, mitigation measures are required, so that impacts may be avoided or reduced to the maximum extent feasible.



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4.0 ENVIRONMENTAL ANALYSIS

The following is a discussion of potential project impacts as identified in the Initial Study/Environmental Checklist. Explanations are provided for each item.

4.1 Aesthetics

<i>Except as provided in Public Resources Code Section 21099, would the project:</i>	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?			✓	

a. Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. A scenic vista generally provides focal views of objects, settings, or features of visual interest, or panoramic views of large geographic areas of scenic quality, from a fixed vantage point or linear corridor such as a roadway or trail. A significant impact would occur if a project introduced incompatible scenic elements within a field of view containing a scenic vista or substantially block views of an existing scenic vista.

Visual resources identified in the General Plan include the San Gabriel Mountains, located approximately 2 miles north of the City. Municipal Code Section 17.12.010 provides development standards for view preservation in hillside areas (specifically identified as the Residential Foothill Zone) where views are more pronounced due to topography. According to the Municipal Code, “sensitive areas” in the viewshed are those which are higher in elevation and visually exposed to the city-at-large and could potentially impact existing city-at-large viewsheds. Proposed dwelling units designated as “sensitive” shall be set back from the top of the slope a distance determined by the line-of-sight analysis in addition to the required setbacks.



The project is located northeast of the City center in the foothills of the San Gabriel Mountains and within the Residential Foothill Zone. It is surrounded by one- and two-story homes to the south, and a three-story home to the east. It is designed to occupy the lowest part of the project site adjacent to Norumbega Drive. The proposed structure would be two stories with an underlying garage/basement (up to 25 feet 6 inches in height), similar to the existing two-story residences on Norumbega Drive.

Views of the San Gabriel Mountains exist in the City, particularly along north-south-oriented roadways just north of I-210. Although the project is situated within the viewshed of these scenic corridors, the project would be constructed on the lowest part of the project site and views of the project from other parts of the City would be obscured by hilly topography and vegetation. Project implementation would not result in any substantial increases in view blockage of the San Gabriel Mountains and would not create a substantial adverse effect on a scenic vista. Therefore, this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

b. Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. There are no designated or eligible State scenic highways located near the project site or within the vicinity.⁸ The nearest designated, or eligible for designation, State scenic highway is State Route 39 (SR-39), located approximately 4.5 miles east of the project site. Therefore, no impact would occur.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact. The project site is surrounded by urbanized uses to the south, east, and west, and open space to the north. The following discussion analyzes the project's potential to conflict with applicable zoning and other regulations governing scenic quality.

Aesthetics of the Project

The project site is located within a developed residential neighborhood and is currently a vacant lot. There are residences to the east, Norumbega Drive and residences to south and east, residences and the Sawpit Spreading Basin to the west and northwest, and open space to the north. The project proposes one single-family residence on the lot.

The proposed residence would be located in the southeastern portion of the site adjacent to Norumbega Drive. The project site has a significant change in elevation, from approximately 823 feet amsl at Norumbega Drive to 978 feet amsl at the highest point. The project is

⁸ California Department of Transportation. 2021. California State Scenic Highway System Map. Available at: <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>. Accessed January 26, 2021.



designed to sit on the lowest portion of the site and would extend to a maximum height of 25 feet 6 inches above finished grade; refer to Figure 2-4, Proposed Building Renderings and Section, and Appendix A, Design Plans. Due to the hilly nature of the landscape and intervening trees and vegetation, the project would not be located in a “sensitive area” as defined by the City’s Zoning Ordinance and would not be visually exposed to the city-at-large; see Figure 2-3, Proposed Site Plan.⁹ The project design plans would adhere to all requirements of the City’s Zoning Ordinance with one exception: the retaining wall with wrought-iron fencing on top on the west side of the property to be 10 feet in height, in excess of the 6-foot maximum height allowed under Zoning Ordinance Section 17.12.040. In addition to this Minor Exception request, the approval of a Neighborhood Compatibility Design Review (Level 6) is required. This review would be incorporated into the project’s approval process as listed in Section 2.3, with reviews from the Development Review Committee, Planning Commission, and City Council.

As discussed in Section 2.2, Project Characteristics, Landscaping, the project would not remove any of the existing oak trees and would require submittal of a landscape design plan that meets the requirements of the DWR MWELo to the City for review and approval.

Consistency with Applicable Zoning and Other Regulations Governing Scenic Quality

The existing hillside character of the project site and surrounding area include residential hillside properties adjacent to open space and public/quasi-public uses. Table 4-1, General Plan Policies Governing Scenic Quality, analyzes the project’s consistency with applicable goals and policies in the General Plan Land Use and Open Space Elements that relate to scenic quality. Refer to Section 4.11, Land Use and Planning, for a discussion concerning the project’s consistency with other applicable General Plan goals and policies. As analyzed in Table 4-1, the project would be consistent with those General Plan goals and policies pertaining to scenic quality.

**Table 4-1
General Plan Policies Governing Scenic Quality**

Applicable General Plan Policies	Project Consistency Analysis
GOAL 4: Promote land use patterns and development which contribute to community and neighborhood identity.	
Policy 4.1. Require new developments in established neighborhoods to consider the established architectural styles, development patterns, building materials, and scale of buildings within the vicinity of the proposed project.	<u>Consistent.</u> As detailed in Section 2.2, the proposed residence would have a maximum height of 25 feet 6 inches and would be designed to comply with the Hillside Residential Zoning Designation; refer to Figure 2-4, Proposed Building Renderings and Section. The project is required to undergo advisory review from the Development Review Committee. As well as a Neighborhood Compatibility Design Review (Level 6).

⁹ Code Section 17.12.010.E.9. "Sensitive" areas are those which are higher in elevation and visually exposed to the city-at-large and could potentially impact existing city-at-large viewsheds. Proposed dwelling units designated as "sensitive" shall be set back from the top of the slope a distance determined by the line-of-sight analysis in addition to the required setbacks. The line of sight analysis is not designed to completely screen or eliminate the view of the dwelling units in sensitive areas. However, it is designed to minimize the visual impact of building lines using increased setback, berming, landscaping, and building design.



Applicable General Plan Policies	Project Consistency Analysis
GOAL 9: Preserve the character of existing neighborhoods and historic residences.	
<u>Policy 9.3.</u> Continue to monitor development standards in single-family and multifamily residential districts, including setbacks, height, density, and required open space, in order to ensure that new development is compatible with the scale and character of existing development.	<u>Consistent.</u> As stated under Policy 4.1, above, the project is required to undergo advisory review from the Development Review Committee as well as a Neighborhood Compatibility Design Review (Level 6) and obtain design review approval from the City, which would ensure that the project design is compatible with existing development.
GOAL 10: Ensure that new development is sensitive to the City's natural and open space resources and constraints.	
<u>Policy 10.1.</u> Adhere to the Hillside Development Policies and Standards designed to regulate development in the foothills so as to maximize preservation of open space and ridgelines and minimize disruption of plant and animal life.	<u>Consistent.</u> The project would construct one single-family residence on an existing road. The residence would be constructed on the lowest part of the site and would retain all the existing oaks on the property. The project would be required to submit a landscape design plan that meets the requirements of the DWR Model Water Efficient Landscape Ordinance to the City for review and approval. Refer to Section 4.1, Aesthetics, for a discussion on the project's consistency with landscaping requirements.
<u>Policy 10.8.</u> Develop landscape guidelines to preserve existing trees and maximize new tree planting in new developments.	<u>Consistent.</u> The project has submitted an arborist report and would retain all the existing oaks on the property. In addition, the project would be required to submit a landscape design plan that meets the requirements of both the Monrovia Fire and Rescue and the DWR Model Water Efficient Landscape Ordinance to the City for review and approval. Refer to Section 4.4, Biological Resources, for a discussion of oak tree retention and mitigation measures.
<u>Policy 10.9.</u> Require water efficient landscaping in regard to plant selection and irrigation.	<u>Consistent.</u> The project has submitted an arborist report and would retain all the existing oaks on the property. In addition, the project would be required to submit a landscape design plan that meets the requirements of both the Monrovia Fire and Rescue and the DWR Model Water Efficient Landscape Ordinance to the City for review and approval. Refer to Section 4.1, Aesthetics, for a discussion on the project's consistency with landscaping requirements.
<u>Policy 10.13.</u> Continue to implement the Oak Tree Preservation Ordinance.	<u>Consistent.</u> The project has submitted an arborist report and would retain all the existing oaks on the property. See Section 4.4.e Biological Resources, for a discussion of oak tree retention and required mitigation measures. Adherence to the required Mitigation Measures BIO-7 and BIO-8 as well as Standard Conditions SC BIO-7 through SC BIO-11 would ensure the project is in compliance with the Oak Tree Preservation Ordinance as well as would provide additional protection measures.



Applicable General Plan Policies	Project Consistency Analysis
<p>GOAL 11: The City of Monrovia shall provide its residents with a high-quality urban environment through the development and conservation of resources such as land, water, minerals, wildlife, and vegetation.</p>	
<p><u>Policy 11.7.</u> Comply with the National Pollutant Discharge Elimination System regarding stormwater management to reduce impacts from stormwater run-off.</p>	<p><u>Consistent.</u> The project would construct one single-family residence on an existing road and would be required to obtain approval of a stormwater retention plan that meets City requirements. The residence would be constructed on the lowest part of the site and would retain all the existing oaks on the property. The project would be required to submit a landscape design plan that meets the requirements of the DWR Model Water Efficient Landscape Ordinance to the City for review and approval.</p> <p>Refer to Section 4.1, Aesthetics, for a discussion on the project's consistency with landscaping requirements.</p>

Source: City of Monrovia. 2020. *City of Monrovia General Plan*. Updated February. Available at: <https://www.cityofmonrovia.org/your-government/community-development/planning/general-plan>. Accessed July 20, 2021.

In conclusion, the project would not conflict with applicable policies or regulations governing scenic quality and this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. The single-family residence would include interior and exterior lighting that would create an additional source of illumination in the area. Vehicle headlights traveling to and from the residence would also illuminate the area. However, this increase would not be substantial because the project area is in an urban/suburban area to the south and west that is already illuminated from nearby residential uses at night. Section 17.32.080 of the Monrovia Municipal Code requires lighting be arranged to reflect away from adjoining property or any public way and be arranged so as not to cause a nuisance. The project would adhere to the Municipal Code; therefore, the project's lighting levels would be compatible with surrounding uses and lighting impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.



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4.2 Agriculture and Forestry Resources

<p><i>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</i></p>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>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?</p>				✓
<p>b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?</p>				✓
<p>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))?</p>				✓
<p>d. Result in the loss of forest land or conversion of forest land to non-forest use?</p>				✓
<p>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?</p>				✓

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?

No Impact. A significant impact may occur if a project were to result in the conversion of State-designated agricultural land from agricultural use to another non-agricultural use.



The California Department of Conservation (CDOC), Division of Land Protection, lists Prime Farmland, Unique Farmland, and Farmland of Statewide Importance under the general category of “Important Farmland” in California.

The project site is 1.295 acres zoned as Public/Quasi Public. The project would require a General Plan Amendment and rezoning of the site to Residential Foothill. The project site is surrounded by single-family homes in an urban/suburban location to the south and west, the Sawpit Spreading Basin to the west, and undeveloped hillsides to the north and east. The land is designated as Urban or Built Up Land and is not included in the Prime Farmland, Unique Farmland, or Farmland of Statewide Importance category.¹⁰ Therefore, the project would have no impact on the conversion of farmland to non-agricultural uses.

Mitigation Measures: No mitigation measures are required.

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. A significant impact may occur if a project were to result in the conversion of land zoned for agricultural use or under a Williamson Act Contract from agricultural use to non-agricultural use. The Williamson Act of 1965 allows local governments to enter into agreements with local landowners with the purpose of trying to limit specific parcels of land to agricultural or other related open space use.¹¹ The project site is not zoned for agricultural use and is not subject to a Williamson Act Contract. The only land under a Williamson Act Contract in Los Angeles County is on Santa Catalina Island.¹² Therefore, no impact with respect to land zoned for agricultural use or under a Williamson Act Contract would occur.

Mitigation Measures: No mitigation measures are required.

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))?

No Impact. “Forest land” is defined as land that “can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.” “Timberland” is defined as land “which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.” Timberland zoned for Timber Production is defined as land that “is devoted to and used for growing and harvesting timber.” There is no land zoned for timber production within City or Los Angeles County limits, or in

¹⁰ California Department of Conservation (CDOC). 2018. California Important Farmland Finder Interactive Viewer, Los Angeles County 2018. Sheet 2 of 2. CDOC Farmland Mapping Monitoring Program. Available at: <https://www.conservation.ca.gov/dlrp/fmmp/Pages/LosAngeles.aspx>. Accessed July 20, 2021.

¹¹ California Department of Conservation (CDOC). 2019. Williamson Act Program. Available at: <https://www.conservation.ca.gov/dlrp/lca>. Accessed July 20, 2021.

¹² California Department of Conservation (CDOC). 2017. State of California Williamson Act Contract Land. Available at: [https://planning.lacity.org/eir/HollywoodCenter/Deir/ELDP/\(E\)%20Initial%20Study/Initial%20Study/Attachment%20B%20References/California%20Department%20of%20Conservation%20Williamson%20Map%202016.pdf](https://planning.lacity.org/eir/HollywoodCenter/Deir/ELDP/(E)%20Initial%20Study/Initial%20Study/Attachment%20B%20References/California%20Department%20of%20Conservation%20Williamson%20Map%202016.pdf). Accessed July 20, 2021.



the Angeles National Forest north of the project site.^{13,14,15} The project site is on the northern edge of a residential subdivision and is primarily vegetated with disturbed chaparral and coastal sage scrub as well as approximately 0.17 acre of oak woodlands. The project site is zoned as Public/Quasi Public, with a proposed rezoning to Residential Foothill. Neither the current nor proposed zoning allow for management of forest or timberland resources; therefore, the project would have no impact on forest land or timberland.

Mitigation Measures: No mitigation measures are required.

d. Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The project site is surrounded by urban uses and infrastructure, and as discussed in Section 4.2.c, is not located on forest land. No impact related to the loss of forest land or conversion of forest land would occur.

Mitigation Measures: No mitigation measures are required.

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?

No Impact. Refer to Responses 4.2(a) through 4.2(d). A significant impact may occur if a project involves other changes to the existing environment that could result in the conversion of farmland to another non-agricultural use or conversion of forest land to non-forest use. As described in response to Agriculture and Forestry Resources (b), the project site is located in an area zoned for residential development and is surrounded by urban uses and infrastructure on three sides. Neither the project site nor the surrounding parcels are used for agricultural uses or forest land. No impacts related to conversion of farmland to a non-agricultural use or conversion of forest land to non-forest use would occur.

Mitigation Measures: No mitigation measures are required.

¹³ City of Monrovia. 2019. City of Monrovia Zoning Map. Available at: <https://www.cityofmonrovia.org/home/showpublisheddocument/1378/636960188069700000>. Accessed July 20, 2021.

¹⁴ County of Los Angeles. 2015. *Los Angeles County General Plan 2035, Chapter 6. Land Use Element*. Available at: <https://planning.lacounty.gov/generalplan/generalplan>. Accessed July 20, 2021.

¹⁵ U.S. Department of Agriculture, Forest Service, Pacific Southwest Region. 2005. *Angeles National Forest. Final Land Use Management Plan. Land Use Zones*. Available at: https://www.fs.usda.gov/Internet/FSE_MEDIA/stelprdb5311720.pdf. Accessed July 20, 2021.



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4.3 Air Quality

<i>Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:</i>	Potentially Significant Impact	Less Than Significant Impact 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?			✓	

The information presented in this analysis is based on and has been supplemented with the 2021 *Air Quality & Greenhouse Gas Technical Report, Norumbega Drive Residence Project, Los Angeles County, California*, prepared by SWCA Environmental Consultants (SWCA), included here as Appendix C.

a. Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. The project is located within the South Coast Air Basin (Air Basin), which is governed by the South Coast Air Quality Management District (SCAQMD). On March 3, 2017, the SCAQMD Governing Board approved the 2016 Air Quality Management Plan (2016 AQMP). SCAQMD has initiated the development of the 2022 AQMP to address the attainment of the 2015 8-hour ozone standard (70 parts per billion) for the Air Basin and the Coachella Valley. However, the 2016 AQMP outlines the current strategies for meeting the National Ambient Air Quality Standards (NAAQS) for fine particulate matter (PM_{2.5}) and ozone (O₃). According to the SCAQMD’s 2016 AQMP, two main criteria (Criterion 1 and Criterion 2, described in detail below) must be used to evaluate a project’s consistency with the 2016 AQMP.

Criterion 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.



- a) *Would the project result in an increase in the frequency or severity of existing air quality violations?*

Since the consistency criteria identified under the first criterion pertain to pollutant concentrations, rather than to total regional emissions, an analysis of a project's pollutant emissions relative to localized pollutant concentrations is used as the basis for evaluating project consistency. As discussed in Response 4.3(c), below, localized concentrations of carbon monoxide (CO), nitrogen oxides (NO_x), and fugitive dust (PM₁₀ and PM_{2.5}) would be less than significant during project construction and operations. Therefore, the project would not result in an increase in the frequency or severity of existing air quality violations. Because reactive organic gases (ROGs) are not a criteria pollutant, there is no ambient standard or localized threshold for ROGs. Due to the role ROG plays in ozone formation, it is classified as a precursor pollutant and only a regional emissions threshold has been established.

- b) *Would the project cause or contribute to new air quality violations?*

As discussed in Response 4.3(b), the project would produce emissions that would be below the SCAQMD construction and operational thresholds. Therefore, the project would not have the potential to cause or affect a violation of the ambient air quality standards.

- c) *Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?*

The project would result in less than significant impacts related to localized concentrations during project construction and operations. For this reason, the project would not delay the timely attainment of air quality standards or 2016 AQMP emissions reductions.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD air quality policies, it is important to recognize that air quality planning within the Air Basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether the project exceeds the assumptions used in preparing the forecasts presented in the 2016 AQMP. Determining whether a project exceeds the assumptions reflected in the 2016 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

- a) *Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?*

A project is consistent with the 2016 AQMP in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the AQMP. In the case of the 2016 AQMP, three sources of data form the basis for the projections of air pollutant emissions: the General Plan, the Southern California Association of Government's (SCAG's) Growth Management chapter of the Regional Comprehensive Plan (RCP), and SCAG's 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The RTP/SCS also provides socioeconomic forecast



projections of regional population growth. Additionally, the SCAQMD has incorporated these same projections into the 2016 AQMP.

The project site is currently designated Public/Quasi Public. Properties designated Public/Quasi Public are intended for “all public uses such as schools, and government offices and facilities, as well as quasi-governmental offices and facilities such as those for the telephone company and other utilities.” Per the City of Monrovia Zoning Ordinance, single family residential development is not a permitted use or a conditional use. The project includes a rezoning of the site to the Residential Foothill designation, which would allow construction of one dwelling unit per acre. Adjacent and immediately surrounding the site are single-family residential uses. Specifically, the southwest, south and east sides of the parcel are developed with one- and two-story single-family homes. Open space, including a steep hillside, exists immediately north of the project site.

While the site is designated for Public/Quasi Public use, there are no known plans by the City or other public entities to develop or plan public uses at the site. Due to the nature of surrounding land uses and the pattern of development, it is likely that the parcel was once owned by a public entity but then sold as a remnant parcel that was no longer needed for public use. As such and considering the surrounding residential development, it is logical to consider the site for residential use.

As noted, the project involves a zoning change to create a new residential hillside lot and construction of one single-family dwelling. As such, the project would introduce additional people residing at the site that are not currently allowed by the existing zoning. The population of the City in 2020 was estimated to be 37,935 people. Given the average household size is 2.65 people, the project would result in a direct increase in population of up to approximately 3 people. SCAG estimates the City’s projected population is approximately 39,300 persons in 2035. As such, the proposed population growth estimate for the project (3 persons) represents approximately 0.17 percent of SCAG’s projected population growth. For this reason, the project’s anticipated population growth of the project individually can be considered to be within SCAG’s population growth assumptions for the City.

Implementation of the project would not exceed the demographic growth forecasts in the SCAG; therefore, the project would also be consistent with the 2016 AQMP. Because the addition of project-generated residents to the City’s estimated population would not exceed the SCAG forecasted population, implementation of the project would not result in a conflict with, or obstruct implementation of, the applicable 2016 AQMP. Overall, it can be concluded that the project would be consistent with the General Plan and thus, 2016 AQMP projections.

b) Would the project implement all feasible air quality mitigation measures?

Compliance with all feasible emission reduction measures identified by the SCAQMD and the General Plan would be required. For this reason, the project would meet this 2016 AQMP consistency criterion.



c) *Would the project be consistent with the land use planning strategies set forth in the AQMP?*

As noted above, the emission projections in the 2016 AQMP are based on land use planning strategies set forth in the General Plan, SCAG's RCP, and the RTP/SCS. The project would serve to implement various City and SCAG policies. The project site is located within a developed portion of the City, and the project would be one residence that is adjacent to other residential uses.

In conclusion, the determination of 2016 AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the Air Basin. The project would not result in a long-term impact on the region's ability to meet state and federal air quality standards. Also, the project would be consistent with the goals and policies of the 2016 AQMP for control of fugitive dust. As discussed above, the project would also be consistent with SCAQMD and SCAG's goals and policies and is considered consistent with the 2016 AQMP. Impacts are concluded to be less than significant.

Mitigation Measures: No mitigation measures are required.

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?*

Less Than Significant Impact. Air pollutant emissions associated with construction of the project would be generated from the exhausts of construction equipment, hauling trucks, delivery trucks, and worker vehicles. Particulate matter emissions would result from soil movement and wind-blown dust from disturbed surfaces, and organic pollutant emissions would result from painting. Operational emissions would be minimal and typical of those of a single-family residence.

Criteria Pollutants

Ozone (O₃). O₃ occurs in two layers of the atmosphere. The layer surrounding the Earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric layer (the "good" O₃ layer) extends upward from about 10 to 30 miles and protects life on Earth from the sun's harmful ultraviolet rays. "Bad" O₃ is a photochemical pollutant and needs volatile organic compounds (VOCs), NO_x, and sunlight to form; therefore, VOCs and NO_x are O₃ precursors. To reduce O₃ concentrations, it is necessary to control the emissions of these O₃ precursors. Significant O₃ formation generally requires an adequate number of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High O₃ concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While O₃ in the upper atmosphere (stratosphere) protects the Earth from harmful ultraviolet radiation, high concentrations of ground-level O₃ (in the troposphere) can adversely affect the human respiratory system and other tissues. O₃ is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of O₃.



Short-term exposure (lasting for a few hours) to O₃ at elevated levels can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache, and nausea.

Volatile Organic Compounds (VOCs). VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form O₃ to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O₃, which is a criteria pollutant. The terms VOC and ROG (see below) are often used interchangeably.

Reactive Organic Gases (ROG). Similar to VOCs, ROGs are also precursors in forming O₃ and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROGs and nitrogen oxides react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O₃, which is a criteria pollutant.

Coarse Particulate Matter (PM₁₀). PM₁₀ refers to suspended particulate matter, which is smaller than 10 microns (or 10 one-millionths of a meter). PM₁₀ arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM₁₀ scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003, the California Air Resources Board (CARB) adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill [SB] 25).

Fine Particulate Matter (PM_{2.5}). Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both state and federal PM_{2.5} standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new PM_{2.5} standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the United States Supreme Court reversed this decision and upheld the EPA's new standards. On January 5, 2005, the EPA published a Final Rule in the *Federal Register* that designates the Air Basin as a nonattainment area for federal PM_{2.5} standards. On June 20, 2002, CARB adopted amendments for statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.



Carbon Monoxide (CO). CO is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95% of all CO emissions.

CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of carbon monoxide.

Nitrogen Dioxide (NO₂). NO_x are a family of highly reactive gases that are a primary precursor to the formation of ground-level O₃ and react in the atmosphere to form acid rain. NO₂ (often used interchangeably with NO_x) is a reddish brown gas that can cause breathing difficulties at elevated levels. Peak readings of NO₂ occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations). NO₂ can irritate and damage the lungs and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO₂ concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO₂ may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Sulfur Dioxide (SO₂). SO₂ is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with SO_x and lead. Exposure of a few minutes to low levels of SO₂ can result in airway constriction in some asthmatics.

Table 4-2, South Coast Air Basin Attainment Status, lists the attainment status for criteria pollutants in the Air Basin. As shown in Table 4-2, the Air Basin is currently designated as nonattainment for O₃, PM₁₀, and PM_{2.5} under state standards. Under federal standards, the county is in nonattainment for O₃ and PM_{2.5}. The area is currently in attainment or unclassified status for all other ambient air quality standards.

**Table 4-2
South Coast Air Basin District Attainment Status**

Pollutant	California Attainment Status	Federal Attainment Status
Ozone (8-Hour)	Nonattainment	Nonattainment
Ozone (1-Hour)	Nonattainment	Nonattainment
Particulate Matter (PM ₁₀)	Nonattainment	Attainment
Fine Particulate Matter (PM _{2.5})	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO ₂)	Attainment	Attainment
Sulfur Dioxide (SO ₂)	Attainment	Attainment
Lead	Attainment	Partial Nonattainment
Sulfates	Attainment	No Federal Standard



Pollutant	California Attainment Status	Federal Attainment Status
Hydrogen Sulfide	Attainment	No Federal Standard
Visibility	Unclassified	No Federal Standard

Source: SWCA Environmental Consultants (SWCA). 2021. *Air Quality & Greenhouse Gas Technical Report, Norumbega Drive Residence Project, Los Angeles County, California*. August.

Short-Term Construction Impacts

Short-term air quality emissions are anticipated during project-related construction activities. Temporary air emissions would result from the following project-specific construction activities:

- particulate (fugitive dust) emissions from earthmoving activities;
- ROG emissions from application of surface coatings; and
- exhaust emissions from the grading/construction equipment and the motor vehicles of construction crews.

Construction activities are anticipated to begin in September 2024 and would include site preparation, grading, building construction, paving, and architectural coating work. To provide a conservative analysis, it is assumed that certain construction phases (building construction and paving) occur at the same time, using the following schedule:

- Phase 1: Site Preparation, 1 week, 6 days/week
- Phase 3: Grading, 4 weeks, 6 days/week
- Phase 4: Building Construction, 52 weeks, 6 days/week
- Phase 5: Paving, 13 weeks, 6 days/week
- Phase 6: Architectural Coating, 1 week, 6 days/week

No demolition is required for the project, as the current land is unoccupied. Site preparation includes the removal of vegetation and grubbing. Extensive grading is necessary and would result in approximately 576 cubic yards of cut and 266 cubic yards of fill. Approximately 252 cubic yards of soil would be exported from the site. Grading activities would be short-term and would cease following the completion of the construction activities. Mobile source emissions would result from the use of construction equipment such as graders, dozers, forklifts, tractors, loaders, and backhoes. The assessment of construction air quality impacts considers each of these potential sources.

Construction emissions were estimated using the California Emissions Estimator Model version 2020.4.0 (CalEEMod) based on the construction information compiled for the project. Variables factored into estimating the total construction emissions include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, and the amount of materials to be transported on- or off-site. Table 4-3, Estimated Project Construction Emissions, presents the project's anticipated daily short-term construction emissions for the summer and winter season. Emitted pollutants would include ROG/VOC, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}.



**Table 4-3
Estimated Project Construction Emissions**

Season	Pollutant (pounds/day)					
	ROG/VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Peak Daily Emissions	5.64	27.30	12.96	0.030	9.43	4.65
SCAQMD Significance Thresholds	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Source: SWCA Environmental Consultants (SWCA). 2021. *Air Quality & Greenhouse Gas Technical Report, Norumbega Drive Residence Project, Los Angeles County, California*. August.

As depicted in Table 4-3, construction-related emissions would not exceed the established SCAQMD significance thresholds for criteria pollutants. However, the project would be required to adhere to standard SCAQMD regulations, such as implementing SCAQMD Rules 402 and 403 (see Standard Condition [SC] AIR-1) which would further reduce construction emissions. SC AIR-1 requires the implementation of dust control measures and measure to cover and protect outdoor storage piles. Due to high wind events in the area, SC AIR-1 includes measures specific to high wind conditions. Further, the project would be required to comply with SC AIR-2, which would require idling restrictions for diesel-powered vehicles. With implementation of Standard Conditions SC AIR-1 and SC AIR-2, impacts would be less than significant.

Naturally Occurring Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by CARB in 1986. Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released into the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos-bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed. According to the CDOC Division of Mines and Geology,¹⁶ serpentinite and ultramafic rocks are not known to occur within the project area. Thus, there would be no impact regarding naturally occurring asbestos.

¹⁶ California Department of Conservation (CDOC). 2000. *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos*. CDOC Division of Mines and Geology. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/asbestos/ofr_2000-019.pdf. Accessed July 20, 2021.



Long-Term Operational Emissions

The following is an analysis of the project’s long-term operational emissions compared to the existing site conditions.

Existing Operational Emissions

The project site is currently undeveloped. It supports disturbed chaparral and coastal sage scrub as well as oak woodlands.

Project Operational Emissions

The project-generated operational emissions would be associated with mobile source emissions from motor vehicle use, energy emissions from energy consumption, and area sources generated by the use of natural gas-fired appliances, landscape maintenance equipment, consumer products, and architectural coatings. Long-term operational emissions attributable to the project are summarized in Table 4-4.

Mobile Source Emissions

Mobile source emissions include emissions from motor vehicles, including tailpipe and evaporative emissions. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. Project emissions were conservatively estimated based on default CalEEMod trip generation data for a single-family residence.

Based on CalEEMod defaults, the average daily trips generated for a single-family residence would range from approximate nine trips per day on weekdays and Saturdays to 10 trips per day on Sundays. As shown in Table 4-4, emissions generated by vehicle traffic associated with the project would not exceed SCAQMD significance thresholds. Impacts from mobile source air emissions would be less than significant and would not require mitigation.

**Table 4-4
Estimated Increase of Regional Operational Emissions**

Activity	Pollutant Emission (pounds per day)				
	Rog	NOx	CO	PM ₁₀	PM _{2.5}
Area	0.79	0.12	6.21	1.00	1.00
Energy	0.0008	0.0064	0.0027	0.0005	0.0005
Mobile	0.03	0.03	0.31	0.07	0.02
Peak Daily Emission (total operational)	0.82	0.15	6.53	1.07	1.02
SCAQMD Significance Thresholds	55	55	550	150	55
Threshold exceeded?	No	No	No	No	No

Source: SWCA Environmental Consultants (SWCA). 2021. *Air Quality & Greenhouse Gas Technical Report, Norumbega Drive Residence Project, Los Angeles County, California*. August.



Area Source Emissions

Area source emissions would be generated from consumer products, architectural coatings, and landscaping of the residence. As shown in Table 4-4, area source emissions from the project would not exceed significance thresholds for ROG, NO_x, CO, SO_x, PM₁₀, or PM_{2.5}.

Energy Use Emissions

Energy use emissions would be generated as a result of electricity and natural gas usage associated with the project. The primary use of electricity and natural gas by the project would be for space heating and cooling, water heating, ventilation, lighting, appliances, and electronics for the residence. As shown in Table 4-4, energy source emissions from the project would not exceed significance thresholds for ROG, NO_x, CO, SO_x, PM₁₀, or PM_{2.5}.

As shown in Table 4-4, the project's total operational emissions would not exceed SCAQMD significance thresholds. Thus, operational air quality impacts would be less than significant.

Air Quality Health Impacts

In accordance with the California Supreme Court decision for *Sierra Club v. County of Fresno* (S219783; December 24, 2018), this discussion has been included to disclose the potential human health impacts from the project's air emissions.

Adverse health effects induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individuals [for example age, gender]). In particular, O₃ precursors VOCs and NO_x affect air quality on a regional scale. Health effects related to ozone are therefore the product of emissions generated by numerous sources throughout a region. Existing models have limited sensitivity to small changes in criteria pollutant concentrations, and, therefore, translating project-generated criteria pollutants to specific health effects or additional days of nonattainment would produce meaningless results. In other words, a project's less-than-significant increases in regional air pollution from criteria air pollutants would have nominal or negligible impacts on human health.

As noted in the Brief of Amicus Curiae by the SCAQMD,¹⁷ the SCAQMD acknowledged it would be extremely difficult, if not impossible, to quantify health impacts of criteria pollutants for various reasons including modeling limitations as well as where in the atmosphere air pollutants interact and form. Further, as noted in the Brief of Amicus Curiae by the San Joaquin Valley Air Pollution Control District (SJVAPCD),¹⁸ SJVAPCD has acknowledged that currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts.

¹⁷ South Coast Air Quality Management District (SCAQMD). 2014. *Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae*. In the Supreme Court of California. *Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.

¹⁸ San Joaquin Valley Air Pollution Control District (SJVAPCD). 2014. *Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P.* In the Supreme Court of California. *Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, 2014.



The SCAQMD acknowledges that health effects quantification from ozone, as an example, is correlated with the increases in ambient level of ozone in the air (concentration) that an individual person breathes. SCAQMD's Brief of Amicus Curiae states that it would take a large amount of additional emissions to cause a modeled increase in ambient ozone levels over the entire region. The SCAQMD states that based on their own modeling in the SCAQMD's 2012 Air Quality Management Plan, a reduction of 432 tons (864,000 pounds) per day of NO_x and a reduction of 187 tons (374,000 pounds) per day of VOCs would reduce ozone levels at the highest monitored site by only 9 parts per billion. The SCAQMD concludes that it is not currently possible to accurately quantify ozone-related health impacts caused by NO_x or VOC emissions from relatively small projects (defined as projects with regional scope) due to photochemistry and regional model limitations.

The federal ambient air quality standards (i.e., NAAQS) were established to protect public health, particularly sensitive populations (e.g., asthmatics, children, and the elderly). The health risks associated with exposure to criteria pollutants are evaluated on a regional level, based on the region's attainment of the NAAQS. Thus, the SCAQMD's regional thresholds were set at emission levels tied to the region's attainment status. Therefore, since the project would not exceed SCAQMD regional thresholds for construction or operational air emissions, it can be reasonably inferred that the project would not result in air quality health impacts.

Cumulative Impacts

The SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the 2016 AQMP pursuant to federal Clean Air Act mandates. The project would implement SC AIR-1, which requires compliance with SCAQMD Rule 403 requirements. Rule 403 requires that fugitive dust be controlled with the best available control measures in order to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the project. In addition, the project would comply with adopted 2016 AQMP emissions control measures. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, all construction projects throughout the Air Basin would be required to comply with these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted 2016 AQMP emissions control measures).

If emissions exceed the thresholds shown in Tables 4-3 and 4-4 for nonattainment pollutants (O₃, with O₃ precursors NO_x and VOCs, PM₁₀, and PM_{2.5}), the project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality. However, as shown in Tables 4-3 and 4-4, project emissions would not exceed the significance thresholds and therefore would not result in a cumulatively significant increase of any nonattainment criteria pollutant. Impacts would be less than significant.

The project construction and operations would not result in a significant air quality impact, as emissions would not exceed the SCAQMD adopted significance thresholds. Additionally, adherence to SCAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. Emission reduction technology, strategies, and plans are constantly being developed. As a result, the project would not contribute to a cumulatively considerable net increase of any non-attainment criteria pollutant.



Therefore, cumulative construction and operational impacts associated with implementation of the project would be less than significant.

Standard Conditions:

SC AIR-1 Prior to issuance of any Grading Permit, the City of Monrovia Public Works Department shall confirm that the project stipulates that, in compliance with SCAQMD Rule 402 and Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures, as specified in the SCAQMD's Rules and Regulations. SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Applicable dust suppression techniques from Rules 403 and 402 are as follows:

- The Project Construction Contractor shall develop and implement dust control methods that shall achieve this control level in a SCAQMD Rule 403 dust control plan, designate personnel to monitor the dust control program, and order increased watering, as necessary, to ensure a 55% control level. Those duties shall include holiday and weekend periods when work may not be in progress. Additional control measures to reduce fugitive dust shall include, but are not limited to, the following:
 - Apply water twice daily, or nontoxic soil stabilizers according to manufacturer's specifications, to all unpaved parking or staging areas or unpaved road surfaces or as needed to areas where soil is disturbed.
 - Use low-sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.
 - During earthmoving or excavation operations, fugitive dust emissions shall be controlled by regular watering to prevent excessive amounts of dust, ceasing earthmoving and excavation activities during periods of high winds (i.e., winds greater than 20 miles per hour [mph] averaged over 1 hour), and minimizing the area disturbed by earthmoving or excavation operations at all times.
 - After earthmoving or excavation operations, fugitive dust emissions shall be controlled by revegetating and watering portions of the construction area to remain inactive longer than a period of 3 months and watering all active portions of the construction site.
 - At all times, fugitive dust emissions shall be controlled by limiting the on-site vehicle speed to 15 mph and paving road improvements as soon as feasible.



- At all times during the construction phase, ozone precursor emissions from mobile equipment shall be controlled by maintaining equipment engines in good condition and in proper tune according to manufacturers' specifications.
- Outdoor storage piles of construction materials shall be kept covered, watered, or otherwise stabilized with environmentally safe soil stabilization materials to minimize fugitive dust emissions and wind erosion.

SC AIR-2 Prior to issuance of any Grading Permit, the City of Monrovia Public Works Department shall confirm that the project complies with Mitigation Measure AIR-C of the *Final Environmental Impact Report, Monrovia General Plan Proposed Land Use and Circulations Elements* (dated January 2008) to reduce diesel engine emissions of ozone precursors ROG_s and NO_x, particulate matter less than 10 microns in size (PM₁₀), particulate matter less than 2.5 microns in size (PM_{2.5}), and diesel particulate matter.

- Idling of diesel-powered vehicles and equipment shall not be permitted during periods of non-active vehicle use. Diesel-powered engines shall not be allowed to idle for more than 5 consecutive minutes in a 60-minute period when the equipment is not in use, occupied by an operator, or otherwise in motion, except as follows:
 - When equipment is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control;
 - When it is necessary to operate auxiliary systems installed on the equipment, only when such system operation is necessary to accomplish the intended use of the equipment;
 - To bring the equipment to the manufacturers' recommended operating temperature;
 - When the ambient temperature is below 40 degrees Fahrenheit (°F) or above 85°F; or when equipment is being repaired.

Mitigation Measures: No mitigation measures are required.

c. Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses.¹⁹ Examples of these sensitive receptors are residences, schools, hospitals, daycare centers, and places of worship. CARB has identified the following groups of individuals as the most likely to be affected by air

¹⁹ Per the definition in the SCAQMD *Final Localized Significance Threshold Methodology*, revised July 2008, and various SCAQMD Rules (such as Rule 1470, paragraph [b][60]).



pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

Sensitive receptors near the project include existing one- and two-story single-family homes on the southwest, south, and east sides of the parcel. In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing localized significance thresholds (LSTs) for construction and operation impacts (stationary sources only). The CO hotspot analysis following the LST analysis addresses localized mobile source impacts.

Localized Significance Thresholds

LSTs were developed in response to SCAQMD Governing Boards’ Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology*, dated June 2003 (revised 2008), for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with project-specific level projects. The SCAQMD provides the LST lookup tables for 1-, 2-, and 5-acre projects emitting CO, NO_x, PM_{2.5}, or PM₁₀ for 41 different Source Receptor Areas (SRAs) throughout the Air Basin. The project site is located within SRA 9, East San Gabriel Valley.

Construction

Based on the SCAQMD guidance on applying CalEEMod to LSTs, the project would disturb approximately 2 acres of land per day. Therefore, the LST screening thresholds for 2 acres were used for the construction LST analysis. To be conservative, the LST value for 25 meters (approximately 82 feet) was used. Table 4-5 shows the localized construction-related emissions. Note that the localized emissions presented in Table 4-5 are less than those in Table 4-3, as localized emissions include only on-site emissions (e.g., from construction equipment and fugitive dust), and do not include off-site emissions (i.e., from hauling activities). As seen in Table 4-5, on-site emissions would not exceed the LST screening thresholds for SRA 9. Therefore, impacts would be less than significant.

As detailed in Table 4-5, construction emissions for NO_x, CO, PM₁₀ and PM_{2.5} would not exceed the SCAQMD LST screening thresholds for any construction phase. Therefore, the project would result in a less than significant impact related to sensitive receptors, due to localized construction emissions.

**Table 4-5
Localized Short-Term Construction Emissions**

Emissions Source ¹	Pollutant (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Site preparation	24.72	9.83	4.45	2.51
Grading	26.61	12.09	4.76	2.63
Building construction	7.54	4.87	0.35	0.33
Paving	4.14	5.43	0.20	0.19
Architectural coating	1.74	2.41	0.09	0.09



Emissions Source ¹	Pollutant (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
SCAQMD LST Screening Thresholds²	128	786	7	5
Threshold Exceeded?	No	No	No	No

Notes:

1. Emissions were calculated using CalEEMod (CalEEMod version 2020.4.0).
2. The Localized Significance Thresholds (LSTs) were determined using Appendix C of the SCAQMD's *Final Localized Significant Threshold Methodology*, revised July 2008, for pollutants NO_x, CO, PM₁₀, and PM_{2.5}. The LST was based on the anticipated daily acreage disturbance for construction (2 acres; therefore the 2-acre threshold was used) and SRA 9.

Source: SWCA Environmental Consultants (SWCA). 2021. *Air Quality & Greenhouse Gas Technical Report, Norumbega Drive Residence Project, Los Angeles County, California*. August.

Diesel Particulate Matter

Emissions of diesel particulate matter associated with heavy-duty construction equipment are a toxic air contaminant (TAC). Diesel particulate matter is mainly composed of particulate matter (i.e., PM_{2.5}) and gases, which contain potential cancer-causing substances. The majority of heavy-duty equipment construction activity would occur during the grading and site preparation phases. As shown in Table 4-5, PM_{2.5} emissions from construction activities are well below the SCAQMD significance threshold. As construction activities would be short-term, operation of heavy-duty construction equipment is not expected to expose sensitive receptors to substantial diesel particulate matter concentrations. As such, impacts would be less than significant.

Operations

As shown in Table 4-6, Localized Significance of Operational Emissions, the project's operational emissions would not exceed the LST screening thresholds for the nearest sensitive receptors in the project vicinity. It should be noted the localized operational CalEEMod results do not include off-site mobile emissions per SCAQMD guidance. As detailed in Table 4-6, daily operational emissions for NO_x, CO, PM₁₀, and PM_{2.5} would not exceed the SCAQMD LST screening thresholds. Therefore, impacts would be less than significant.

**Table 4-6
Localized Significance of Operational Emissions**

Emissions Source ¹	Pollutant (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Area source	0.115	6.22	1.00	1.00
Energy consumption	0.0064	0.0027	0.0005	0.0005
Total Project Operational Emissions	0.121	6.223	1.001	1.001
SCAQMD LST Screening Thresholds	128	953	2	2



Emissions Source ¹	Pollutant (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
<i>Threshold Exceeded?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Notes:

1. Emissions were calculated using CalEEMod (CalEEMod version 2020.4.0).
2. The Localized Significance Thresholds (LSTs) were determined. The LST was based on the anticipated daily acreage disturbance for construction (2 acres; therefore the 2-acre threshold was used) and SRA 9.

Source: SWCA Environmental Consultants (SWCA). 2021. *Air Quality & Greenhouse Gas Technical Report, Norumbega Drive Residence Project, Los Angeles County, California*. August.

Carbon Monoxide Hotspots

Projects involving traffic impacts may result in the formation of locally high concentrations of CO, known as CO “hot spots.” It is not anticipated that the project would have a significant impact on traffic in the area as it is a single-family residence. Therefore, CO hotspot impacts would be less than significant.

Air Quality Health Impacts

As evaluated above, the project’s localized emissions would not exceed the SCAQMD’s LST screening thresholds. Therefore, the project would not exceed the most stringent applicable federal or state ambient air quality standards for emissions of CO, NO_x, PM₁₀, or PM_{2.5}, which were developed to represent levels at which the most susceptible persons (children and the elderly) are protected from health effects. In other words, the ambient air quality standards are purposefully set in a stringent manner to protect sensitive populations with respiratory problems (e.g., children, the elderly, etc.). The project’s localized emissions would not create an air quality health impact, and a less than significant impact would occur.

Mitigation Measures: No mitigation measures are required.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. According to the SCAQMD’s *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding.²⁰ The project does not include any of these uses or odor sources. However, certain odors may emanate from construction operations if diesel-powered construction equipment is used during the construction period for the project. These odors would be limited to the construction period and would disperse quickly; therefore, these odor impacts would be less than significant.

The project is a single-family residence with no odorous sources. For this reason, impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

²⁰ South Coast Air Quality Management District (SCAQMD). 1993. *CEQA Air Quality Handbook*.



4.4 Biological Resources

<i>Would the project:</i>	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, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Services?				✓
c. Have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site?			✓	
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		✓		
f. Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

Project-specific studies used to inform this analysis included a biological technical report (Appendix D²¹), an arborist report (Appendix E²²) and a Mountain Lion Habitat Assessment (Appendix H²³). Additional information was obtained from California Department of Fish and

²¹ Hamilton Biological. 2020. Revised Biological Assessment. APN: 8523-002-045, Norumbega Drive, City of Monrovia, Los Angeles County, California. September 9.

²² Rebecca Latta Arboricultural Consulting. 2023. REVISED – Arborist Report, Norumbega Drive (APN: 8523-002-045). Glendora, CA. June 25.

²³ South Environmental. 2023. Mountain Lion Habitat Assessment for the Norumbega Drive Residential Project in Monrovia, California. June 22.



Wildlife (CDFW) correspondence (Appendix G²⁴), searches of the California Natural Diversity Database²⁵ and iNaturalist²⁶, and review of literature relevant to species that may occur.

- 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?**

Less Than Significant Impact with Mitigation Incorporated. A significant impact would occur if a project were to substantially restrict the range or reduce the population of a species identified or designated as a candidate, sensitive, or special-status species in regional or local plans, policies, or regulations, or by the U.S. Fish and Wildlife Service (USFWS) or CDFW.

The assessment contained in the biological technical report (see Appendix D) included the project area and the area immediately adjacent to the site (see Figure 2-2, Site Vicinity). The arborist survey included the project site and a 50-foot buffer area surrounding the property. The property occupies a steep, southeast-facing slope in an existing hillside residential neighborhood. Elevations of the project site range from approximately 823 feet above mean sea level (amsl) at Norumbega Drive to 978 feet amsl at the northern property boundary. No streambeds or seasonal drainage courses occur on the project site.

The property supports oak woodland and disturbed chaparral/coastal sage scrub. Approximately 1.12 acre of the property supports disturbed chaparral/coastal sage scrub which is dominated by fountain grass (*Pennisetum setaceum*) with scattered castor bean (*Ricinus communis*); these are non-native, invasive plants found in areas with a history of disturbance. The site has been subject to repeated spraying for weeds, every 2 months, as required by the City for fire safety. Additional non-native species identified in the disturbed chaparral/coastal sage scrub included shortpod mustard (*Hirschfeldia incana*), petty spurge (*Euphorbia peplus*), henbit (*Lamium amplexicaule*), and bur chervil (*Anthriscus caucalis*). Native species identified in the disturbed chaparral/coastal sage scrub include native shrubs such as laurel sumac (*Malosma laurina*), redberry (*Rhamnus crocea*), chamise (*Adenostoma fasciculatum*), wishbone bush (*Mirabilis californica*), sweetbush (*Bebbia juncea*), and white sage (*Salvia apiana*); native forbs and vines including wild cucumber (*Marah macrocarpa*), deerweed (*Acmispon glaber*), mustard evening-primrose (*Eulobus californicus*), showy penstemon (*Penstemon spectabilis*), common sunflower (*Helianthus annuus*), and red-gland spurge (*Euphorbia melanadenia*). The southwestern part of the site supports approximately 0.17 acre of oak woodland, dominated by the native coast live oak (*Quercus agrifolia*). An isolated coast live oak also occurs in the middle of the property. The understory of the oak woodland includes such native species as coffeeberry (*Frangula californica*), two-color rabbit-tobacco (*Pseudognaphalium biolettii*), Douglas's nightshade (*Solanum douglasii*), and canyon sunflower (*Venegasia carpesioides*). Non-native species observed in the oak woodland included hairy beggarticks (*Bidens pilosa*), garden nasturtium (*Tropaeolum majus*), and smilo grass (*Stipa miliacea*).

²⁴ California Department of Fish and Wildlife (CDFW). 2022a. Comments on the Mitigated Negative Declaration for Norumbega Drive Residence Project, SCH #2022020722, Los Angeles County. South Coast Region, San Diego, CA. March 14.

²⁵ CDFW. 2022b. RAREFIND Database. Available at: <https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data>. Accessed May 2022.

²⁶ iNaturalist. 2022. A Community for Naturalists. Available at: <https://www.inaturalist.org>. Accessed May 2022.



Two lizard species, the side-blotched lizard (*Uta stansburiana*) and western fence lizard (*Sceloporus occidentalis*), were observed on the site. Nineteen bird species were observed, including red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaida macroura*), Anna’s hummingbird (*Calypte anna*), Allen’s hummingbird (*Selasphorus sasin*), Bewick’s wren (*Thryomanes bewickii*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*), and rufous-crowned sparrow (*Aimophila ruficeps*). One species of mammal was observed, the California ground squirrel (*Otospermophilus beecheyi*), as well as the holes of Botta’s pocket gopher (*Thomomys bottae*).

The biological technical report includes a literature review and database search for special-status plant and wildlife species identified 20 special-status plant species and 12 special-status wildlife species within a 5-mile search radius surrounding the project area shown in Figure 2-2, Site Vicinity (see Appendix D, Revised Biological Assessment, for details of the desktop review). None of these species were observed, however, five reptile species (coast [Blainville’s] horned lizard [*Phrynosoma blainvillii*], coastal whiptail [*Aspidoscelis tigris stejnegeri*], Southern California legless lizard [*Anniella stebbinsi*], California glossy snake [*Arizona elegans occidentalis*], and coast patch-nosed snake [*Salvadora hexalepis virgultea*]) had a moderate or higher potential to occur in the project area. In addition, three special-status bird species (northern harrier [*Circus hudsonius*], loggerhead shrike [*Lanius ludovicianus*], and Oregon vesper sparrow [*Pooecetes gramineus affinis*]) are expected to occur during migration and possibly winter but are not expected to nest on the site (Table 4-7, Special-Status Species with Moderate or High Potential to Occur On-site). Additional information gathered in 2022 from CDFW (see Appendix G) and desktop research identified special-status mammals with the potential to occur.

**Table 4-7
Special-Status Species with Moderate or High Potential to Occur On-site**

Common Name	Scientific Name	Federal / State Status	Potential to Occur
Reptiles			
Coast (Blainville’s) horned lizard	<i>Phrynosoma blainvillii</i>	-- ¹ / SSC ²	Moderate potential to occur on property due to site disturbance
Coastal whiptail	<i>Aspidoscelis tigris stejnegeri</i>	-- / SSC	High potential to occur on property; tolerant of disturbance
Southern California legless lizard	<i>Anniella stebbinsi</i>	-- / SSC	Moderate potential to occur on property in oak woodland
California glossy snake	<i>Arizona elegans occidentalis</i>	-- / SSC	Moderate potential to occur on property due to site disturbance
Coast patch-nosed snake	<i>Salvadora hexalepis virgultea</i>	-- / SSC	Moderate potential to occur on property due to site disturbance
Birds			
Northern harrier	<i>Circus hudsonius</i>	-- / SSC	Expected to occur occasionally during migration and possibly winter
Loggerhead shrike	<i>Lanius ludovicianus</i>	-- / SSC	Potentially occurs occasionally during migration and possibly winter



Common Name	Scientific Name	Federal / State Status	Potential to Occur
Oregon vesper sparrow	<i>Pooecetes gramineus affinis</i>	-- / SSC	Potentially occurs occasionally during migration and possibly winter
Mammals			
Mountain lion	<i>Puma concolor</i>	-- / SCT ³	Mountain lion occurs in the San Gabriel Mountains
Pallid bat	<i>Antrozous pallidus</i>	-- / SSC	Potentially occurs year-round, usually roosts in rocky outcrops, buildings, or hollow trees
Pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>	-- / SSC	May forage at the site; requires cliff crevices or rocky outcrops for roosting, which are not present at the site
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	-- / SSC	May forage over the site, requires undisturbed enclosed sites such as buildings, caves, or mines for roosting, which are not present at the site
Western mastiff bat	<i>Eumops perotis californicus</i>	-- / SSC	Potentially occurs year-round; for maternity roosts in tight rock crevices with vertical face for drop-off into flight, which are not present at the site
Western red bat	<i>Lasiurus blossevillii</i>	-- / SSC	Potentially occurs year-round; roosts almost exclusively in trees

Notes:

1. Not listed.
2. SSC = California Species of Special Concern. The CDFW has designated certain vertebrate species as Species of Special Concern because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.
3. SCT = State candidate for threatened status under the California Endangered Species Act (CESA). Candidate species are afforded the same protections as species listed as threatened or endangered under CESA.

Source: Hamilton Biological. 2020. *Revised Biological Assessment*, APN: 8523-002-045, Norumbega Drive, City of Monrovia, Los Angeles County, California. September 9.

Special-Status Reptiles

The coast horned lizard, also known as Blainville's horned lizard, is a highly cryptic, flat-bodied lizard typically found in open areas with low vegetation and along unpaved roads in a wide range of habitats, including grasslands, coniferous forests, woodlands, and chaparral. The species' range extends from the northern portions of the Central Valley to Baja California. Little is known about the home ranges for the species; however, horned lizards generally lack territorial defense.²⁷ Coast horned lizards are ant specialists, primarily feeding on native harvester ants (*Pogonomyrmex* spp.) and may often be found feeding near anthills. Due to its highly cryptic appearance and behavior, the species often goes unnoticed. However, local records, such as those in listed iNaturalist, indicate that individuals are regularly observed throughout foothills of the San Gabriel Mountains. The chaparral/coastal sage scrub habitat

²⁷ CDFW. 2000. *Life History Account for Blainville's Horned Lizard*. California Wildlife Habitat Relationship Systems. California Department of Fish and Wildlife. California Interagency Wildlife Task Group.



is suitable for the species, but coast horned lizard has a moderate potential for occurrence due to the existing site disturbance.

The coastal whiptail is an extremely active diurnal lizard found in hot, dry, open areas with sparse vegetation, typically in chaparral, woodland, and riparian habitats. It is found in the inland and coastal regions of southern California. The species is frequently observed in the San Gabriel Mountains and in other natural areas in the vicinity of the project area. The coastal whiptail is generally tolerant of disturbance and suitable habitat is present throughout the project area. The coastal whiptail has a high potential for occurrence.

The Southern California legless lizard is typically found in moist, warm loose soils with sparse plant cover in southern California. Its range extends from the coastal regions of Santa Barbara County to Baja California and to the inland portions of Riverside County. It may also be found in suburban gardens. The oak woodland habitat and soil quality throughout the project area is suitable for the species. The Southern California legless lizard has a moderate potential for occurrence.

The California glossy snake is a medium-sized snake that occurs in sagebrush, grasslands, and chaparral slopes with sparse shrubs and friable soils. This subspecies ranges from Central California to Baja California. It is distinguished by its smooth, shiny scales that are tan with dark blotches. The habitat within the project area is suitable for the species. While the project area is within the known range of the species, there are few local records found in the vicinity of the project area. Local records of California glossy snake are located in the northern portions of the San Gabriel Mountains. Based on the habitat suitability and known range, the California glossy snake has a moderate potential for occurrence.

The coast patch-nosed snake is a slender, striped snake found in semi-arid brushy areas, chaparral in canyons, rocky hillsides, and grasslands. This species ranges from San Luis Obispo County to Baja California. Coast patch-nosed snake is diurnal and primarily feeds on lizards, especially whiptails, along with small mammals, other snakes, reptile eggs, and amphibians. Local records in iNaturalist indicate that the species is regularly observed in the San Gabriel Mountains. Habitat within the project area is suitable for this species. The coast patch-nosed snake has a moderate potential for occurrence.

Apart from the California glossy snake, the reptile species described above are locally common. The project area is relatively disturbed and represents a negligible portion of the overall range of each species. Direct impacts to these species, if present, could include being hit by vehicles on access roads and on the project site; crushing during site preparation, and preparation of staging locations; and general disturbance due to increased human activity. In addition, project implementation may result in temporary loss of habitat from construction activities, and permanent loss of habitat due to permanent structures and/or roads. However, all five species have relatively large ranges and are not considered highly imperiled. Therefore, the project would not have a significant effect on these species. Additionally, the construction measures described below in Standard Conditions SC BIO-1 through SC BIO-4, and best practices to avoid wildlife entrapment as described in SC BIO-5 would further avoid and minimize impacts to these species.



Nesting Birds

The existing oak woodland could provide nesting opportunities for birds. The Migratory Bird Treaty Act (MBTA) governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. To reduce potential impacts to nesting birds, Mitigation Measure BIO-1 requires a pre-construction nesting bird clearance survey to determine the presence/absence, location, and status of any active nests on or adjacent to the project site. If the nesting bird clearance survey indicates the presence of nesting birds, Mitigation Measure BIO-1 requires buffers to ensure that any nesting birds are protected pursuant to the MBTA. With implementation of Mitigation Measure BIO-1, the project's potential construction-related impacts to migratory birds would be reduced to less than significant.

Implementation of the project has the potential to impact birds that are nesting at the project site directly, by causing active nests to fail. The project has suitable nesting habitat for the numerous common bird species observed during the field survey. The shrubs provide suitable nest sites for common avian species, such as California scrub-jay (*Aphelocoma californica*) and northern mockingbird (*Mimus polyglottos*). The trees provide suitable nest sites for species such as woodpeckers, bushtit (*Psaltriparus minimus*), and raptors. Implementation of the mitigation measures below would minimize impacts to nesting birds to less than significant.

Special-Status Birds

Some special-status birds, such as northern harrier, loggerhead shrike, and Oregon vesper sparrow may be present during migration or during winter. However, these species do not have the potential to nest at the site. Birds that do not have the potential to nest in the project area are not anticipated to be directly impacted by the project. Because of their mobility, birds generally move out of harm's way and would not be injured or killed during grading, construction, or project operations. Implementation of the project would reduce foraging habitat for these species, but specific measures for these species are not required to avoid direct impacts. Impacts to non-nesting birds would be less than significant.

In conclusion, implementation of Mitigation Measure BIO-1 would reduce impacts to nesting birds and special-status birds to less than significant. In addition, implementation of SC BIO-6 would ensure that second-generation anticoagulant rodenticides are not used at the project site. Birds are highly sensitive to toxic effects from these types of rodenticides and implementation of SC BIO-4 will ensure that the project does not cause poisoning from these sources.

Mountain Lion

Mountain lions occur throughout California and are known to occur in the San Gabriel Mountains adjacent to the project.²⁸ The species was determined to be a candidate for listing under the California Endangered Species Act (CESA) in 2020, and as a candidate is afforded the same protections as listed species. It is also protected under California Fish and Game Code (FGC) section 4800.

²⁸ Gustafson, K.D., et al. 2018. Genetic source-sink dynamics among naturally structured and anthropogenically fragmented puma populations. *Conservation Genetics* 20(2): 215-227.



Mountain lions use large areas, with home range sizes in the Santa Monica Mountains averaging 372 kilometers (km)² (92,000 acres) for adult males and 134 km² (33,000 acres) for adult females.²⁹ There are two iNaturalist records within one mile of the project site, the closest of which is 0.4 mile to the north.³⁰ Mountain lions hunt mostly at night, especially when there is human activity nearby.³¹

No published studies on mountain lion activity patterns within the San Gabriel Mountains were found during the literature and database searches conducted for this analysis, and in November 2021, CDFW wildlife biologist Dr. Rebecca Barboza confirmed that CDFW was not conducting any local studies of mountain lion.³² Therefore, information from studies conducted in other locations was used to analyze the species' habits and potential impacts from the project.

The project site is an undeveloped 1.295-acre parcel. Existing uses around the site are residential (to the east and south), flood control (to the south and west), and undeveloped open space (to the north). The project would increase human presence, noise, and traffic on the parcel, which is situated at the edge of the City of Monrovia. This represents less than 0.003% of a female mountain lion's average home range size, and is adjacent to other developed uses. Developed areas are generally used less by mountain lions,³³ and because the project is adjacent to other developed areas, it would not create new habitat fragmentation. Substantial human disturbance is already present in the project vicinity, including noise, traffic along Norumbega Drive, and artificial lighting. The project would not extend development into a wildland area. Construction would occur during daytime hours, and thus avoid creating noise and other disturbances when mountain lions are hunting.

SWCA wildlife biologist Pauline Roberts, Ph.D. visited the project site on April 12, 2022 to assess current conditions at the site and suitability for special-status plants and wildlife. The site included a variety of non-native plants, primarily in the areas adjacent to Norumbega Drive and along the southwestern edge of the parcel, while the hillsides and higher elevations were dominated by native species. No mountain lion dens were observed.

In addition, in the summer of 2022, a Mountain Lion Habitat Assessment (2022)³⁴ was completed for the project. The study relied on both a literature review and a field survey conducted on June 8, 2023. The field survey included an identification of plant communities, including the composition and density of species both native and non-native, to aide in the assessment of the quality of habitat for mountain lions, including foraging, breeding/denning, migration, and home range activities. The field survey included 100 percent visual coverage of the study area, which included the project site and a 0.5-mile buffer around the project site,

²⁹ Riley, S.P.D., et al. 2021. Big cats in the big city: spatial ecology of mountain lions in greater Los Angeles. *Journal of Wildlife Management*. 85(8): 1527-1542.

³⁰ iNaturalist. 2022. Available at: <https://www.inaturalist.org/> Accessed June 2, 2022.

³¹ Van Dyke, F.G., et al. 1986. Reactions of mountain lions to logging and human activity. *Journal of Wildlife Management* 50(1):95-102.

³² Rojas, Javier. 2021. Mountain lion and bear sightings shake up Angeles National Forest foothill communities. *Daily Bulletin*, November 21, 2021. Available at: <https://www.dailybulletin.com/2021/11/21/mountain-lion-and-bear-sightings-shake-up-angeles-national-forest-foothill-communities/>. Accessed June 2, 2022

³³ Riley, S.P.D., et al. 2021. Big cats in the big city: spatial ecology of mountain lions in greater Los Angeles. *Journal of Wildlife Management*. 85(8): 1527-1542

³⁴ South Environmental. 2023. Mountain Lion Habitat Assessment for the Norumbega Drive Residential Project in Monrovia, California. June 22.



which is large enough to understand the density and spatial ecology of mountain lions that could reasonably use the region, or the project site.

The Mountain Lion Habitat Assessment reports that mountain lion denning sites are typically located away from development in areas of native plant communities with dense cover, where caves or other natural cavities and rock outcrops are common, and large expanses of surrounding foraging areas are required to support two adults and the young. Two potential denning/breeding sites were observed within the study area during the survey; both sites included areas with rock outcrops to the north of the project site approximately 1,000 feet from the proposed development. There is also a potential for mating in this same area (approximately 1,000 feet from the proposed development) due to the presence of hundreds of thousands of acres of contiguous protected and areas with dense vegetation and little to no human presence. No denning sites, caves or cavities occur on the project site, and none are expected to occur due to the proximity to existing developments and the human presence in this area that would deter mountain lions.³⁵

Ambush predators like mountain lions require dense woody vegetation such as chaparral, coastal sage scrub, or woodlands to hide in and ambush prey. The northern part of the project site includes valleys with dense laurel sumac scrub where mountain lions are likely to forage regularly. However, mountain lions avoid developed areas, grasslands, and other types of areas that lack vegetation and will not follow prey such as mule deer into open areas and would instead wait in dense brush at the edge of open areas and ambush prey when they entered the denser vegetation. The wild oats and annual brome grassland and the coast live oak woodland and forest on the project site are adjacent to existing developments and lack areas with dense woody vegetation near the surface that would conceal mountain lions. The fountain grass swards on the project site also lack areas with dense woody vegetation. The Mountain Lion Habitat Assessment concludes that these three plant communities that are present on the project site are not suitable foraging areas for mountain lions on the project site.³⁶ The coast live oak woodlands that occur in the study area further from the project site are not disturbed and would likely support foraging mountain lions in these less disturbed woodlands. Additional information on the study that was conducted and the results of the study is provided in Appendix H.

Based on biological reports, local records, and the 2022 site visit, and the Mountain Lion Habitat Assessment (Appendix H) there is no evidence of mountain lion use within or adjacent to the project site. Denning is not expected to occur within or adjacent to the site. Further, the project site does not provide suitable foraging areas for mountain lions.

The proposed development is entirely within a previously disturbed area of non-native grasses and would not result in loss or direct impacts to native plant communities or areas that would be habitat for mountain lions. The development is proposed immediately adjacent to existing houses and paved roads and does not serve as a habitat linkage or wildlife movement corridor, so no mountain lions would be expected to move onto the project site or move through the area during dispersal. Areas of suitable habitat for mountain lions such as laurel sumac scrub and on the northern portion of the parcel and in the northern half of the study

³⁵ South Environmental. 2023. Mountain Lion Habitat Assessment for the Norumbega Drive Residential Project in Monrovia, California. June 22.

³⁶ South Environmental. 2023. Mountain Lion Habitat Assessment for the Norumbega Drive Residential Project in Monrovia, California. June 22.



area would not be impacted by the project and no direct impacts to mountain lion habitat would result.

Potential denning sites for mountain lion do not occur on the parcel and were identified in areas of dense vegetation with rock outcrops in two location that are 1,000 and 800 feet north of the proposed development. These potential denning sites will not be disturbed by the development and no direct impacts to denning sites would occur from the project. The increased human presence from a single-family home development is estimated to be negligible due to the existing conditions of human developments and human presence that would already deter mountain lions from the parcel. Therefore, no direct or indirect impacts to mountain lion dens would be expected from the project.

However, the proposed project is adjacent to habitat that is suitable for mountain lions during foraging and dispersal or movement events. If lights were pointed at the habitat or foraging areas or noises from construction were to occur during typical movement times it is possible that mountain lions could be deterred from using the habitat north of the proposed development. To avoid potential impacts to mountain lions from night lighting or construction noise and developments, Mitigation Measure BIO-2 is provided, which limits time of construction to daytime hours, requires fencing and trash and debris control during construction, and restricts night lighting spillover in the adjacent parks and undeveloped areas. In addition, Mitigation Measure BIO-3 has also been provided, as recommend by the CDFW, to provide for proper notification of large wildlife, including mountain lions, due to the location of the site at the foothills of the San Gabriel mountains. These mitigation measures will reduce the potential impacts to a less than significant level.

It should also be noted that the CDFW reviewed the Mountain Lion Habitat Assessment and concurred with the results per an email to South Environmental on September 21, 2023.³⁷ Further CDFW indicated that the study meets the requirements of the measures CDFW recommended in their comment letter on the previous Draft IS/MND of 2022 (enumerated in the CDFW letter as measures #1 and #2).³⁸

Bats

It is assumed that bats occur in the project vicinity as they do in the foothills of the San Gabriel Mountains generally, and that bats forage over the project site. There are no structures or features present at the site (e.g., buildings, rock outcroppings, cliffs, mines, or caves) that could support roosting bats. Tree-roosting bats may use the trees at the project site. There are local records of several special-status bat species, including pallid bat (*Antrozous pallidus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), Townsend's big-eared bat (*Corynorhinus townsendii*), western mastiff bat (*Eumops perotis californicus*), and western red bat (*Lasiurus blossevillii*).

Of these, Townsend's big-eared bat, the pocketed free-tailed bat, and the western mastiff bat require buildings, rock outcrops, cliffs, mines, or caves for roosting, which are not present at the site. The pallid bat and western red bat, and the more common hoary bat (*Lasiurus*

³⁷ CDFW. 2022c. Mountain Lion Study for Norumbega Drive Residence Project email correspondence. Los Angeles County. South Coast Region, San Diego, CA. September 21.

³⁸ CDFW. 2022a. Comments on the Mitigated Negative Declaration for Norumbega Drive Residence Project, SCH #2022020722, Los Angeles County. South Coast Region, San Diego, CA. March 14.



cinereus) use trees for roosting some or all of the time, and therefore may roost at the project site.

There are a total of seven oak trees at or adjacent to the project site (four on the project site and three on adjacent property) that could provide daytime and nighttime roosting habitat for bats. Tree canopy trimming is not proposed by the project and, thus, there would not be any reduction of the total roosting habitat in the area. However, to ensure protection of the tree canopies during construction and any potential for impacts, protection measures are recommended. Implementation of Mitigation Measures BIO-4, BIO-5, and BIO-6 would reduce the project's temporary impacts to bats to less than significant.

Standard Conditions:

SC BIO-1 Capture and Handling of Wildlife. The project may require capture, handling, and relocation of wildlife. Pursuant to the California Code of Regulations, title 14, section 650, the project sponsor's qualified biologist must obtain appropriate handling permits to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with project construction and activities. Details on what activities require a permit, permit application forms, and other information are available from CDFW at <https://wildlife.ca.gov/Licensing/Scientific-Collecting>.

CDFW has the authority to issue permits for the take or possession of wildlife, including mammals; birds, nests, and eggs; reptiles, amphibians, fish, plants; and invertebrates (Fish & G. Code, §§ 1002, 1002.5, 1003). Effective October 1, 2018, a Scientific Collecting Permit is required to monitor project impacts on wildlife resources, as required by environmental documents, permits, or other legal authorizations; and, to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with otherwise lawful activities (Cal. Code Regs., tit. 14, § 650).

SC BIO-2 Special-status Species Preconstruction Survey. The project sponsor shall retain a qualified biologist with experience surveying for coast (Blainville's) horned lizard, coastal whiptail, Southern California legless lizard, California glossy snake, and coast patch-nosed snake. Prior to commencing any project-related ground-disturbing activities, the qualified biologist shall conduct focused surveys for species of special concern (SSC) and suitable habitat no more than one month from the start of any ground-disturbing activities or vegetation removal where there may be impacts to SSC. Project-related activities include construction, equipment and vehicle access, parking, and staging. In addition, the qualified biologist shall conduct daily biological monitoring during any activities involving vegetation clearing or modification of natural habitat. Positive detections of SSC and suitable habitat at the detection location shall be mapped and photographed. The qualified biologist shall provide a summary report of SSC surveys to the City prior to implementing any project-related ground-disturbing activities and vegetation removal. Depending on the survey results, a qualified biologist shall develop species-specific mitigation measures for implementation during the project. All observations of special-status species will be documented and submitted to the CNDDDB by reporting any special status species detected by completing and submitting CNDDDB Field Survey Forms. This includes all documented occurrences of mountain lion, San Diego desert woodrat, and potential occurrences of Crotch's



bumble bee, and other special status species. The City shall ensure the data has been properly submitted, with all data fields applicable filled out, prior to project ground-disturbing activities. The City will require the project sponsor's qualified biologist's assistance with the required reporting. The project sponsor shall provide CDFW with confirmation of data submittal.

SC BIO-3 Protection Plan. Wildlife should be protected or allowed to move away on its own (non-invasive, passive relocation) to adjacent appropriate habitat within the open space on site or in suitable habitat adjacent to the project area (either way, at least 200 feet from the grading limits). Special status wildlife shall only be captured by a qualified biologist with proper handling permits (see SC BIO-1). The qualified biologist shall prepare a species-specific list (or plan) of proper handling and passive relocation protocols. The list (or plan) of protocols shall be implemented during project construction and activities/biological construction monitoring.

SC BIO-4 Injured or Dead Wildlife. If any SSC are harmed during relocation or a dead or injured animal is found, work in the immediate area shall stop immediately, the qualified biologist will be notified, and dead or injured wildlife documented. A formal report shall be sent to CDFW and the City within three calendar days of the incident or finding. Work in the immediate area may only resume once the proper notifications have been made and additional mitigation measures have been identified to prevent additional injury or death.

SC BIO-5 Entrapment. The project may result in the use of open pipes used as fence posts, property line stakes, signs, etc. CDFW recommends that all hollow posts and pipes be capped to prevent wildlife entrapment and mortality because these structures mimic the natural cavities preferred by various bird species and other wildlife for shelter, nesting, and roosting. Raptor's talons can become entrapped within the bolt holes of metal fence stakes resulting in mortality. Metal fence stakes used on the project site are required to be plugged with bolts or other materials to avoid this hazard.

SC BIO-6 Rodenticides. Second-generation anticoagulant rodenticides shall not be used on site during construction and over the life of the project.

Mitigation Measures:

BIO-1 Nesting Birds. If possible, construction activities for the project should avoid the bird and raptor nesting season recommended by CDFW (January 1 through September 15). In the event that vegetation and tree removal or trimming needs to occur between January 1 and September 15, the Project Sponsor shall retain a qualified biologist to conduct a nesting bird survey no more than 3 days prior to commencement of construction, vegetation removal and/or ground disturbing activities (e.g., staging, mobilization, grading). Results of the pre-construction survey shall be submitted to the City's Planning Division and CDFW prior to the commencement of all such construction or ground disturbing activities and the issuance of any permits. The biologist conducting the clearance survey shall document the negative results, if no active bird nests are observed on the project site or within the vicinity during the clearance survey with a brief letter report, submitted to the City's Planning Division prior to commencement of construction



or ground disturbing activities, indicating that no impacts to active bird nests would occur, before construction or ground disturbing activities can proceed.

If an active avian nest is discovered during the pre-construction clearance survey, all construction and ground disturbing activities shall stay outside of a 300-foot buffer around the active nest. For listed raptor species, this buffer shall be 500 feet. All observations of special-status species will be documented and submitted to the CNDDDB by reporting any special status species detected by completing and submitting CNDDDB Field Survey Forms. The City shall ensure the data has been properly submitted, with all data fields applicable filled out, prior to project ground-disturbing activities. The City will require the project sponsor's qualified biologist's assistance with the required reporting. The project sponsor shall provide CDFW with confirmation of data submittal. If active nests are determined to be present, a biological monitor shall be on-site to delineate the boundaries of the buffer area and to monitor the active nest at least twice weekly to ensure that nesting behavior is not adversely affected by construction or ground disturbing activity or until construction activity is completed, whichever comes first. No impacts to active nests and/or nesting habitat shall be allowed without prior approval from CDFW. Monitoring activities shall be reported to the City's Planning Division and CDFW for review and approval monthly until nesting behavior is not adversely affected by construction or ground disturbing activity or all such construction activity is completed, whichever comes first. If, as a result of the monitoring, active nesting habitat is identified and determined to be an impediment to construction activities, CDFW shall be consulted to identify next steps and appropriate protection and compensation approaches. Removal or impact to an active nest or nesting habitat shall not occur without CDFW approval. CDFW may require compensation for any proposed habitat loss. Compensation for habitat loss would increase with the occurrence of any California Species of Special Concern and/or CESA-listed species.

BIO-2 Mountain Lion. As directed by CDFW, a pre-construction survey of the parcel was conducted for the parcel through the Mountain Lion Habitat Assessment, which was accepted by CDFW in September 2023. As a result of the Mountain Lion Habitat Assessment, measures to avoid potential impacts to mountain lions from night lighting or construction noise have been identified. The following measures shall be required to address potential construction-period impacts to the mountain lion, could occur adjacent to the project site in habitat that is suitable for mountain lions for foraging and dispersal or movement events:

- a. The construction site shall be fenced to exclude wildlife such as mountain lions from entering the development areas.
- b. Fencing or walls shall be prohibited within areas of native habitat, except where necessary for public safety or habitat protection or restoration. Fencing or walls that do not permit the free passage of wildlife shall be prohibited in any wildlife corridors.
- c. Construction activities for the project shall be restricted and no work shall occur from 1-hour after sunset to 1-hour before sunrise.



- d. Trash and debris shall be contained onsite during construction.
- e. Exterior lighting (except traffic lights, navigational lights, and other similar safety lighting) shall be minimized, restricted to low intensity features, shielded, and directed away from native habitats to minimize impacts on wildlife. Permitted lighting shall conform to the following standards:
 - The minimum necessary to light walkways used for entry and exit to the structures, including parking areas, on the site. This lighting shall be limited to fixtures that do not exceed two feet in height, that are directed downward, and use bulbs that do not exceed 60 watts, or the equivalent, unless a higher wattage is authorized by the City.
 - Security lighting attached to the residence that is controlled by motion detectors and is limited to 60 watts, or the equivalent.
 - The minimum lighting necessary for safe vehicular use of the driveway. The lighting shall be limited to 60 watts, or the equivalent.
 - No lighting around the perimeter of the site, no lighting for sports courts or other private recreational facilities, and no lighting for aesthetic purposes is allowed.

In addition, all observations of special-status species will be documented and submitted to the CNDDDB by reporting any special status species detected by completing and submitting CNDDDB Field Survey Forms. The City shall ensure the data has been properly submitted, with all data fields applicable filled out, prior to project ground-disturbing activities. The City will require the project sponsor's qualified biologist's assistance with the required reporting. The project sponsor shall provide CDFW with confirmation of data submittal.

BIO-3 Mountain Lion and Black Bear Reporting. Due to the location of the site at the foothills of the San Gabriel mountains, any occurrence of mountain lion or black bear spotted in the project area (any location visible from the project site) shall be reported to the South Coast Regional Office of CDFW – (858) 467-4201 or AskR5@wildlife.ca.gov. If the sighting is not during normal business hours, the sighting should first be reported to the local police or sheriff officers. If it is determined during consultation with the CDFW that a mitigation and avoidance plan and/or incidental take permit (ITP) are needed, construction will not proceed until these have been prepared and approved by CDFW and the City.

BIO-4 Preconstruction Bat Survey. Prior to construction activities, a qualified bat specialist shall conduct bat surveys within these areas (plus a 100-foot buffer as access allows) in order to identify potential habitat that could provide daytime and/or nighttime roost sites, and any maternity roosts. Acoustic recognition technology shall be utilized to maximize detection of bat species to minimize impacts to sensitive bat species. A discussion of survey results, including negative findings shall be provided to the City. Depending on the survey results, a qualified bat specialist shall discuss potentially significant effects of the project on bats and include species-specific mitigation measures to reduce impacts to below a level of



significance (CEQA Guidelines, § 15125). All observations of special-status species will be documented and submitted to the CNDDDB by reporting any special status species detected by completing and submitting CNDDDB Field Survey Forms. The City shall ensure the data has been properly submitted, with all data fields applicable filled out, prior to project ground-disturbing activities. The City will require the project sponsor's qualified biologist's assistance with the required reporting. The project sponsor shall provide CDFW with confirmation of data submittal. Surveys, reporting, and preparation of robust mitigation measures by a qualified bat specialist shall be completed and submitted to the City prior to any project-related ground-disturbing activities or vegetation removal at or near locations of roosting habitat for bats.

BIO-5 Tree Roost Impact Minimization. If bats are not detected, but the bat specialist determines that roosting bats may be present at any time of year and could roost in trees at a given location, during tree trimming, trees shall be pushed using heavy machinery prior to using a chainsaw to remove branches. To ensure the optimum warning for any roosting bats that may still be present, trees shall be pushed lightly two or three times, with a pause of approximately 30 seconds between each nudge to allow bats to become active. A period of at least 24 hours, and preferable 48 hours, shall elapse prior to such operations to allow bats to escape.

BIO-6 Bat Maternity Roosts. If maternity roosts are found, work shall be scheduled between October 1 and February 28, outside of the maternity roosting season when young bats are present but are yet ready to fly out of the roost (March 1 to September 30).

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Services?

No Impact. Riparian habitats are those occurring along the banks of rivers, streams, lakes, and other surface water bodies. Sensitive natural communities are natural communities that are considered rare in the region by regulatory agencies, known to provide habitat for sensitive animal or plant species, or known to be important wildlife corridors. The Sawpit Wash is a concrete-lined flood control channel identified as riverine habitat on USFWS's National Wetlands Inventory web mapping application.³⁹ As the Sawpit Wash is located approximately 350 feet southwest of the project site, it is not within, nor in the immediate vicinity of, the proposed limits of disturbance for project construction and operation.

The approximate 1.3-acre project site consists mainly of highly disturbed chaparral/coastal sage scrub (1.17 acre) plus 0.13 acre of somewhat disturbed oak woodland. No riparian or other sensitive natural communities are located in the site. Thus, no impacts would occur.

Mitigation Measures: No mitigation measures are required.

³⁹ U.S. Fish and Wildlife Service (USFWS). 2020. National Wetlands Inventory. Available at: <https://www.fws.gov/wetlands/data/mapper.html>. Accessed November 6, 2020.



- 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?**

No Impact. Refer to Response 4.4(b). No wetland features are located on-site.⁴⁰ The project site is not located near any marsh, vernal pool, or coastal wetlands, and no hydrology, soils, or vegetation occur on-site that could constitute or support wetlands. In addition, pursuant to Municipal Code 15.28.050, the project would be required to obtain an erosion control permit for any grading that occurs, or unprotected graded surface that remains, during the period of October 15 through April 15. The best management practices (BMPs) required in the erosion control permit would reduce impacts to Sawpit Wash from construction-related runoff to less than significant.

Mitigation Measures: No mitigation measures are required.

- d. **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery site?**

Less Than Significant Impact. No identified wildlife corridors or native wildlife nurseries occur within the boundaries of the project site. The project site is very steep and lies on the edge of the urban/wildland interface. Based on its topography and position relative to existing development in the City of Monrovia, the site does not serve as a significant wildlife movement corridor for any terrestrial wildlife species through the local area or wider region. No impact to migratory wildlife corridors would occur.

Mitigation Measures: No mitigation measures are required.

- e. **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

Less Than Significant Impact with Mitigation Incorporated. Coast live oak trees (*Quercus agrifolia*) are protected under the City of Monrovia Oak Tree Preservation Ordinance. According to the City of Monrovia Oak Tree Preservation Ordinance (17.20.40 of the Monrovia Municipal Code) all coast live oak on vacant lots that are 10 inches in diameter or more when measured at 2 feet above the level ground are protected.

As of 2023, the arborist report (Appendix E) identifies seven protected coast live oak either on the parcel or adjacent to the parcel (i.e., within the 50-foot survey area). Note that Oak 3, which is also identified in the arborist report and Figure 2-5 was removed due to its unhealthy condition in 2020, as described in the project description (and marked in Figure 2-5 by an "X"). This removal was appropriately permitted through the City in 2020 (City of Monrovia 2023). Of the seven coast live oaks are within the study area considered in the arborist report, four of the trees are located on the project site and the other three are located on adjacent properties (i.e., within the 50-foot survey area buffer).

⁴⁰ U.S. Fish and Wildlife Service (USFWS). 2020. National Wetlands Inventory. Available at: <https://www.fws.gov/wetlands/data/mapper.html>. Accessed November 6, 2020.



No oak trees would be removed with implementation of the project. In addition, the project has been modified to address concerns regarding pruning of the canopy and impacts to the root system; no pruning of the tree canopies is proposed.

These measures are consistent with the recommended measures in the arborist report (see Appendix E).⁴¹ In addition, these incorporate CDFW's comments on the 2022 Mitigated Negative Declaration for Norumbega Drive project (CDFW 2022a).⁴² In response to CDFW's concerns that are documented in the letter, all impacts have been moved away from oak trees to outside the dripline. Further, standard conditions have been added to this IS/MND to address CDFW concerns.

Pruning is no longer proposed. An ingress/egress plan is required by the CDFW once the plans have been approved to mitigate any potential impacts from heavy equipment during the construction project. All staging must be outside the feeder root zone (dripline plus 5 feet). All staging would occur downslope and outside the canopies of the oak trees, including OP-1 or OP-2.

Site grading and construction has the potential to affect the health of the oak trees through inadvertent damage and could also result in other additional unanticipated impacts during the construction process. Implementation of Mitigation Measures BIO-7 and BIO-8 would reduce impacts to less than significant. In addition, included below as SC BIO-7 through SC BIO-11 are the recommended measures made by CDFW that are in addition to the mitigation measure recommended by the arborist report.

Standard Conditions:

The following measures will be made conditions of the project consistent with the CDFW letter received in 2022 in response to the previous Draft IS/MND on the project (CDFW 2022a).⁴³ These conditions shall be added to the site plans as notes labeled "TREE PROTECTION REQUIREMENTS."

SC BIO-7 A certified arborist shall meet on site with the contractor, prior to the start of construction to verify that the protective fencing described in Mitigation Measure BIO-8 is in place and to sign an acknowledgement that they have read and understand the tree protection measures for the project. The project shall avoid mechanical injury and compaction to roots, root flares, trunks, and branches under the dripline of the oak trees. No root exposure or pruning shall occur.

SC BIO-8 During project construction, mulch and compost shall be applied around the trees once every 6 months. Wood chip mulch shall be applied over the soil surface soil to 4 inches deep to preserve moisture and improve soil condition. If a certified arborist or and/or qualified restoration professional determines work is being

⁴¹ Rebecca Latta Arboricultural Consulting. 2023. REVISED – Arborist Report, Norumbega Drive (APN: 8523-002-045). Glendora, CA. June 25.

⁴² CDFW. 2022a. Comments on the Mitigated Negative Declaration for Norumbega Drive Residence Project, SCH #2022020722, Los Angeles County. South Coast Region, San Diego, CA. March 14.

⁴³ CDFW. 2022a. Comments on the Mitigated Negative Declaration for Norumbega Drive Residence Project, SCH #2022020722, Los Angeles County. South Coast Region, San Diego, CA. March 14.



performed improperly, that individual(s) shall stop work and determine the best course of action to avoid any tree damage or mortality before restarting work.

SC BIO-9 Protected trees are not anticipated to be damaged by construction. However, in the event that protected trees are damaged by construction, they shall be repaired in accordance with accepted arboriculture methods by a tree specialist. The project arborist shall determine when repair is required. These procedures may have a potential to cause decreased health (greater than 25% signs of visible stress) or mortality of any oak trees designated to be preserved. If any root disturbing activities are determined to have caused irreversible impacts that may eventually lead to decreased health or mortality of any oak tree, those activities and potential impacts shall be documented immediately. All documentation shall be summarized in a report provided to the City of Monrovia. Preserved oak trees that may succumb to impacts shall be replaced with oak trees that are of the same species and variety.

SC BIO-10 In the event that oak trees succumb to impacts (which is not anticipated because impacts are not foreseen to oak trees), the project sponsor and project arborist shall select the most appropriate location for replacement coast live oak trees. Coast live oak trees shall not be planted in specific location(s) that will be subject to future ground disturbance work that may impact replacement trees. Locations shall have appropriate biological or physical factors required by coast live oak trees to grow and persist where possible. The project sponsor and project arborist shall acquire appropriately sized, locally sourced coast live oak trees from a local native plant nursery that implements Phytophthora/Clean Nursery Stock protocols. CDFW recommends the following sources for additional information about Clean Nursery Stock protocols and soilborne pathogens:

- Best Management Practices for Producing Clean Nursery Stock provided by Phytosphere Research.
- Understanding and Managing Sudden Oak Death in California provided by Phytosphere Research.
- A Reference Manual for Managing Sudden Oak Death in California provided by the United States Department of Agriculture.

This may reduce the probability of introducing coast live oak trees contaminated with pests, diseases, and pathogens that could spread and infect native oak trees or habitats. A certified arborist and/or qualified restoration professional shall inspect and potentially quarantine nursery stock before bringing them into the project site and supervise the installation/transplanting of the coast live oak trees. The project sponsor shall protect and monitor the survivorship of planted coast live oak trees until the trees begin to produce seeds. The project sponsor shall consult with the certified arborist and/or qualified restoration professional on a long-term maintenance plan to provide protective caging, shading, and irrigation. Oak trees shall be protected from trampling, damage, or climbing. The project sponsor shall also consult with the certified arborist and/or qualified restoration professional if



coast live oak trees show symptoms of stress and determine the appropriate response to prevent mortality.

SC BIO-11 In the event that replacement oak trees are necessary (which is not anticipated because impacts are not foreseen to oak trees), CDFW recommends a minimum mitigation ratio of 2:1 for impacts to coast live oak trees. Coast live oak trees may be difficult to establish from seed or sapling, especially under drought conditions. A higher mitigation ratio would account for mortality and attrition of replacement coast live oak trees, and potential mortality of any oak trees marked for preservation. If all replacement trees survive and reach reproductive maturity, this will have a net benefit for birds.

Mitigation Measures:

These mitigation measures shall be added to the site plans as notes labeled “TREE PROTECTION REQUIREMENTS.”

BIO-7 Oak Tree Infectious Disease Management. An infectious tree disease management plan shall be developed and implemented prior to initiating project activities. All trees scheduled for pruning shall be inspected prior to start of those activities for contagious tree diseases including but not limited to: thousand canker fungus (*Geosmithia morbida*),⁴⁴ polyphagous shot hole borer (*Euwallacea* spp.),⁴⁵ and goldspotted oak borer (*Agrilus auroguttatus*).⁴⁶ To avoid the spread of infectious tree diseases, diseased trees, or any parts thereof, shall not be transported from the project site without first being treated using best available management practices relevant for each tree disease observed.

BIO-8 Oak Tree Construction Management. The following measures shall be implemented to protect the coast live oak trees prior to and during the construction process. Numbering reference for the oak trees corresponds with the numbering in the arborist report and as shown on Figure 2-5 of this Initial Study/Mitigated Negative Declaration. All work shall be overseen by a certified arborist, who will serve as the arborist for the project (project arborist).

- a. Provide protective fencing at the edge of the canopy plus 5 feet. Fencing shall be already installed and inspected by the project arborist prior to the beginning of work on-site. Tree protection fencing shall be a chain link fence with an access gate at least 4 feet high with 2 inch by 6-inch steel

⁴⁴ Thousand Cankers Disease. 2020. What is Thousand Cankers? Available at: <http://thousandcankers.com/>. Accessed June 2022.

⁴⁵ University of California Agriculture and Natural Resources Division. 2020. Invasive shot-hole borer and fusarium dieback guide: Identifying polyphagous and Kurushio shot-hole borer in California. Accessed at: <https://anrcatalog.ucanr.edu/pdf/8590.pdf>. Accessed June 2022

⁴⁶ University of California Statewide Integrated Pest Management Program. 2013. How to Manage Pests. Pests in Gardens and landscapes. Goldspotted Oak Borer. Accessed at: <http://ipm.ucanr.edu/PMG/PESTNOTES/pn74163.html>



posts installed at 8 feet on center. Post locations to be installed under observation by a qualified consulting arborist to avoid root damage.

- b. Provide a minimum 8.5 inch by 11-inch retroreflective sign spaced a maximum of every 100 feet along each fence perimeter. The signs shall display the following information:
 - i. "TREE PROTECTION ZONE"
 - ii. Name and contact information of project owner or authorized representative.
- c. Mechanical injury and compaction to roots, root flares, trunks, and branches under the dripline of any tree to be retained shall not occur.
- d. Lay steel plates across any areas near street trees or under protected trees used for access.
- e. No construction staging, washout or disposal of construction materials or by products shall be placed within the tree protection zones. Avoid storing soil or material on unprotected natural grade. Containment to be provided for concrete, paint, stucco, and other washout activities.
- f. Equipment shall not idle under the driplines of trees. Significant burn can occur to leaves and bark from exhaust and heat.
- g. The tree/root protection zone shall be irrigated sufficiently with clean, potable water to keep the tree in good health and vigor before, during and after construction. Trees shall be soaked so that water reaches a depth of 2-3 feet on a monthly basis, starting as soon as possible.
- h. Apply mulch and compost around the trees once every 6 months during construction. Mulch in the form of wood chips is recommended for application over the surface of the soil to 4 inches deep to preserve moisture and improve soil condition.
- i. INSPECTION: Trees shall be inspected on a periodic basis by a qualified tree consultant. The relative age, condition and targets under the tree shall determine the inspection frequency. It is the responsibility of the property owner to establish and implement an appropriate inspection schedule based on the recommendation provided by a qualified arboricultural consultant.

f. Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The property does not occur within a Los Angeles County Significant Ecological Area, Habitat Conservation Plan or Natural Communities Conservation Plan area, or other local or regional conservation planning area, and implementation of the project would not have a significant adverse effect on local or regional planning efforts. No impact would occur.

Mitigation Measures: No mitigation measures are required.



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4.5 Cultural Resources

<i>Would the project:</i>	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 an archaeological resource pursuant to Section 15064.5?		✓		
c. Disturb any human remains, including those interred outside of dedicated cemeteries?		✓		

Desktop analysis of the project site and surrounding 0.5-mile radius consisted of a records search of the California Historical Resources Inventory System (CHRIS) at the South Central Coast Information Center (SCCIC) and a Sacred Lands File (SLF) search by the Native American Heritage Commission (NAHC). The CHRIS records search was completed to identify previous cultural resources studies and previously recorded cultural resources within a 0.5-mile radius of the project site. The SLF search was completed to identify any locations deemed sacred and/or tribal cultural resources by local Native American tribes. The CHRIS search results were provided on August 25, 2021, and included a review of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Points of Historical Interest list, California Historical Landmarks list, Archaeological Determinations of Eligibility list, and California State Historic Resources Inventory list. The records search also included a review of all available historical U.S. Geological Survey (USGS) 7.5-, 15-, and 30-minute quadrangles. No known cultural resources listed or eligible for listing in a State or local register of historic resources have been identified within the project site.

a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Less Than Significant Impact With Mitigation Incorporated. The results of the CHRIS records search indicated that no cultural resources, including those listed or eligible for listing in a State or local register of historic resources, have been identified within the project site. Analysis of historical USGS quadrangles and aerial photography did not identify any historic-age (i.e., 45 years or older) or modern built environment buildings, structures, or objects within the project site. One historic-age built environment resource (P-19-004717 [Spanish Canyon Motorway]) was identified within a 0.5-mile radius of the project site. The historic-age Spanish Canyon Motorway (P-19-004717) is located approximate 0.24-mile northeast of the project site and would not be subject to any direct or indirect (e.g., visual or vibrational) impacts. As a result of the negative records search and lack of impacts to the historic-age Spanish Canyon Motorway (P-19-004717), the project would not cause an adverse change in the significance of a historical resource.



A total of four cultural resource investigations have been completed within a 0.5-mile radius of the project site between 1976 and 1995. None of the investigations include the project site. Although the records search did not identify any cultural resources within or adjacent to the project area, the project area has not been previously surveyed to determine the presence of archaeological resources.

While the record searches did not identify any cultural resources within or adjacent to the project area, the proposed earthwork for the project would involve ground-disturbing activities within an undeveloped area. Therefore, project construction has the potential to uncover previously undiscovered historical resources. The implementation of Mitigation Measure CUL-1 would reduce impacts to unknown historical resources to less than significant. Refer to Section 4.18, Tribal Cultural Resources, for additional information regarding use of Native American monitors and identified mitigation measures.

Mitigation Measures:

CUL-1 Prior to issuance of grading permits, a qualified archeologist meeting the Secretary of the Interior's Professional Qualifications Standards, and a Native American monitor shall be retained to monitor all ground-disturbing activities. Ground-disturbing activities include, but are not limited to, brush clearance, grubbing, excavation, trenching, grading, and drilling. A sufficient number of archaeological and Native American monitors shall be present each workday to ensure that simultaneously occurring ground-disturbing activities receive thorough levels of monitoring coverage. The qualified archaeologist and Native American monitors shall have the ability to recommend, with written and photographic justification, the termination of monitoring efforts to the City, and should the City and the Native American participant(s) concur with this assessment, then monitoring shall cease.

Prior to construction, a qualified archaeologist shall present a Worker Environmental Awareness Program (WEAP) training in cooperation with the Native American monitor. The WEAP training shall provide an overview of cultural (prehistoric and historic) and tribal cultural resources and outline regulatory requirements for the protection of cultural and tribal cultural resources. The WEAP will also cover the proper procedures in the event an unanticipated cultural or tribal cultural resource is identified during construction. The WEAP training can be in the form of a video or PowerPoint presentation. Printed literature (handouts) can accompany the training and can also be given to new workers and contractors to avoid the necessity of continuous training over the course of the project. A cursory investigation by the archaeological and Native American monitors shall be completed following vegetation removal.

If previously unidentified cultural or tribal cultural resources are encountered during the cursory investigation and/or during ground-disturbing activities, the archaeological and Native American monitors shall have the authority to halt ground-disturbing activities within 100 feet of the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation shall be established. If prehistoric or potential tribal cultural resources are identified, Mitigation Measure TCR-1, as outlined in Section 4.18, shall be implemented.



The qualified archaeologist, in consultation with the City (and Native American participant[s] should the find be prehistoric), shall determine whether the resource is potentially significant in accordance with Section 15064.5 of the CEQA Guidelines (that is, whether it is a historical resource, a unique archaeological resource, or tribal cultural resources). If avoidance is not feasible, a qualified archaeologist, in consultation with the City and Native American participant(s), should the find be prehistoric, shall prepare and implement a detailed treatment plan. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of, but would not be limited to, in-field documentation, archival research, subsurface testing, and excavation.

In the event that an identified cultural resource is of Native American origin, the qualified archaeologist shall consult with the City's Planning Division who will consult with the Native American participant(s), as outlined in Mitigation Measure TCR-1. No work will continue within the ESA until the qualified archaeologist, and City (along with the Native American participant[s] should the find be prehistoric) agree to and complete the appropriate treatment, and state in writing that the proposed construction activities would not significantly damage any archaeological resources.

The archaeological and Native American monitors shall complete daily monitoring logs that provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified.

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant Impact With Mitigation Incorporated. While the record searches did not identify any archaeological resources within or adjacent to the project area, the proposed earthwork for the project would involve ground-disturbing activities within an undeveloped area. Therefore, project construction has the potential to uncover previously undiscovered archaeological resources. The implementation of Mitigation Measure CUL-1 would reduce impacts to unknown archaeological resources to less than significant.

Mitigation Measures: Refer to Mitigation Measure CUL-1.

c. Disturb any human remains, including those interred outside of dedicated cemeteries?

Less Than Significant Impact With Mitigation Incorporated. No human remains have been recorded within the project site, including those interred outside of formal cemeteries; however, the discovery of human remains during project construction is always a possibility. Implementation of Mitigation Measure CUL-2 would reduce impacts related to the disturbance of human remains to less than significant.

Mitigation Measures:

CUL-2 If human remains are found, those remains would require proper treatment, in accordance with applicable laws. State of California Health and Safety Code Sections 7050.5 through 7055 describe the general provisions for human remains.



Specifically, Health and Safety Code Section 7050.5 requires if any human remains are accidentally discovered during excavation of a site, the County Coroner shall be notified of the find immediately, and no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. As required by State law, if the remains are determined to be Native American, the County Coroner shall notify the NAHC, which would determine and notify a Most Likely Descendant (MLD). The MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC and shall have the opportunity to offer recommendations for the disposition of the remains.



4.6 Energy

<i>Would the project:</i>	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?			✓	

Regulatory Setting

State

California Building Energy Efficiency Standards (Title 24)

The 2022 California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR Title 24, Part 6), commonly referred to as “Title 24,” became effective on January 1, 2023. In general, Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy-efficiency technologies and methods. Under 2022 Title 24 standards, it is estimated that consumers state-wide will save \$1.5 billion in energy costs and will reduce energy-related greenhouse gas emissions by 10 million metric tons.⁴⁷ The 2022 Title 24 standards require installation of energy-efficient windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

California Green Building Standards (CALGreen)

The CALGreen Code (CCR Title 24, Part 11), is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. CALGreen standards require new residential and commercial buildings to comply with mandatory measures under five topical areas: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code was adopted in 2022 and went into effect on January 1, 2023. CALGreen requires new buildings to reduce water consumption by 20%, divert 50% of construction waste from landfills, and install low pollutant-emitting materials.

⁴⁷ California Energy Commission. 2021. *2022 Building Energy Efficiency Standards Summary*. August 2022. Available at: https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf. Accessed February 1, 2024.



Senate Bill 100

SB 100 (Chapter 312, Statutes of 2018) requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt-hours (kWh) of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024; 52% by December 31, 2027; 60% by December 31, 2030; and 100% by December 31, 2045. The bill requires the California Public Utilities Commission (CPUC), California Energy Commission (CEC), CARB, and all other State agencies to incorporate the policy into all relevant planning. In addition, SB 100 requires the CPUC, CEC, and CARB to use programs authorized under existing statutes to achieve that policy and, as part of a public process, issue a joint report to the Legislature by January 1, 2021, and every 4 years thereafter, that includes specified information relating to the implementation of SB 100.

California Public Utilities Commission Energy Efficiency Strategic Plan

The CPUC prepared the *Long Term Energy Efficiency Strategic Plan* (Strategic Plan) in September 2008 with the goal of promoting energy efficiency and a reduction in greenhouse gases. In January 2011, a lighting chapter was adopted and added to the Strategic Plan. The Strategic Plan is California's single roadmap to achieving maximum energy savings in the state between 2009 and 2020, and beyond 2020. The Strategic Plan contains the practical strategies and actions to attain significant statewide energy savings, as a result of a year-long collaboration by energy experts, utilities, businesses, consumer groups, and governmental organizations in California, throughout the West, nationally, and internationally. The Strategic Plan includes four strategies:

1. All new residential construction in California will be zero net energy by 2020.
2. All new commercial construction in California will be zero net energy by 2030.
3. Heating, ventilation, and air condition (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate.
4. All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

California Energy Commission Integrated Energy Policy Report

In 2002, the California State legislature adopted SB 1389, which requires the CEC to develop an Integrated Energy Policy Report (IEPR) every 2 years. SB 1389 requires the CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices, and use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the State's economy, and protect public health and safety.

The CEC adopted the *Final 2022 Integrated Energy Policy Report* (2022 IEPR) on February 10, 2020. The 2022 IEPR provides the results of the CEC's assessments of a variety of energy issues facing California and covers a broad range of topics, including implementation of SB 100 (statewide greenhouse gas reduction targets), integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities,



demand response, transmission, landscape-scale planning, electricity and natural gas demand forecast, transportation energy demand forecast, renewable gas, updates on Southern California's electricity reliability, natural gas outlook, and climate adaptation and resiliency.

Renewables Portfolio Standard (RPS) Program

California's Renewables Portfolio Standard (RPS) program was established in 2002 by SB 1078 with the initial requirement that 20% of electricity retail sales must be served by renewable resources by 2017. The program was accelerated in 2015 with SB 350, which mandated a 50% RPS by 2030. SB 350 includes interim annual RPS targets with 3-year compliance periods and requires 65% of RPS procurement to be derived from long-term contracts of 10 or more years. In 2018, SB 100 was signed into law, which again increases the RPS to 60% by 2030 and requires all the state's electricity to come from carbon-free resources by 2045. The CPUC implements and administers RPS compliance rules for California's retail sellers of electricity, which include large and small investor-owned utilities, electric service providers, and community choice aggregators. The CEC is responsible for the certification of electrical generation facilities as eligible renewable energy resources and adopting regulations for the enforcement of RPS procurement requirements of public owned utilities.

City of Monrovia Energy Action Plan

The City adopted the City of Monrovia Energy Action Plan (EAP) in June 2008. The EAP was prepared by the San Gabriel Valley Energy Wise Partnership (SGVEWP), which is composed of 30 San Gabriel Valley Cities, the Southern California Association of Governments (SCAG), and Southern California Edison (SCE). The EAP consists of 21 action items identified as the Monrovia Environmental Accords. The Monrovia Environmental Accords are focused on developing City policies that support sustainability in the fields of energy, waste, urban design, urban nature, transportation, environmental health, and water.

General Plan

Applicable goals and policies related to energy from the General Plan Land Use Element are listed below:

Land Use Element:

- Goal 10* *Ensure that new development is sensitive to the City's natural and open space resources and constraints.*
- Policy 10.6* *Encourage the conservation of water and energy resources in order to reduce the need for expansion of water reservoirs and distribution facilities.*
- Policy 10.9* *Require water efficient landscaping in regard to plant selection and irrigation.*



- a. ***Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?***

Less Than Significant Impact.

Construction-Related Energy Consumption

Project construction would consume energy in two general forms: fuel energy consumed by construction vehicles and equipment; and bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Construction of the project would involve on-site energy demand and consumption related to the use of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. Project construction would not involve the use of natural gas appliances or equipment. Project construction methods would be typical of current construction practices and would not require the use of more energy intensive machinery or higher than normal volumes of trucks and worker vehicle trips.

Construction of the project would occur over a 16-month duration, and would include site preparation, grading, building construction, paving, and architectural coatings. All construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation administered by CARB. 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. As another benefit of these restrictions, off-road diesel-powered vehicles would consume less fuel and combust fuel more efficiently.

The project would also be subject to the California Environmental Protection Agency's strict on-road emissions standards for heavy-duty engines. These regulations contain strict air emissions standards that result in efficient engine fuel consumption rates compared to previous standards. In addition, technological innovations and more stringent standards are being researched, such as multifunction equipment, hybrid equipment, or other design changes, which could help to reduce demand on oil and emissions associated with construction in California over the next few years. As such, temporary energy use during construction of the project would not result in a significant increase in peak or base demands on regional energy supplies or require additional capacity from local or regional energy supplies. Thus, project construction activities would not result in a wasteful, inefficient, or unnecessary consumption of energy resources.

Further, substantial reductions in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than non-recycled materials. The project-related incremental increase in the use of energy bound in construction materials such as steel, concrete, pipes, and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials.



It is reasonable to assume that production of building materials would employ all reasonable energy conservation practices in the interest of reducing costs.

Operational Energy Consumption

The project site would be serviced by SCE for electricity and the Southern California Gas Company (SoCal Gas) for natural gas. Energy use associated with project operations would be typical of a single-family residence. Existing utilities include an overhead electrical line on the north side of Norumbega Drive and an existing natural gas line in Norumbega Drive. Natural gas and electricity access has not been defined to date. SCE and SoCal Gas would need to approve the location and engineering details of electrical and gas extensions, respectively, to supply the project. As required by the adopted 2022 Green Building Code, a solar system is required for the residence.⁴⁸

The project does not include any unusual project characteristics or require special equipment that would be more energy intensive than typical residential uses. The project would be required to include ENERGY STAR-rated appliances, energy-efficient HVAC systems, water-efficient landscaping, and irrigation systems in compliance with the most current Title 24 energy efficiency standards.

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 project would result in the consumption of oil-based fuels associated with vehicle trips generated by the residence. With regard to transportation fuel use, the project would not have control over fuel consumption factors such as vehicle type(s), engine efficiency, vehicle miles traveled, etc., for residents accessing the project site. However, due to CARB's increasing vehicle efficiency standards, it is assumed the long-term transportation fuel consumption from project operations would steadily decline over time and ensure that vehicle fuel consumption is not wasteful or inefficient.

The project would be subject to all relevant provisions of the most recent current standards of Title 24 and CALGreen Code. Compliance with these standards would ensure that the building energy use associated with the project would not be wasteful, inefficient, or unnecessary. Thus, impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. The EAP is focused on developing sustainable City policies and does not contain action items directly applicable to the project. Therefore, the applicable State plans and policies for renewable energy and energy efficiency include the 2022 Title 24 standards, the 2022 CALGreen Code, CPUC's Strategic Plan, and CEC's 2022 IEPR.

The project would be required to comply with 2022 Title 24 and CALGreen standards pertaining to building energy efficiency. Compliance with 2022 Title 24 standards and 2022

⁴⁸ California Building Standards Commission. 2022. *2022 California Green Building Standards Code. Cal Green. California Code of Regulations Title 24, Part 11.* CALGreen. Available at: <https://codes.iccsafe.org/content/CAGBC2022P3/california-code-of-regulations-title-24>. Accessed February 1, 2021.



CALGreen Code would ensure the project incorporates energy-efficient windows, insulation, lighting, and ventilation systems, which are consistent with the Strategic Plan strategies, the IEPR building energy efficiency recommendations, and General Plan Policies 10.6 and 10.9, as well as water-efficient fixtures, water-efficient landscaping, and electric vehicles charging infrastructure. Additionally, the project would use electricity provided by SCE. Per the RPS, SCE is composed of 33% renewable energy as of 2022 and would achieve at least 60% renewable energy by 2030. Therefore, the project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.



4.7 Geology and Soils

<i>Would the project:</i>	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 soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			✓	
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system 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?			✓	

The information presented in this analysis is based on and supplemented with the *Report of Geotechnical Engineering Investigation* (Geotechnical Analysis) prepared by Cal Land Engineering, Inc., dba Quartech Consultants, dated May 22, 2020. This report is included as Appendix F.



- 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.*

Less Than Significant Impact. Southern California, including the project area, is subject to the effects of seismic activity due to active faults that traverse the area. Active faults are defined as those that have experienced surface displacement within Holocene time (approximately the last 11,000 years) and/or are in a State-designated Alquist-Priolo Earthquake Fault Zone.

The project site is located within an Alquist-Priolo Earthquake Fault Zone.⁴⁹ The closest known faults are the Raymond Fault, and the Sierra Madre Fault Zone, which are 80 feet and 290 feet from the project site, respectively. Although no active faults cross the site, two active faults exist in the immediate vicinity, therefore the possibility of damage due to ground rupture is considered low to moderate.

The project would be required to demonstrate compliance with applicable seismic-related design requirements, including the California Building Code (CBC), Minimum Design Loads and Associated Criteria for Buildings and Other Structures Standard ASCE 7-16, and other applicable local codes (including Municipal Code Chapter 15.28, *Grading and Erosion Control*). These existing regulations would enforce the site-specific design recommendations identified in the Geotechnical Analysis in order to minimize the potential for damage and major injury during a seismic event. Specifically, pursuant to Municipal Code Section 15.28.070(A)(9), recommendations included in the Geotechnical Analysis must be incorporated into the project as a condition to the issuance of a building permit. These regulations include standards related to soils and foundations, structural design, building materials, and structural testing and inspections. Adherence to these building requirements and site-specific recommendations from the Geotechnical Analysis would minimize risks related to seismic ground shaking (SC GS-1). The project, therefore, would not expose people or structures to potential adverse effects of ground rupture or strong seismic ground shaking. Therefore, this impact would be less than significant.

Standard Conditions:

SC GS-1 Prior to issuance of a grading permit or encroachment permit, the respective Project Sponsor shall provide a geotechnical report that addresses earthwork and foundation recommendations, including but not limited to, earthwork, retaining walls and foundation construction adjacent to the existing structures located on the property, pavement structural sections and recommendations. The geotechnical report shall include data regarding the nature, distribution and strengths of existing soils, conclusions and recommendations for grading procedures, design criteria for and identified corrective measures, and opinions and recommendations regarding existing conditions and proposed grading.

⁴⁹ California Geological Survey (CGS). 2014. Azusa Quadrangle. Earthquake Fault Zones. Seismic Hazard Zones. Available at: <https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/>. Accessed August 20, 2021.



The report shall also include subsurface geology of the site, degree of seismic hazard if any, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, opinions and recommended design criteria to mitigate any identified geologic hazards including locations of surface and subsurface fault lines in the area as applicable.

Mitigation Measures: No mitigation measures are required.

ii. *Strong seismic ground shaking?*

Less Than Significant Impact. Southern California has numerous active seismic faults subjecting residents to potential earthquake and seismic-related hazards. Seismic activity poses two types of potential hazards for residents and structures, categorized either as primary or secondary hazards. Primary hazards include ground rupture, ground shaking, ground displacement, subsidence, and uplift from earth movement. Primary hazards can also induce secondary hazards such as ground failure (lurch cracking, lateral spreading, and slope failure), liquefaction, water waves (seiches), movement on nearby faults (sympathetic fault movement), dam failure, and fires.

According to the Geotechnical Analysis, the Raymond and Sierra Madre faults are the closest known active faults and are located approximately 80 and 290 feet from the site, respectively. These faults would likely generate the most severe seismic ground shaking at the site. The peak ground acceleration at the project site for a 10% probability of exceedance in 50 years is about 0.607g, which correlates to an intensity of VIII on the modified Mercalli Scale and would produce severe ground shaking and moderate to heavy structural damage. The site, therefore, may be subject to strong ground shaking during seismic activity.

As discussed in Section 4.7(a)(i), the project would be required to demonstrate compliance with applicable seismic-related design requirements. Adherence to these building requirements and site-specific recommendations from the Geotechnical Analysis would minimize risks related to seismic ground shaking (see SC GS-1, above). The project, therefore, would not expose people or structures to potential adverse effects of strong seismic ground shaking. Therefore, this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

iii. *Seismic-related ground failure, including liquefaction?*

Less Than Significant Impact. Primary seismic shaking can induce ground failure (lurch cracking, lateral spreading, and slope failure), liquefaction, seismically induced water waves (tsunamis and seiches), movement on nearby independent faults (sympathetic fault movement), and dam failure. Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high-intensity ground shaking. Liquefaction occurs when three general conditions coexist: 1) shallow groundwater; 2) low-density non-cohesive (granular) soils; and 3) high-intensity ground motion. Saturated, loose to medium dense, near-surface cohesionless soils exhibit the highest liquefaction potential, whereas dry, dense, cohesionless soils and cohesive soils exhibit low to negligible liquefaction potential. In general, cohesive soils are not considered susceptible to liquefaction. Effects of liquefaction on level ground include settlement, sand



boils, and bearing capacity failures below structures. Dynamic settlement of dry loose sands can occur as the sand particles tend to settle and densify as a result of a seismic event.

According to the Geotechnical Analysis, the project site lies within a designated Liquefaction Hazard Zone. The project site is underlain by fill and colluvium. The colluvium consists of generally dry to moist, loose to medium dense, slightly porous silty sand with rock fragments. Groundwater was not encountered during the geotechnical investigation and is not expected to be an issue for construction.

The Geotechnical Analysis recommends the existing fill be excavated and removed as it is not suitable to support fills and structures. The underlying colluvium should be removed to competent ground and then be used as backfill by replacing in thin lifts and compacting to 90% relative compaction. The Geotechnical Analysis further recommends that the residence be supported on the following foundation design:

- At the rear cut portion of the building pad, the building should be supported on conventional continuous footings which are embedded a minimum of 18 inches into competent bedrock. An allowable bearing value of 3,000 pounds per square foot may be used for design of continuous footings with a minimum of 12 inches in width. This value may be increased by one third when considering short-duration seismic or wind loads.
- Where the building is underlain by fill and/or colluvium, caissons should be used in combination with conventional footings. Caissons should be a minimum of 5 feet into the competent rock and at least 24 inches in diameter. All caissons should be at least 24 inches in diameter to facilitate cleanout. Caissons may be designed for an allowable end bearing pressure of 4,000 pounds per square foot. The excavations of the caisson should be cleaned of all loose and/or disturbed soils. Caissons may be assumed fixed at 2 feet into rock.

Use of the engineered backfill foundation design recommended in the Geotechnical Analysis would reduce impacts related to the potential for soil liquefaction. As discussed in Section 4.7)a)(i), adherence to seismic-related design and building requirements and site-specific recommendations from the Geotechnical Analysis would minimize risks related to seismic ground shaking, including liquefaction (SC GS-1). Specifically, pursuant to Municipal Code Section 15.28.070(A)(9), recommendations included in the Geotechnical Analysis must be incorporated into the project as a condition to the issuance of a building permit. The project, therefore, would not expose people or structures to potential adverse effects of seismic-related ground failure, including liquefaction. This impact would be less than significant impact.

Standard Conditions: Refer to SC GS-1.

Mitigation Measures: No mitigation measures are required.

iv. Landslides?

Less Than Significant Impact with Mitigation Incorporated. Parts of the project site, specifically the hillside above the location of the one-single family residence, are in a



Landslide Zone and an Alquist-Priolo Zone. According to the Geotechnical Analysis, the existing slope ranges from 1.5 to 1 (horizontal to vertical) and 2 to 2 (horizontal to vertical). The slope reaches an estimated height of 95 feet.

The Geotechnical Analysis concluded that the proposed construction and grading for the residence would be safe against geotechnical hazards such as landslides, settlement, or slippage if appropriate maintenance of the retaining walls is implemented after construction.

The Geotechnical Analysis concluded that the proposed work would not adversely affect the geologic stability of the property provided that grading and construction are performed in compliance with the local codes and recommendations presented in Section 10.0 of the Geotechnical Analysis (as enforced through SC GS-1).

In conclusion, implementation of SC GS-1 and Mitigation Measure GS-1 would reduce the potential of landslide and slope instability impacts to less than significant.

Standard Conditions: Refer to SC GS-1.

Mitigation Measures:

GS-1 To appropriately address the potential for landslide and slope instability, the following measures shall be implemented during and after construction of the project. The contractor shall be responsible for ensuring construction measures are implemented. Post-construction measures shall be the responsibility of the property owner:

- a. Comply with all recommendations in the Geotechnical Analysis.
- b. Protect slopes from runoff by installing and maintaining top-of-slope compacted earth berms or concrete interceptor drains.
- c. Install backdrains for all retaining walls.
- d. Install and maintain landscaping on all slopes; landscaping on slopes shall be with suitable plant material requiring minimum cultivation and irrigation water to thrive.
- e. Install and use an irrigation system to provide for regulated and controlled watering of vegetation (i.e., avoiding over- or under-watering). After construction of the residence is complete, avoid overwatering and slope saturation.
- f. Maintenance shall include correction of defective drainage terraces on slope, elimination of burrowing rodents, corrections of defective irrigation facilities, and controlled slope vegetation growth. Irrigation programs for all landscaped slopes should be well controlled and minimized. Seasonal adjustments shall be made to prevent excess moisture in the slope soils.



b. Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. The primary concern in regard to soil erosion or loss of topsoil would be from construction activities associated with the project (e.g., earthwork and grading). Construction activities associated with the project would expose on-site soils to short-term erosion by wind and water. The proposed project would be constructed on a hillside, as defined in Section 12.36.040 of the Municipal Code, and qualifies as a single-family hillside development. Consistent with Sections 12.36.090 and 12.36.100 of the Municipal Code the project would be required to comply with the current Municipal NPDES Permit (Order No. R4-2012-0175), to lessen the water quality impacts of development by using smart growth practices, and to integrate low impact design practices and standards for storm water pollution mitigation. Requirements for Industrial/Commercial and Construction Activities, dischargers associated with construction activities would be required to implement effective BMPs, including source control BMPs in accordance with Table 10 of Part VI.D.6.f of the Municipal NPDES Permit. Additionally, the project would be required to comply with provisions within Chapter 15.28, Grading and Erosion Control, of the Municipal Code, which includes measures to substantially reduce the potential for erosion and sedimentation damage within the City; refer to Section 4.10, Hydrology and Water Quality. Development of the project would require the implementation of BMPs to reduce, prevent, or minimize soil erosion from project-related grading and construction activities. During project operation, the project would be required to maintain irrigated landscaping on the hillside as discussed in Section 4.7(a)(iv), above. Thus, soil erosion or loss of topsoil are unlikely to occur during project operation. Following compliance with the applicable regulations, including implementation of BMPs associated with NPDES requirements, the project would result in less than significant impacts involving soil erosion and loss of topsoil.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact with Mitigation Incorporated. Refer to Responses 4.7(a)(iii), 4.7(a)(iv), and 4.7(d) for a discussion concerning liquefaction, landslides, and expansive soils, respectively.

Lateral Spreading

Lateral spreading is a phenomenon in which large blocks of intact, non-liquefied soil move downslope on a liquefied soil layer. Lateral spreading is often a regional event. For lateral spreading to occur, the liquefiable soil zone must be laterally continuous, unconstrained laterally, and free to move along sloping ground. The project site's potential for lateral spreading is considered moderate to high based on its location in a mapped Liquefaction Zone; refer to Response 4.7(a)(iii). The Geotechnical Analysis recommends the existing fill be excavated and removed as it is not suitable to support fills and structures. The underlying colluvium should be removed to competent ground then used as backfill by replacing in thin lifts and compacting to 90% relative compaction. Adherence to these requirements and site-specific recommendations from the Geotechnical Analysis would minimize risks related to lateral spreading (see SC GS-1, above). Therefore, less than significant impacts would occur.



Landslide

Refer to Section 4.7(a)(iv) for a discussion of landslide potential on the site. The northern portion of the project site is located in a mapped Landslide Zone.⁵⁰ The Geotechnical Analysis concluded that the proposed work would not adversely affect the geologic stability of the property provided that grading and construction are performed in compliance with the local codes and recommendations presented in Section 10.0 of the Geotechnical Analysis (as enforced through SC GS-1) and that appropriate installation and maintenance of the slopes and retaining walls occurs (as required in Mitigation Measure GS-1). Therefore, this impact would be less than significant impact with mitigation incorporated.

Soil Shrinkage and Subsidence

Refer to Section 4.7(a)(iii) regarding liquefaction potential.

According to the Geotechnical Analysis, the colluvium soils have low potential for settlement if compacted as suggested and differential settlement is not expected to be significant. The project would be required to demonstrate compliance with applicable CBC and design requirements as well as the site-specific design recommendations identified in Section 10.0 of the Geotechnical Analysis to reduce impacts related to unstable soil conditions (as enforced through SC GS-1). Compliance with applicable design requirements and recommendations would reduce impacts to less than significant.

Standard Conditions: Refer to SC GS-1.

Mitigation Measures: Refer to Mitigation Measure GS-1.

- d. **Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?**

Less Than Significant Impact. Expansive soils are those that undergo volume changes as moisture content fluctuates, swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement, and distorting structural elements.

According to the Geotechnical Analysis, the project site has a very low expansion potential. Nonetheless, the project would be subject to compliance with applicable CBC and Standard ASCE 7-16 requirements as well as site-specific design recommendations identified in the Geotechnical Analysis (as enforced through SC GS-1). Compliance with applicable design requirements would reduce impacts in regard to expansive soil, if any, and this impact would be less than significant.

Standard Conditions: Refer to SC GS-1.

Mitigation Measures: No mitigation measures are required.

⁵⁰ California Geological Survey (CGS). 2014. *Azusa Quadrangle. Earthquake Fault Zones. Seismic Hazard Zones*. Available at: <https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/>. Accessed August 20, 2021.



- e. **Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater?**

No Impact. The project would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, no impact would occur.

Mitigation Measures: No mitigation measures are required.

- f. **Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

Less Than Significant Impact. According to the Geotechnical Analysis, the project site partially contains artificial fill at the surface to depths of 6 feet below ground surface, and Quaternary colluvium at the surface to depths of 6 to 10 feet below ground surface. Both units are subsequently underlain by Mesozoic plutonic igneous rocks. Artificial fill consists of grayish brown, silty sand with rock fragments. Artificial fill is unlikely to contain significant fossils due to its age and level of disturbance. Colluvium consists of brown to reddish brown, silty sand with rock fragments. Colluvium typically is deposited via mass wasting along slopes in areas of high topographic relief, which is a setting not conducive for fossil preservation. Therefore, both artificial fill and colluvium have a low paleontological potential based on the classifications of the Society of Vertebrate Paleontology (SVP).⁵¹ The underlying bedrock consists of weathered plutonic igneous rocks, such as dark gray quartz diorite, formed from the cooling of molten rock under high heat and/or high pressure deep below the surface of the crust. Plutonic igneous rocks have no paleontological potential.⁵²

Ground disturbances associated with the project may require removal of artificial fill and colluvium to approximately 10 to 11 feet below ground surface across most of the site, with some local excavations extending into the underlying quartz diorite bedrock. Because artificial fill and colluvium have a low paleontological potential, and the underlying quartz diorite has no paleontological potential, paleontological resources are not anticipated to be impacted during project grading activities. Nevertheless, in the event that paleontological resources are discovered in the colluvium during project earthwork or excavation, Standard Condition SG-2 would require all project construction activities to halt until a qualified paleontologist identifies paleontological significance of the find and recommends a course of action. Thus, following implementation of SC GS-2, this impact would be less than significant.

Standard Conditions:

SC GS-2 If evidence of subsurface paleontological resources is found during construction, excavation and other construction activity in that area shall cease within 50 feet of the discovery and the construction contractor shall contact the City Planning Division. With direction from the City Planning Division, a qualified paleontologist, who meets the guidelines defined by the Society of Vertebrate Paleontology, shall be retained to evaluate the find and recommend a course of action. If warranted,

⁵¹ Society of Vertebrate Paleontology (SVP). 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*. Available at: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf.

⁵² Society of Vertebrate Paleontology (SVP). 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*. Available at: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf.



the qualified paleontologist shall prepare and complete a standard Paleontological Resources Mitigation Program for identified resources. Construction shall not resume within 50 feet of the discovery until the qualified paleontologist states in writing that the proposed construction activities would not significantly damage paleontological resources.

Mitigation Measures: No mitigation measures are required.



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4.8 Greenhouse Gas Emissions

<i>Would the Project:</i>	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 gases?			✓	

The information presented in this analysis is based on and has been supplemented with the 2021 *Air Quality & Greenhouse Gas Technical Report* prepared by SWCA Environmental Consultants (SWCA) and included here as Appendix C.

Global Climate Change

Global climate change refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone, and certain hydro-fluorocarbons. These gases, known as greenhouse gases (GHGs), allow solar radiation (sunlight) into the Earth’s atmosphere, but prevent radiative heat from escaping, thus warming the Earth’s atmosphere. GHGs are emitted by both natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth’s temperature. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and contribute to what is termed “global warming,” the trend of the warming of the Earth’s climate from anthropogenic activities.

California is a substantial contributor of global GHGs, emitting over 400 million tons of CO₂ per year.⁵³ Climate studies indicate that California is likely to see an increase of 3 to 4 degrees Fahrenheit over the next century. CH₄ is also an important GHG that potentially contributes to global climate change. GHGs are global in their effect, which is to increase the Earth’s ability to absorb heat in the atmosphere. Because primary GHGs have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is disassociated with the point of emission.

Regulations and Significance Criteria

The Intergovernmental Panel on Climate Change (IPCC) developed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. It concluded that

⁵³ California Air Resources Board (CARB). 2020. *California Greenhouse Gas Emission Inventory for 2000 to 2018*. Available at: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ghg_inventory_trends_00-18.pdf. Accessed July 20, 2021.



a stabilization of GHGs at 400 to 450 parts per million (ppm) CO₂ equivalent (CO₂e)⁵⁴ concentration is required to keep global mean warming below 2 degrees Celsius, which in turn is assumed to be necessary to avoid significant levels of climate change. As of May 2020, the highest monthly average concentration of CO₂ in the atmosphere was recorded at 417 ppm.⁵⁵

Executive Order S-3-05 was issued in June 2005, establishing the following GHG emission reduction targets:

- 2010: Reduce GHG emissions to 2000 levels;
- 2020: Reduce GHG emissions to 1990 levels; and
- 2050: Reduce GHG emissions to 80% below 1990 levels.

Assembly Bill (AB) 32 requires that CARB identify statewide GHG emissions level in 1990 and establish a statewide GHG emissions limit that would ensure statewide emissions are reduced to 1990 levels by 2020. As such, CARB established a 2020 emissions limit of 427 million metric tons of CO₂e (MMTCO₂e).

Executive Order B-30-15, issued in April 2015, requires statewide GHG emissions to be reduced 40% below 1990 levels by 2030. SB 32, signed into law in September 2016, codifies the 2030 GHG reduction target in Executive Order B-30-15. The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030. CARB must also adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG reductions.

Due to the nature of global climate change, it is not anticipated that any single development project would have a substantial effect on global climate change. GHG emissions from the project would combine with emissions emitted across California, the United States, and the world to cumulatively contribute to global climate change.

The General Plan provides smart growth and land use planning principles designed to reduce vehicle miles traveled (VMT) and result in a reduction in GHG emissions and addresses climate change and GHG reduction policies in multiple elements. The City also has prepared the City of Monrovia EAP, which seeks to decrease energy use and dependence and requires consistency with energy saving strategies. This includes Title 24 of the Energy Action Plan, which requires energy efficient strategies.

South Coast Air Quality Management District Thresholds

At this time, there is no absolute consensus in the State of California among CEQA lead agencies regarding the analysis of global climate change and the selection of significance criteria. In fact, numerous organizations, both public and private, have released advisories and guidance with recommendations designed to assist decision makers in the evaluation of GHG emissions given the current uncertainty regarding when emissions reach the point of significance. Lead agencies

⁵⁴ Carbon dioxide equivalent (CO₂e) is a metric measure used to compare the emissions from various GHGs based on their global warming potential.

⁵⁵ Scripps Institution of Oceanography. 2020. *Rise of Carbon Dioxide Unabated*. Available at: <https://scripps.ucsd.edu/news/rise-carbon-dioxide-unabated>. Accessed December 15, 2020.



may elect to rely on thresholds of significance recommended or adopted by State or regional agencies with expertise in the field of global climate change.

The SCAQMD has formed a GHG CEQA Significance Threshold Working Group (Working Group) to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. As of the last Working Group meeting (Meeting No. 15) held in September 2010, the SCAQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency.

With the tiered approach, the project is compared with the requirements of each tier sequentially and would not result in a significant impact if it complies with any tier. Tier 1 excludes projects that are specifically exempt from SB 97 from resulting in a significant impact. Tier 2 excludes projects that are consistent with a GHG reduction plan that has a certified final CEQA document and complies with AB 32 GHG reduction goals. Tier 3 excludes projects with annual emissions lower than a screening threshold. For all non-industrial projects, the SCAQMD is proposing a screening threshold of 3,000 metric tons of CO₂e (MTCO₂e) per year. SCAQMD concluded that projects with emissions less than the screening threshold would not result in a significant cumulative impact.

Therefore, for the purposes of this project, the Tier 3 threshold is considered the applicable threshold.

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. Project-related GHG emissions would include emissions from direct and indirect sources. Direct project-related GHG emissions include emissions from construction activities, area sources, and mobile sources, while indirect sources include emissions from electricity consumption, water demand, and solid waste generation. The project site is currently undeveloped.

Construction Emissions

Construction emissions are typically summed and amortized over the lifetime of a project (assumed to be 30 years), then added to the operational emissions.⁵⁶ As shown in Table 4-8, Operational Net Greenhouse Gas Emissions, the project would result in 8.3 MTCO₂e per year (amortized over 30 years).

Total Project-Related Sources of Greenhouse Gases

As shown in Table 4-8, the total amount of project-related GHG emissions from direct and indirect sources combined would be approximately 23.8 MTCO₂e per year. Therefore, project GHG emissions would not exceed the SCAQMD Tier 3 threshold. Therefore, this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

⁵⁶ The project lifetime is based on the standard 30-year assumption of the South Coast Air Quality Management District. Source: South Coast Air Quality Management District, 2009. *Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #13*. August 26. Available at: [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-13/ghg-meeting-13-minutes.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-13/ghg-meeting-13-minutes.pdf?sfvrsn=2). Accessed July 20, 2021.



**Table 4-8
Operational Net Greenhouse Gas Emissions**

Emissions Source	GHG Emissions (metric tons CO ₂ e/year)
Construction equipment and vehicle emissions	248.72
Operations emissions	15.52
Construction emissions – amortized ¹	8.3
Operational Emissions – facility site ²	15.52
Total	23.8
Significance Threshold ³	3,000
Threshold exceeded?	No

Notes:

1. Total construction emissions amortized over project life of 30 years.
2. Includes direct and indirect emissions of project site operations.
3. The SCAQMD interim threshold for GHG emissions, 3,000 MT/year for commercial projects, is used. Calculations, assumptions, and model outputs are provided in Appendix C.

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant. The project is a single-family residence and would not significantly contribute to cumulative increases in GHG emissions over time nor conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. At the time of this analysis, the City has not adopted a GHG reduction plan against which the project can be evaluated.

2017 Scoping Plan

The goal to reduce GHG emissions to 1990 levels by 2020 (Executive Order S-3-05) was codified by the Legislature as the 2006 Global Warming Solutions Act (AB 32). In 2008, CARB approved a Scoping Plan as required by AB 32.⁵⁷ The Scoping Plan has a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation fee to fund the program. The 2017 Scoping Plan Update (the most recent update) identifies additional GHG reduction measures necessary to achieve the 2030 target. These measures build upon those identified in the first update to the Scoping Plan (2013). Although a number of these measures are currently established as policies and measures, some measures have not yet been formally proposed or adopted. It is expected that these measures or similar actions to reduce GHG emissions will be adopted as required to achieve Statewide GHG emissions targets.

Table 4-9, Project Consistency with the 2017 Scoping Plan, summarizes the project's consistency with the 2017 Scoping Plan. As summarized, the project would not conflict with any of the provisions of the 2017 Scoping Plan and in fact supports four of the action categories through energy efficiency, water conservation, recycling, and landscaping.

⁵⁷ The *Climate Change Proposed Scoping Plan* was approved by the CARB on December 11, 2008.



**Table 4-9
Project Consistency with 2017 Scoping Plan**

Sector / Source	Category / Description	Project Consistency Analysis
Energy		
California Renewables Portfolio Standard (SB 350 and SB 100)	Increases the proportion of electricity from renewable sources to 33% renewable power by 2020. SB 350 requires 50% by 2030. SB 100 requires 44% by 2024, 52% by 2027, and 60% by 2030. It also requires the State Energy Resources Conservation and Development Commission to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.	No Conflict. The project would attain energy from SCE, which is required to meet the 2030, 2045, and 2050 performance standards. In 2022, approximately 33% of SCE's electricity came from renewable resources. ¹ By 2030, SCE plans to achieve 80% carbon-free energy. ² The project would also meet the applicable requirements of the Title 24 Standards and the California Green Building Standards Code (CALGreen).
CCR, Title 24, Building Standards Code	Energy Efficiency Standards for Residential and Nonresidential Buildings.	Mandatory Compliance. The project must demonstrate that it will meet the applicable requirements of the 2022 Title 24 Standards and CALGreen prior to approval of the building permits.
Lighting Efficiency and Toxics Reduction Act (AB 1109)	The Lighting Efficiency and Toxics Reduction Act (AB 1109) prohibits manufacturing specified general purpose lights that contain levels of hazardous substances prohibited by the European Union. AB 1109 also requires a reduction in average Statewide electrical energy consumption by not less than 50% from the 2007 levels for indoor residential lighting and not less than 25% from the 2007 levels for indoor commercial and outdoor lighting by 2018.	No Conflict. According to the CEC, energy savings from AB 1109 are achieved through codes and standards. Energy savings from AB 1109 are calculated as part of codes and standards savings. ³ As discussed above, the project would meet the applicable requirements of the 2022 Title 24 Standards and CALGreen, which include energy efficient lighting.
California Green Building Standards (CALGreen) Code Requirements	All bathroom exhaust fans shall be ENERGY STAR compliant.	Mandatory Compliance. The project construction plans must demonstrate that energy efficiency appliances (including bathroom exhaust fans) and equipment would meet the applicable energy standards in the 2022 Title 24 Standards and CALGreen prior to approval of the building permits.



**Norumbega Drive Residence Project
Revised Draft Initial Study/Mitigated Negative Declaration**

Sector / Source	Category / Description	Project Consistency Analysis
	HVAC Systems will be designed to meet American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) standards.	Mandatory Compliance. The project construction plans must demonstrate that energy efficiency appliances and equipment would meet the applicable energy standards in ASHRAE 90.1-2013 Appendix G and the 2022 Title 24 Standards and CALGreen prior to approval of the building permits.
	Energy commissioning shall be performed for buildings larger than 10,000 square feet.	Not Applicable. The project includes a 5,106-square-foot residence. Therefore, the project would not include any buildings exceeding 10,000 square feet and energy commissioning would not be required.
	Air filtration systems are required to meet a minimum efficiency reporting value (MERV) 8 or higher.	Mandatory Compliance. The project must demonstrate compliance with the requirement of MERV 13 or higher, in accordance with the 2022 CALGreen Code, prior to approval of the building permits.
	Refrigerants used in newly installed HVAC systems shall not contain any chlorofluorocarbons (CFC)s.	Mandatory Compliance. The project must meet this requirement as part of its compliance with the 2022 CALGreen Code prior to approval of the building permits.
	Parking spaces shall be designed for carpool or alternative fuel vehicles. Up to 8% of total parking spaces will be designed for such vehicles.	Not Applicable. The project is a residence.
	Long-term and short-term bike parking shall be provided for up to 5% of vehicle trips.	Not Applicable. The project is a residence.
	Requires use of low-VOC coatings consistent with AQMD Rule 1168.	Consistent. The project would be consistent with this regulation and would meet the low-VOC coating requirements.



Sector / Source	Category / Description	Project Consistency Analysis
SB 1368, CCR Title 20, Cap-and-Trade Program	The Cap-and-Trade Program places an economy-wide “cap” on major sources of greenhouse gas emissions (i.e., refineries, power plants, industrial facilities and transportation fuels) and minimizes the compliance costs of achieving AB 32 goals. Electricity generators and large industrial facilities emitting 25,000 MTCO _{2e} or more annually are subject to the Cap-and-Trade Program. Each year the cap is lowered by approximately 3%, ensuring that California is reducing greenhouse gases.	Not Applicable. This program involves capping emissions from large-scale electricity generation, industrial facilities, and broad scoped fuels. Caps do not directly affect residential projects.
Mobile Sources		
AB 1493 (Pavley Regulations)	Reduces GHG emissions in new passenger vehicles from model year 2012 through 2016 (Phase I) and model years 2017–2025 (Phase II). Also reduces gasoline consumption to a rate of 31% of 1990 gasoline consumption (and associated GHG emissions) by 2020.	Not Applicable. These regulations apply to automobile manufacturers, not individual land uses. Mobile emissions associated with the project in Table 4-8 reflect compliance with this regulation.
Low Carbon Fuel Standard (Executive Order S-01-07)	Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels. This executive order establishes a Statewide goal to reduce the carbon intensity of California’s transportation fuels by at least 10% by 2020	Not Applicable. The Low Carbon Fuel Standard applies to manufacturers of automotive fuels, not to individual land uses. Mobile emissions associated with the project in Table 4-8 reflect compliance with this regulation.
Advanced Clean Cars Program	In 2012, CARB adopted the Advanced Clean Cars (ACC) program to reduce criteria pollutants and GHG emissions for model year vehicles 2015 through 2025. ACC includes the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.	Not Applicable. The project is a single-family residence.
SB 375	SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. Under SB 375, CARB is required, in consultation with the state’s Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035.	Consistent. The project is a single-family residence.



Sector / Source	Category / Description	Project Consistency Analysis
Water		
CCR, Title 24, Building Standards Code	Title 24 includes water efficiency requirements for new residential and non-residential uses.	Mandatory Compliance. The project would be required to comply with Chapter 4, Division 4.3 – Water Efficiency and Conservation of the 2022 Title 24 Standards. This includes compliance with the Model Water Efficient Landscape Ordinance (MWELo).
Solid Waste		
California Integrated Waste Management Act (IWMA) of 1989 and AB 341	The IWMA mandated that state agencies develop and implement an integrated waste management plan which outlines the steps to be taken to divert at least 50% of their solid waste from disposal facilities. AB 341 directs the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling and sets a Statewide goal for 75% disposal reduction by the year 2020.	Not Applicable. These regulations apply to municipal agencies which are responsible for reducing landfill disposal of solid wastes collected in their jurisdictions.

Notes:

1. Southern California Edison (SCE). 2022. *2022 Power Content Label Southern California Edison*. Available at: https://www.sce.com/sites/default/files/custom-files/PDF_Files/SCE_2022_Power_Content_Label_B%26W.pdf. Accessed February 1, 2024.
2. California Air Resources Board (CARB). 2017. *California's 2017 Climate Change Scoping Plan*, Figure 4: California 2013 Anthropogenic Black Carbon Emission Sources. November.
3. California Energy Commission (CEC). 2013. *2013 California Energy Efficiency Potential and Goals Study, Appendix Volume I*.

Source: California Air Resources Board (CARB). *California's 2017 Climate Change Scoping Plan*. November.

Conclusion

In summary, the plan consistency analysis demonstrates that the project complies with or exceeds the plans, policies, regulations, and GHG reduction actions/strategies outlined in the 2017 Scoping Plan. Therefore, the project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHGs. Furthermore, because the project is consistent and does not conflict with these plans, policies, and regulations, the project's incremental increase in GHG emissions would not result in a significant impact on the environment. Therefore, impacts with regard to climate change would be less than significant.

Mitigation Measures: No mitigation measures are required.



4.9 Hazards and Hazardous Materials

<i>Would the project:</i>	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 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 plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				✓
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?		✓		
g. Expose people or structures, either directly or indirectly, to a significant risk or loss, injury or death involving wildland fires?			✓	

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. A significant impact may occur if a project would involve the use or disposal of hazardous materials as part of its routine operations or would have the potential to generate toxic or otherwise hazardous emissions that could adversely affect sensitive receptors.

Construction of the project would involve the transport, use, and disposal of potentially hazardous materials. These materials include paints, adhesives, surface coatings, cleaning agents, fuels, and oils that are typically associated with development of any urban infill project.



As described in Section 2, Project Description, construction activities would be temporary, lasting approximately 16 months. These temporary construction activities involving the use, transport, storage, and disposal of hazardous materials would be conducted in compliance with all health and safety requirements, such as County and City General Plan policies, CCR Sections 337 through 340, Chapter 6.95 of the California Health and Safety Code Article 1, and CCR Title 19, Public Safety, Division 2 (if required). Because the Project Sponsor would comply with applicable regulations and laws pertaining to the transport, storage, use, and disposal of potentially hazardous materials, the exposure of the public, construction workers, and environment to hazardous materials would be less than significant.

Operation of the single-family residence would involve the use and storage of small quantities of potentially hazardous materials, such as cleaning solvents, paints, and pesticides for landscaping. Other household hazardous materials could include cleaning solvents, waxes, dyes, toners, paints, bleach, grease, and petroleum products that are typically associated with residential land uses. The project generally would not produce significant amounts of hazardous waste or use or transport hazardous waste beyond those materials typically used in single-family households. Overall, the use of household hazardous materials would be similar to the existing use of surrounding residences. Thus, the operation of the project would not create a significant hazard to the environment or public, and the impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. A significant impact may occur if a project could create an upset or accident condition involving hazardous materials. No hazardous contamination sites are located in the vicinity of the project site and thus there is no reasonably foreseeable release of hazardous materials from existing hazardous contamination.^{58,59} Construction of the project would use small amounts of hazardous materials such as diesel fuel. The BMPs required by the City through the grading permit process would incorporate the requirements outlined in Chapter 12.36 of the Municipal Code and would address the potential for minor spills during construction. During operation, the use of household hazardous materials would be minimal, in small quantities, and would be associated with routine maintenance, cleaning, and landscaping activities. Therefore, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and the impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

⁵⁸ State Water Resources Control Board (California Water Boards). 2018. GeoTracker. Available at: <https://geotracker.waterboards.ca.gov/map/>. Accessed February 3, 2021.

⁵⁹ Department of Toxics Substances Control (DTSC). 2018. EnviroStor. Available at: <https://www.envirostor.dtsc.ca.gov/public/map>. Accessed February 3, 2021.



c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. There are no schools within 0.25 mile of the project site. The nearest existing school is Tzu Chi Elementary School, 420 Wildrose Avenue, approximately 0.93 mile southwest of the project site. The project would not handle hazardous materials within 0.25 mile of an existing or proposed school. Therefore, no impact would occur.

Mitigation Measures: No mitigation measures are required.

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?

No Impact. California Government Code Section 65962.5 requires various State agencies to compile lists of hazardous waste disposal facilities, unauthorized release from underground storage tanks, contaminated drinking water wells, and solid waste facilities from which there is known migration of hazardous waste, and to submit such information to the Secretary for Environmental Protection on at least an annual basis. In meeting the provisions in California Government Code Section 65962.5, commonly referred to as the “Cortese List,” database resources such as EnviroStor and GeoTracker provide information regarding identified facilities. According to EnviroStor and GeoTracker, the project site is not located in the vicinity of a hazardous materials site;^{60,61} therefore, no impact would occur.

Mitigation Measures: No mitigation measures are required.

e. For a project located within an airport land use plan or, where such 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?

No Impact. The project is not located within an airport land use plan and there are no public or private airports or airstrips within 2 miles of the project site. The nearest airport to the project site is the San Gabriel Valley Airport, located approximately 6 miles to the southwest at 4233 Santa Anita Avenue, El Monte. Therefore, no impact would occur.

Mitigation Measures: No mitigation measures are required.

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant With Mitigation Incorporated. A significant impact may occur if a project were to interfere with roadway operations used in conjunction with an emergency

⁶⁰ State Water Resources Control Board (California Water Boards). 2018. GeoTracker Website. Available at: <https://geotracker.waterboards.ca.gov/map/>. Accessed August 24, 2021.

⁶¹ Department of Toxics Substances Control (DTSC). 2018. EnviroStor Website. Available at: <https://www.envirostor.dtsc.ca.gov/public/map>. Accessed August 24, 2021.



response plan or emergency evacuation plan or would generate sufficient traffic to create traffic congestion that would interfere with the execution of such a plan.

The City has adopted an Emergency Operations Plan which establishes and details emergency organization, assigns tasks, specifies policies and general procedures, and provides for coordination of planning efforts of the various emergency staff and service elements.⁶² Once approved by the City Council, this plan is an extension of the County of Los Angeles Emergency Response Plan and the California Emergency Plan. In addition, Monrovia Fire and Rescue Department (MFD) has adopted a Community Wildfire Protection Plan (CWPP) which identifies potential evacuation routes and procedures.⁶³ According to the CWPP, MFD's plan for evacuation of hillside residents due to wildfire involves coordination among many departments and agencies, and emergency evacuation routes are dependent on the location and movement of the wildfire. The CWPP identifies likely evacuation routes and routes where no parking would be allowed. Potential evacuation routes identified in the CWPP include Norumbega Drive, Greystone Avenue, Mountain Avenue, and South Myrtle Avenue. Routes with no parking include portions of Norumbega Drive.⁶⁴ In 2020, the Bobcat Fire burned 116,000 acres including parts of Angeles National Forest, Monrovia Hillside Wilderness, and portions of Monrovia Canyon Park, and burned to within 750 feet of the project site. During the Bobcat Fire, the project site was, for a time, under evacuation warning. Identified evacuation routes during that time included North Shamrock Avenue, North Ivy Avenue, and East Foothill Boulevard.⁶⁵

Construction of one single-family residence under the project would result in minimal amounts of traffic related to worker trips, the delivery of materials, and disposal of excavated soils. The house would be constructed on Norumbega Drive, which is 30 feet wide at the project site. Construction traffic would not impede public access and would not interfere with the City's CWPP or the MFD. Mitigation Measure HAZ-1 requires that, in the event of wildfire evacuation warning, construction would cease, and all impediments would be removed from the street. Traffic generated by the one single-family residence would be negligible and would not adversely affect the level of service of nearby roadways or intersections. During the construction phase, the City would require an encroachment permit for any temporary activities that would affect the public right-of-way. In addition, under Mitigation Measure TRA-1 in Section 4.17, Transportation, the project would be required to prepare a Traffic Management Plan for approval by the City Traffic Engineer. The Traffic Management Plan would include procedures for emergency responses. Therefore, with the implementation of Mitigation Measures HAZ-1 and TRA-1, project construction would not impair the implementation of or physically interfere with an emergency response plan or emergency evacuation plan, and impacts would be reduced to less than significant.

The project would incorporate all applicable design and safety standards and regulations as set forth by the CBC and MFD to ensure that it does not interfere with the provision of local

⁶² City of Monrovia. 2021a. Draft Emergency Operations Plan. Part 2: EOC Management and Implementation Plan. Accessed September 14, 2021.

⁶³ City of Monrovia Fire and Rescue. 2014. *Community Wildfire Protection Plan*. Available at: <https://www.cityofmonrovia.org/home/showpublisheddocument/1836/636244055698530000>. Accessed September 15, 2021.

⁶⁴ City of Monrovia Fire and Rescue. 2014. *City of Monrovia Wildfire Protection Plan*. Available at: <https://www.cityofmonrovia.org/home/showpublisheddocument/1836/636244055698530000>. Accessed September 15, 2021.

⁶⁵ City of Monrovia. 2020b. Bobcat Fire. Prepare for Evacuations webpage. Available at: <https://www.cityofmonrovia.org/your-government/bobcat-fire/prepare-for-evacuations>. Accessed August 30, 2021.



emergency services (i.e., provision of adequate access roads to accommodate emergency response vehicles, minimum turning radii, etc.). Thus, project implementation would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

Mitigation Measures: Refer to Mitigation Measure TRA-1.

HAZ-1 During construction, only allow parking of vehicles on one side of Norumbega Drive to ensure emergency vehicles can access the surrounding neighborhood should a wildfire occur in the area. If Norumbega Drive is identified as an evacuation route during a wildfire emergency, the contractor would be responsible for ensuring that all vehicles and materials are immediately removed from the street and the evacuation route is clear.

g. Expose people or structures, either directly or indirectly, to a significant risk or loss, injury or death involving wildland fires?

Less Than Significant Impact. A significant impact may occur if a project is located in proximity to wildland areas and would pose a potential fire hazard, which could affect persons or structures in the area in the event of a fire. According to the City's Vulnerability Assessment: Resiliency, Climate Adaptation, and Wildfire, Monrovia has been listed by CalFire as a "Community at Risk from Wildfire."⁶⁶ The extensive wildland interface with the Angeles National Forest land at its northern border makes the City susceptible to the effects of any fire that originates in the northern reaches. The greatest fire danger to Monrovia is from the Wildland-Urban Interface (WUI), where homes are in close proximity to the 30- to 50-year brush growth.⁶⁷

The project site is in the foothills of the San Gabriel Mountains and is located in a Very High Fire Hazard Severity Zone (VHFHSZ) in a Local Responsibility Area (LRA).⁶⁸ In addition, according to CalFire's Fire and Resource Assessment Program (FRAP), the project is located in a WUI. The WUI area is defined as: having dense housing (from 1 house per 20 acres to more than 1 house per acre), being adjacent to vegetation that can burn in a wildfire (moderate, high, or very high fire hazard severity zone), and being not dominated by wildland vegetation.⁶⁹

However, the project site is located within a substantially developed area with existing infrastructure, including fire hydrants. It is approximately 1.5 miles from Fire Station 101 and the project must be reviewed and approved by the MFD. Further, the project would be required

⁶⁶ City of Monrovia. 2021b. *Vulnerability Assessment: Resiliency, Climate Adaptation, and Wildfire*. Available at: <https://www.cityofmonrovia.org/home/showpublisheddocument/26307/637624796825430000>. Accessed September 14, 2021.

⁶⁷ City of Monrovia. 2021b. *Vulnerability Assessment: Resiliency, Climate Adaptation, and Wildfire*. Available at: <https://www.cityofmonrovia.org/home/showpublisheddocument/26307/637624796825430000>. Accessed August 25, 2021.

⁶⁸ California Department of Forestry and Fire Protection (CAL FIRE). 2007. *Fire Hazard Severity Zone Viewer*. Available at: <https://egis.fire.ca.gov/FHSZ/>. Accessed August 2021.

⁶⁹ California Department of Forestry and Fire Protection (CAL FIRE). 2019. *Fire and Resource Assessment Program (FRAP). Wildland-Urban Interface Map*. Available at: https://frap.fire.ca.gov/media/10300/wui_19_ada.pdf. Accessed August 24, 2021.



to comply with MFD requirements prior to building occupancy. MFD requirements include, but would not be limited to:

- Installing an automatic fire sprinkler system, including in garages and basements per California Residential Code 313 and Monrovia Municipal Code amendments.
- Installing a Monrovia Fire and Rescue-approved fire access driveway in accordance with the Municipal Code Chapter 15.20.
- Providing and mark fire-protection equipment in accordance with Section 4908.6.
- Providing address markers in accordance with Section 4908.7.
- Ensuring exterior walls shall have a fire-resistive rating of not less than 1 hour as described in Section 3602.1 of the Monrovia Municipal Code.
- Complying with California Residential Code 337 requirements.
- Creating a fuel break of 200 feet of defensible space around the perimeter of all structures. Plants in this area would be limited to low growing, non-woody, properly watered and maintained plants such as ornamental vegetative fuel or cultivated ground cover, such as green grass, ivy, succulents, or similar plants used as ground cover. Trees are allowable provided that the distances between crowns and crowns from adjacent trees, structures, or unmodified fuel is not less than 15 feet.
- A vegetation management plan would be required in compliance with California Firesafe Council 4906 and the Monrovia Municipal Code shall be provided with architectural submittal.

Although the project could expose people or structures to a risk of wildland fire, it is in an established residential neighborhood and would comply with all MFD requirements to reduce risks. In addition, the project would not significantly increase ignition risks or fuel load within the project area. For these reasons, the project would not create a significant increase in exposure of people or structures to a significant risk or loss, injury, or death involving wildland fires. Therefore, this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.



4.10 Hydrology and Water Quality

<i>Would the project:</i>	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 with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			✓	
c. Substantially alter the existing drainage pattern of the area, including 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 off-site;			✓	
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			✓	
iv. impede or redirect flood flows?			✓	
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			✓	
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			✓	



a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact.

Short-Term Construction

Applicable Water Quality Standards and Waste Discharge Requirements

As part of Section 402 of the Federal Clean Water Act, the EPA has established regulations under the NPDES program to control direct stormwater discharges. In California, the State Water Resources Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The NPDES program regulates industrial pollutant discharges, which include construction activities. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCB) to preserve, protect, enhance, and restore water quality. The project site is located in the Los Angeles River Watershed within the jurisdiction of the Los Angeles RWQCB.

Project construction is subject to the SWRCB's General Permit for Discharges of Stormwater Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ (General Construction Permit).⁷⁰ The project is also required to comply with the City of Monrovia Storm Water Management and Discharge Control Ordinance (Municipal Code Chapter 12.36, Storm Water and Urban Runoff Pollution Control), which requires development projects to comply with the Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Except Those Discharges Originating from the City of Long Beach MS4 (Order No. R4-2012-0175)⁷¹ (Municipal NPDES Permit).

Short-Term Construction Impacts

Sources of short-term construction-related water pollution associated with the project include the following:

- Handling, storage, and disposal of construction materials containing pollutants;
- Maintenance and operation of construction equipment; and
- Earthmoving activities.

These sources, if not controlled, can generate soil erosion, cause on- and off-site transport via storm runoff or mechanical equipment, and produce contaminants like fuel, oil, antifreeze, or other vehicle-related fluids. Earthmoving activities (i.e., grading and excavation required for

⁷⁰ State Water Resources Control Board (California Water Boards). 2009. *General Permit for Discharges of Stormwater Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ*. Available at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.html. Accessed August 24, 2021.

⁷¹ Regional Water Quality Control Board (RWQCB). 2018. *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Except those Discharges Originating from the City of Long Beach*. California Regional Water Quality Control Board Los Angeles Region. Available at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2015/wqo2015_0075.pdf MS4. Accessed August 24, 2021.



project implementation) would result in exposed soils that may be subject to wind and water erosion.

The total size of the project site is roughly 56,410 square feet (1.295 acres). However, only a portion of the site, approximately 0.11 acres (5,213 square feet) would be disturbed (e.g., graded, cleared, or otherwise altered) with development of the proposed project. The remainder of the site (51,197 square feet) would be left in its current, natural state.

The proposed project would be constructed on a hillside, as defined in Section 12.36.040 of the Municipal Code, and qualifies as a single-family hillside development. Consistent with Sections 12.36.090 and 12.36.100 of the Municipal Code the project would be required to comply with the current Municipal NPDES Permit (Order No. R4-2012-0175), to lessen the water quality impacts of development by using smart growth practices, and to integrate low impact design practices and standards for storm water pollution mitigation through means of infiltration, evapotranspiration and biofiltration. Erosion control elements incorporated into the construction phase would address potential runoff from project construction thereby reducing potential short-term impacts to water quality. The project would be required to develop and implement a storm water mitigation plan which would include those BMPs necessary to control storm water pollution from the completed project. Additionally, the project would be required to comply with provisions within Chapter 15.28, Grading and Erosion Control, of the Municipal Code, which includes measures to substantially reduce the potential for erosion and sedimentation damage within the City.

Compliance with all applicable permit and Municipal Code requirements, as required by law, would prevent construction of the single-family residence from violating any water quality standards or waste discharge requirements or otherwise substantially degrading surface water or groundwater quality, and would reduce potentially significant impacts to a less-than-significant level.

Long-Term Operations

The project is required to comply with the Municipal NPDES Permit and Municipal Code—specifically, Municipal Code Section 12.36.100, Planning and Land Development Program Requirements For New Development And Redevelopment – Low Impact Development, which includes provisions for integrating low impact development (LID) practices and standards for stormwater pollution mitigation through means of infiltration, evapotranspiration, biofiltration, and rainfall harvest and use. LID is a stormwater management strategy with goals to mitigate the impacts of increased runoff and stormwater pollution as close to its source as possible. The County of Los Angeles Department of Public Works Low Impact Development (LID) Standards Manual provides guidance for complying with the requirements of the Municipal NPDES Permit.⁷²

The single-family residence would include the construction of approximately 3,900 square feet of impervious surface area, including the driveway, stair, and patio. As described in Section 2.2, Project Characteristics, the project would drain to Norumbega Drive, and eventually to Sawpit Wash. Monrovia Municipal Code Section 12.36.100 identifies single-family hillside residential developments as subject to City conditions and approval for the design and

⁷² Los Angeles County Department of Public Works. 2014. *Low Impact Development (LID) Standards Manual*. Available at: <https://dpw.lacounty.gov/ldd/lib/fp/Hydrology/Low%20Impact%20Development%20Standards%20Manual.pdf>. Accessed August 24, 2021.



implementation of post-construction controls and other BMPs to mitigate stormwater pollution. Under this code, new hillside single-family homes must implement the following measures to control stormwater:

- a. Conserve natural areas;
- b. Protect slopes and channels;
- c. Provide storm drainage stenciling and signage;
- d. Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability; and
- e. Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability.

Under Part VI.D.7.c of the Municipal NPDES Permit, new development must implement BMPs to retain runoff from a 0.75-inch, 24-hour rain event or an 85 percentile 24-hour rain event, whichever is larger. However, single-family hillside homes are exempt from the new development/redevelopment project performance criteria of Part VI.D.7.c of the Municipal NPDES Permit unless they create, add, or replace 10,000 square feet or more of impervious surface area.

Construction plans included with the building permit submittal would include design details and supporting calculations for stormwater diversion to vegetated areas prior to discharge. Vegetated areas would flow to Norumbega Drive. The plans shall include pad elevation, finished floor elevation, site high and low points, drainage swales, area drains, and existing grade at adjacent properties.

Erosion and sedimentation may temporarily increase post-construction because of soils that have been loosened and changes in drainage patterns. Development of the single-family residence could result in an increase in the levels of urban pollutants and litter entering Sawpit Wash. Pollutants from the project would likely be consistent with suburban low-density residential areas. However, the property would be landscaped to stabilize soils, and areas to receive natural vegetation shall be seeded prior to October 15; therefore, the addition of one single-family residence in an established residential neighborhood would not result in a violation of any water quality standards or waste discharge requirements, and this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

- b. Substantially deplete groundwater supplies or interfere with groundwater recharge such that the project may impede sustainable groundwater management of the basin?**

Less Than Significant Impact. A potentially significant impact would occur if a project includes deep excavations resulting in the potential to interfere with groundwater movement, the withdrawal of groundwater, or paving of existing permeable surfaces important to groundwater recharge. The project would be served by the City.

The project is located within the San Gabriel Valley Groundwater Basin. According to the California DWR, the San Gabriel Valley Groundwater Basin is designated as a very low priority



basin.⁷³ The Sawpit Spreading Grounds, northwest of the project site, are used for groundwater recharge by the Los Angeles County Department of Public Works but would not impact the project area. The project would create approximately 3,900 feet of impervious surface area on a hillside lot. As discussed under Section 4.10(a), construction plans included with the building permit submittal would include design details and supporting calculations for stormwater diversion to vegetated areas prior to discharge; therefore, the required stormwater detention system would allow for some groundwater recharge. Therefore, the project would not interfere with groundwater recharge in a very low priority groundwater basin and this impact would be less than significant.

The project would be supplied with water through the City's municipal system, which draws upon groundwater sources. The City has determined that sufficient municipal supplies are available from these sources to serve the project and that the project would not deplete municipal supplies. In addition, direct pumping of groundwater from below the site would not be allowed. In summary, the project would not affect groundwater basins below the site nor deplete groundwater in and around the project site. Further, the proposed project would not substantially deplete the City's groundwater supplies. No impact would occur.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact.

Short-Term Construction Impacts

Planned earthwork and grading activities on the project site would involve a total of approximately 576 cubic yards of cut and 266 cubic yards of fill. Soil disturbance would temporarily occur during project construction due to earthmoving activities such as excavation, soil compaction and moving, and grading. Disturbed soils can be susceptible to high rates of erosion from wind and rain, resulting in sediment transport via stormwater runoff if construction conditions are not properly controlled. Thus, project construction could result in erosion or siltation on- or -off-site.

Refer to Response 4.10(a). Pursuant to Section 106.4.3 of the Los Angeles County Building Code, adherence to the SUSMP provisions and implementation of BMPs into construction design would reduce impacts related to water siltation, erosion, or runoff. Additionally, the project would be required to comply with provisions within Municipal Code Chapter 15.28, which includes measures to substantially reduce the potential for erosion and sedimentation. Compliance with all applicable permit and Municipal Code requirements results in less than significant construction impacts related to erosion and sedimentation.

⁷³ California Department of Water Resources (DWR). 2019. *SGMA Basin Prioritization Dashboard*. Available at: <https://gis.water.ca.gov/app/bp-dashboard/p2/>. Accessed August 24, 2021.



Long-Term Operational Impacts

As discussed under Response 4.10(a), the project would create approximately 3,900 square feet of new impervious surface area. Under Monrovia Municipal Code Section 12.36.100, the project would be required to design and implement post-construction controls and other BMPs to mitigate stormwater pollution, including diverting stormwater to vegetated areas for filtration prior to discharge. Therefore, the project would not substantially alter the existing drainage pattern of the site during operational activities such that substantial erosion or siltation would occur, and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

- ii. *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*

Less Than Significant Impact. As detailed in Response 4.10(a)(i), the project would increase the impervious surface area by approximately 3,900 square feet which would increase stormwater runoff from the site. Stormwater would flow down Norumbega Drive to Sawpit Wash and enter the wash through existing storm drains. There is no flooding history in Sawpit Wash. The project would be designed to comply with Municipal Code Section 12.36.100 and divert runoff to vegetated areas prior to discharge, which would reduce runoff rates from storms. Therefore, the project is not anticipated to result in flooding on- or off-site, and this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

- 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?*

Less Than Significant Impact. As detailed in Response 4.10(c)(ii), stormwater runoff under post-development conditions would be slightly increased over existing conditions. The project is not expected to exceed the capacity of the existing/planned stormwater drainage systems. Additionally, the project would not result in a substantial change in topography that would alter or change flow patterns in the project area. As discussed in Response 4.10(a), less than significant impacts related to potential polluted runoff from the site would occur with compliance with the Municipal Code provisions and implementation of the BMPs. Therefore, this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

- iv. *Impede or redirect flood flows?*

Less Than Significant Impact. According to the Federal Emergency Management Agency's National Flood Hazard Viewer, the project site is not located in an identified flood hazard zone and there are no identified flood hazard zones downstream in Sawpit Wash.⁷⁴

⁷⁴ Federal Emergency Management Agency (FEMA). 2008. *FEMA's National Flood Hazard Layer (NFHL) Viewer*. Available at: <https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd>. Accessed August 25, 2021.



According to the City's Vulnerability Assessment: Resiliency, Climate Adaptation, and Wildfire (July 2021), the City has adequate flood control to protect it from flooding.⁷⁵

As detailed in Responses 4.10(c)(i), 4.10(c)(ii), and 4.10(c)(iii), the project would not substantially increase the rate or amount of surface runoff on-site in manner that would result in on- or off-site flooding or exceed the capacity of existing or planned stormwater drainage systems. This impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

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

Less Than Significant Impact.

Flood Hazard

As discussed in Response 4.10(c)(iv), the project site is not located in a flood hazard area. Based on the California DWR Division of Safety of Dams Dam Breach Inundation Map, the project site is located on the edge of the flood inundation area for both the main Sawpit Dam and the Sawpit Debris Basin Dam. The Dam Breach Inundation Map shows the inundation extent for a sunny day dam failure for both dams. The edge of the inundation area for the Sawpit Dam is approximately 100 feet from the project site. The edge of the inundation area for the Sawpit Debris Basin Dam is approximately 200 feet west of the project site.⁷⁶

The Sawpit Dam (No. 32-12, CA00196) has a capacity of 406 acre-feet and is located north of downtown Monrovia. The condition of the Sawpit Dam is rated Satisfactory,⁷⁷ therefore it does not have a recognized potential for failure due to the seismic activity. Its downstream hazard is rated Extremely High. The Extremely High hazard rating is defined as: "Expected to cause considerable loss of human life or would result in an inundation area with a population of 1,000 or more".⁷⁸

The Sawpit Debris Basin Dam (No 32-13; CA01157) has a capacity of 152 acre-feet and is located north of downtown Monrovia. The condition of the Sawpit Dam is rated Fair,⁷⁹ therefore it has the potential for failure due to rare or extreme seismic of hydrologic events. Its downstream hazard is rated Extremely High. For both dams, most of the flooding would occur in Sawpit Canyon between North Canyon Boulevard and the I-215.

⁷⁵ City of Monrovia. 2021b. *Vulnerability Assessment: Resiliency, Climate Adaptation, and Wildfire*. Available at: <https://www.cityofmonrovia.org/home/showpublisheddocument/26307/637624796825430000>. Accessed August 25, 2021.

⁷⁶ California Department of Water Resources (DWR). 2021. California Dam Breach Inundation Map. California DWR Division of Safety of Dams. Available at: https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2. Accessed August 25, 2021.

⁷⁷ Satisfactory: No existing or potential dam safety deficiencies are recognized. Acceptable performance is expected under all loading conditions (static, hydrologic, seismic) in accordance with the applicable regulatory criteria or tolerable risk guidelines.

⁷⁸ California Department of Water Resources (DWR). 2020. *Definitions of Downstream Hazard and Condition Assessment*. California DWR Division of Safety of Dams. Available at: <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Division-of-Safety-of-Dams/Files/Publications/Definitions-of-Downstream-Hazard-and-Condition-Assessment.pdf>. Accessed August 25, 2021.

⁷⁹ Fair: No existing dam safety deficiencies are recognized for normal loading conditions. Rare or extreme hydrologic and/or seismic events may result in a dam safety deficiency. Risk may be in the range to take further action.



A rupture of either dam (i.e., in the event of an earthquake, seiche, or catastrophic failure during a rain event) could result in inundation of the project site and surrounding area. These reservoirs, as well as others in California, are continually monitored by various governmental agencies (such as the State of California Division of Safety of Dams and the U.S. Army Corps of Engineers) to guard against the threat of dam failure. Current design, construction practices, and ongoing programs of review, modification, or total reconstruction of existing dams are intended to ensure all dams are capable of withstanding the maximum considered earthquake for the site. Therefore, the potential for dam failure is considered low. Also, the County of Los Angeles Office of Emergency Management has developed emergency response plans, including evacuation plans, for dam inundation areas. Therefore, impacts on safety as a result of a dam failure are also considered low and this impact would be less than significant.

Tsunami

A tsunami, or tidal wave, is a large sea wave produced by a significant undersea disturbance such as tectonic displacement of a sea floor associated with large, shallow earthquakes. The project site is located over 27 miles inland from the Pacific Ocean and is not in a tsunami inundation zone. No impact would occur.

Seiche

A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank. The project area is not adjacent to the water bodies behind the Sawpit Dam, or Sawpit Debris Basin Dam, therefore there would be no risk of direct impacts from a seiche on these water bodies. The project area is approximately 430 feet southeast of the Sawpit Spreading Basin, which is a shallow basin used for groundwater recharge. This basin is uphill from the project site and can hold up to 13 acre-feet (equal to 4,236,000 gallons) of water, but the basin is too shallow to be a seiche hazard for the project site. Therefore, no impact would occur.

Mitigation Measures: No mitigation measures are required.

- e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?***

Less Than Significant Impact.

Applicable Water Quality Control Plan

As discussed under Response 4.10(a), the project site is located within the jurisdiction of the Los Angeles RWQCB. The Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan) establishes water quality standards for ground and surface waters within the Los Angeles region, which includes the City of Monrovia, and is the basis for the Los Angeles RWQCB's regulatory programs.

Chapter 8, Groundwater Quality Management, of the Basin Plan focuses on basin/sub-basin groundwater quality management and includes Salt and Nutrient Management Plans (SNMPs) specific to each basin within the Los Angeles region. Specifically, Section F of the Basin Plan includes the program of implementation based on the Basin's SNMP, which



includes existing and planned programs to manage salts and nutrients in the Basin (SNMP management measures). The SNMP management measures (refer to Tables 8.6-4A and Table 8.6-4B of the Basin Plan) developed by local water entities in the San Gabriel Valley Groundwater Basin are voluntary measures that are designed to maintain water quality that is protective of beneficial uses, while increasing recycled water use and supporting the sustainable use of groundwater. These measures are applied in conjunction with existing water quality protection measures in each groundwater basin area.

Applicable Sustainable Groundwater Management Plan

The 2014 Sustainable Groundwater Management Act requires local public agencies and groundwater sustainability agencies in high- and medium-priority basins to develop and implement groundwater sustainability plans or prepare an alternative to a groundwater sustainability plan. The project site is located within the San Gabriel Valley Groundwater Basin, which is designated as a Very Low priority basin.⁸⁰ Therefore, there is no groundwater sustainability plan established for the basin.

Project Impacts

As indicated in Response 4.10(b), the project would not substantially deplete groundwater supplies or interfere with groundwater recharge. The project is not anticipated to conflict with or obstruct with the groundwater basin and SNMP management measures identified in the Basin Plan. For these reasons, the project is not anticipated to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

⁸⁰ California Department of Water Resources (DWR). 2020. *SGMA Basin Prioritization Dashboard*. Available at: <https://gis.water.ca.gov/app/bp-dashboard/p2/>. Accessed December 13, 2020.



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4.10 Land Use and Planning

<i>Would the project:</i>	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?			✓	

a. Physically divide an established community?

No Impact. The project site is in an established hillside residential neighborhood; refer to Figure 2-2, Site Vicinity. Surrounding uses consist of residential uses to the south, east, and west, and open space to the north. The project proposes to construct one single-family residence. The adjacent lots on either side (524 Norumbega Road and 547 Norumbega Drive) are developed with single-family residences. Development of the project would not physically divide an established community as it would not introduce any physical divisions or barriers between the site and surrounding area. Therefore, the project would not physically divide an established community and no impact would occur.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact. The project proposes to construct one single-family residence. The site is currently designated Public/Quasi-Public and zoned P/QP (Public/Quasi-Public) as identified in the General Plan Land Use Element (refer to Figure 1, General Plan Land Use Map, of the General Plan Land Use Element).⁸¹

The project proposes to amend the General Plan Land Use Map from Public/Quasi-Public to Residential Foothill. There are no proposed revisions to General Plan text. The project also proposes to amend the City's Zoning Map to change the zoning designation from P/QP (Public/Quasi-Public) to RF (Residential Foothill). Approval of a General Plan Land Use Map amendment and Zoning Map amendment from P/QP to RF would be required to construct the single-family residence on the project site.

As detailed in Table 4-10, Table 4-11, and Table 4-12, below, the project would be consistent with all General Plan Policies and relevant portions of the Municipal Code for Residential Foothill development with one exception. The project would require a Minor Exception to allow one retaining wall with fencing on top to be constructed in excess of the maximum height;

⁸¹ City of Monrovia. 2020c. *City of Monrovia General Plan. Land Use Element*. Available at: <https://www.cityofmonrovia.org/your-government/community-development/planning/general-plan/land-use-element>. Accessed September 15, 2021.



refer to Table 4-11, Project Consistency with Residential Foothill (RF) Zone. The Project Sponsor is requesting a Minor Exception to allow the retaining wall with fencing on top on the west side of the property to be 10 feet in height, in excess of the 6-foot maximum height required under Municipal Code Section 17.12.040

**Table 4-10
Project Consistency with Applicable
General Plan Land Use and Housing Elements Policies**

Applicable General Plan Policies	Project Consistency Analysis
LAND USE ELEMENT	
GOAL 3: Preserve the integrity of residential neighborhoods.	
Policy 1.3. Ensure adequate on-site parking for all residential developments.	<u>Consistent.</u> The project proposes one single-family residence with a four-car garage. This exceeds the required two-car garage in the zoning ordinance.
GOAL 4: Promote land use patterns and development which contribute to community and neighborhood identity.	
Policy 4.1. Require new developments in established neighborhoods to consider the established architectural styles, development patterns, building materials, and scale of buildings within the vicinity of the project.	<u>Consistent.</u> Refer to Table 4-1, General Plan Policies Governing Scenic Quality.
Policy 4.2. Require all new development to consider existing uses in terms of neighborhood disruption, buffering, architectural styles, building materials, development patterns, and scale of buildings within the vicinity of the project.	<u>Consistent.</u> Refer to Table 4-1, General Plan Policies Governing Scenic Quality. Refer to Section 4.13, Noise, and Section 4.17, Transportation, for discussions on potential impacts on construction-related and operational noise, ground-borne vibration, circulation system, and emergency access in project vicinity. As concluded in Section 4.1, Aesthetics, the project would be required to undergo advisory review from the Development Review Committee as well as a Neighborhood Compatibility Design Review and obtain design review approval from the City, which would ensure that the project design is compatible with existing development in terms of architectural style, development patterns, and scale.
GOAL 5: Encourage new development that is compatible with and complements existing land uses.	
Policy 5.1. Consider the impacts of new development on infrastructure.	<u>Consistent.</u> As concluded in Section 4.19, Utilities and Service Systems, the project would result in less than significant impacts on existing utilities infrastructure.
GOAL 9: Preserve the character of existing neighborhoods and historic residences.	
Policy 9.3. Continue to monitor development standards in single-family and multifamily residential districts, including setbacks, height, density, and required open space, in order to ensure that new development is compatible with the scale and character of existing development.	<u>Consistent.</u> As concluded in Section 4.1, Aesthetics, the project would be required to undergo advisory review from the Development Review Committee as well as a Neighborhood Compatibility Design Review and obtain design review approval from the City, which would ensure that the project design is compatible with existing development.



Applicable General Plan Policies	Project Consistency Analysis
GOAL 10: Ensure that new development is sensitive to the City’s natural and open space resources.	
<u>Policy 10.1.</u> Adhere to the Hillside Development Policies and Standards designed to regulate development in the foothills so as to maximize preservation of open space and ridgelines and minimize disruption of plant and animal life.	<u>Consistent.</u> The project would construct a single-family residence adjacent to Norumbega Drive on the lowest part of the site. As such, it would avoid ridgelines and maximize preservation of open space. The project would meet all requirements of the Hillside Development Policies and Standards.
<u>Policy 10.6.</u> Encourage the conservation of water and energy resources in order to reduce the need for expansion of water reservoirs and distribution facilities, as well as energy generating plants and distribution facilities.	<u>Consistent.</u> The project would be required to comply with the most recent version of the California Green Building Code and with the DWR Model Water Efficient Landscape Ordinance.
<u>Policy 10.9.</u> Require water efficient landscaping in regard to plant selection and irrigation.	<u>Consistent.</u> The project would be required to comply with the DWR Model Water Efficient Landscape Ordinance. Refer to Section 2.2, Project Description.
<u>Policy 10.13.</u> Continue to implement the Oak Tree Preservation Ordinance.	<u>Consistent.</u> The Project Sponsor has submitted an arborist report as required by the Oak Tree Ordinance and would adhere to the mitigations recommended in the report. Refer to Section 4.4, Biological Resources, for impacts to oak trees.
GOAL 11: The City of Monrovia shall provide its residents with a high quality urban environment through the development and conservation of resources such as land, water, minerals, wildlife, and vegetation.	
<u>Policy 11.7.</u> Comply with the National Pollutant Discharge Elimination System regarding stormwater management to reduce impacts from stormwater run-off.	<u>Consistent.</u> Refer to Section 4.10, Hydrology and Water Quality, for a discussion of potential project impacts on water quality and the project’s consistency with the NPDES programs.
HOUSING ELEMENT	
GOAL 4: Preserve housing and neighborhood assets and promote environmental sustainability.	
<u>Policy 4.1</u> Preserve the character, scale and quality of established residential neighborhoods and ensure that new housing is well-designed and compatible with the neighborhood context in which it is located.	<u>Consistent.</u> The project would construct a single-family residence in a residential neighborhood and would be required to undergo advisory review from the Development Review Committee as well as a Neighborhood Compatibility Design Review and obtain design review approval from the City, which would ensure that the project design is compatible with the neighborhood context in which it is located.
<u>Policy 4.9</u> Encourage energy conservation, water efficiency, and sustainable building measures in new and existing homes through adherence to the California Green Building Code.	<u>Consistent.</u> The project would be required to comply with the most recent edition of the California Green Building Code.

Source: City of Monrovia, General Plan, updated February 2020.



**Table 4-11
Project Consistency with Residential Foothill (RF) Zone**

Development Standard	Code Requirement	Proposed Condition	Is Project Consistent With Requirement?
<i>RF Zone Development Standards</i>			
Lot Size	Minimum Lot Area: 15,000 square feet; Minimum Lot Width: 100 feet; and Minimum Lot Depth: 100 feet. Mean Average Area: >1 acre	The lot area is 1.295 acres or 56,410 square feet. The lot is irregularly shaped, with width ranging from 39 feet at street level to approximately 250 feet at its widest point and a depth of approximately 350 feet. Refer to Figure 2-3, Proposed Site and Grading Plan, and Appendix A, Design Plans.	Yes
Floor Area Lot Coverage	Minimum Floor Area: 1,250 square feet Maximum floor area: 35% of net area for first 20,000 square feet plus an additional 10% of remaining area Attached Garages: included in total floor area	The FAR calculation would allow a floor area of 10,641 square feet. The proposed floor area is 5,106 square feet including the garage.	Yes
Building Setbacks	Front: 25 feet Side: 1 st story: 5-foot minimum, 15-foot maximum 2 nd story: 15 feet Rear: 1 st story: 25% of lot depth, minimum 20 feet 2 nd story: 25% of lot depth plus 10 feet	The proposed residence would be constructed with first-floor setbacks as follows: 25-foot front setback, 6-foot side setbacks, and 291-foot rear setback. The second floor has 15-foot side setbacks.	Yes
Building Height	Lots less than 75 feet wide: 27 feet above finished grade	The proposed building height is 25 feet 6 inches above finished grade.	Yes
Retaining Walls	Maximum Height: Rear and side yards 6 feet Front yard 3 feet	The proposed retaining wall on the north side of the property would be 5 feet in height. The retaining wall on the east side would be 3 feet in height. Refer to the Geotechnical Analysis for discussion of need for extra height.	Yes



Development Standard	Code Requirement	Proposed Condition	Is Project Consistent With Requirement?
Miscellaneous Residential Standards – All Residential Zones			
Fences, Hedges, Walls	Maximum Height: Rear and side yards: 6 feet Front Yard: 4 feet Materials: masonry or wooden of adequate aesthetic quality;	The east side of the property is designed to have a masonry fence 3 feet high in the front yard and 6 feet high in the rear of the house, which would terminate at the northern retaining wall. The west side would have a wooden fence on top of a retaining wall where it is adjacent to other residential lots. Where the property is adjacent to open space, it would not be fenced. Refer to Figure 2-3, Proposed Site and Grading Plan, and Figure 2-4, Proposed Building Renderings and Section.	No. Will require Minor Exception for exceeding height along a portion of the west property line
Irregularly shaped Lots	The committee shall have the power to determine the appropriate method of determining lot orientation, depth, and width.	The committee has approved the determination of lot orientation, depth, and width.	Yes

Source: City of Monrovia. 2021c. Municipal Code Sections 17.12.010 and 17.12.040

**Table 4-12
Project Consistency with Hillside Development Standards**

Hillside Development Standards	Project Consistency Analysis
1. Conservation of natural topographic features and appearances by means of land sculpturing to blend graded slopes and benches with natural topography.	<u>Consistent.</u> The project confines grading to the area directly around the dwelling. The majority of the project site retains natural topography. Refer to Figure 2-3, Proposed Site and Grading Plan.
2. Protection of existing vegetation through careful site planning which may reduce areas of grading.	<u>Consistent</u> The project confines grading to the area directly around the dwelling. The majority of the project site retains existing vegetation. Refer to Figure 2-3, Proposed Site and Grading Plan.
3. Provision of safe access for vehicular and pedestrian traffic with minimum of disturbances of the natural terrain. Utilization of street designs and improvements which serve to minimize grading impact and harmonize with the natural contours and character of the hillsides. Street standards shall be per the City's adopted Hillside Development Policies and Standards	<u>Consistent.</u> The project does not include new streets. The driveway and garage for the new residence are located adjacent to Norumbega Drive and provide safe access. Refer to Figure 2-3, Proposed Site and Grading Plan.
4. Every reasonable effort shall be made to preserve or minimize the impact on view corridors and scenic vistas. Visual impact analysis shall be required per the City's adopted Hillside Development Policies and Standards.	<u>Consistent.</u> The project locates the residence at the lowest portion of the site and avoids interruptions of scenic vistas. Refer to Section 4.1, Aesthetics, for a discussion of visual impacts.



Hillside Development Standards	Project Consistency Analysis
5. Every reasonable effort shall be made to preserve mature trees, especially oaks. Special consideration shall be given to the preservation or relocation of heritage trees.	<u>Consistent.</u> The project submitted an arborist report and retains all existing oak trees. Refer to Section 4.4, Biological Resources, for a discussion of oak tree mitigations and protection.
6. Cantilevered construction, overhang, exposed structures or stem wall construction shall not be permitted. Cantilevered decking shall be permitted only if the line of sight analysis indicates no visual impact or appropriate mitigation measures can be adopted.	<u>Consistent.</u> The project does not include cantilevered construction, overhangs, exposed structures, or stem wall construction. Refer to Figure 2-3, Proposed Site and Grading Plan, and Figure 2-4, Proposed Building Renderings and Section.
7. Colors of the buildings shall be selected to blend with the natural colors and hues of the surrounding hillsides.	<u>Consistent.</u> The project would be required to undergo a Neighborhood Compatibility Design Review and receive approval of color choices.
8. A landscape plan shall be required indicating type and extent of proposed vegetation. In addition, landscape materials for the coverage and stabilization of graded slopes shall be approved by the Development Review Committee.	<u>Consistent.</u> The project protects existing oak trees and would submit a Landscape Plan for approval by the City and City of Monrovia Fire and Rescue. Refer to Section 4.4, Biological Resources, for a discussion of oak tree protection. Refer to Section 2.2, Project Description, for landscaping requirements.
9. A visual impact analysis shall be required for those dwelling units which are proposed to be developed in "sensitive" areas. "Sensitive" areas are those which are higher in elevation and visually exposed to the city-at-large and could potentially impact existing city-at-large viewsheds. Proposed dwelling units designated as "sensitive" shall be set back from the top of the slope a distance determined by the line-of-sight analysis in addition to the required setbacks. The line of sight analysis is not designed to completely screen or eliminate the view of the dwelling units in sensitive areas. However, it is designed to minimize the visual impact of building lines by the use of increased setback, berming, landscaping, and building design.	<u>Consistent.</u> The project is located on the lowest portion of the site and is not in a sensitive location. Refer to Section 4.1, Aesthetics, for a discussion of visual impacts.

Source: City of Monrovia. 2021c. Municipal Code Section 17.12.10.G

The following analysis evaluates the project’s consistency with the applicable land use plans, policies, and regulations, including the General Plan and Zoning Ordinance.

General Plan

According to the General Plan, the Public/Quasi-Public General Plan designation is intended for development of public uses such as schools, and government offices and facilities, as well as quasi-governmental offices and facilities such as those for the telephone company and other utilities. The Residential Foothill designation is intended for very low-density residential developments on land with relatively steep slopes or environmentally sensitive areas. The proposed development would construct one single-family residence on a 1.295-acre parcel; as such, the project would be an allowed use under the Residential Foothill designation.



General Plan Land Use Element Table 1, Land Use Designations, provides the maximum floor area ratio (FAR) intensity requirements for the Residential Foothill designation. The Residential Foothill designation allows a maximum permitted FAR of 35% of the net lot area for the first 20,000 square feet, plus an additional 10% of the remaining net lot area. Under the Residential Foothill FAR calculation, the proposed residence would be permitted a floor area of up to 10,641 square feet but is proposing a floor area of 5,106 square feet. Thus, the project would be consistent with the FAR requirements.

Table 4-10, Project Consistency with Applicable General Plan Land Use Element Policies, analyzes the project's consistency with applicable goals and policies in the General Plan Land Use and Open Space Elements. As analyzed in Table 4-10, the project would be consistent with all applicable General Plan policies of the Residential Foothill designation

Zoning Ordinance

The project site is currently zoned P/QP (Public/Quasi-Public). The Project Sponsor has requested a rezoning to the RF (Residential Foothill) designation. Municipal Code Section 17.12.010, Residential Foothill (RF) Development Standards, establishes development policies and standards for properties located within the Residential Foothill zone. Municipal Code Section 17.12.040, Miscellaneous Residential Standards/All Residential Zones Residential Foothill (RF) Development Standards, establishes supplemental development policies and standards for all residential properties.

Table 4-11, Project Consistency with Residential Foothill (RF) Zone, analyzes the project's consistency with development standards for residential uses in the RF zone. As demonstrated in Table 4-11, the project does not conflict with the City's Zoning Ordinance, with the exception of the requirement for the wall height. The Project Sponsor would require a Minor Exception to be granted by the City.

In addition to the Residential Foothill (RF) Development Standards, the project must comply with the City's Hillside Development Standards. Municipal Code Section 17.12.010.G, Hillside Development Standards, establishes standards to protect hillside slopes, natural vegetation, and aesthetic appearance. Table 4-12, Project Consistency with Hillside Development Standards, analyzes the project's consistency with Hillside Development Standards. As demonstrated in Table 4-12, the project does not conflict with the City's Hillside Development Standards.

General Plan Amendment and Rezoning

The Project Sponsor is requesting a General Plan Land Use Map Amendment to change the land use designation of the property from Public/Quasi-Public to Residential Foothill. The Project Sponsor is also requesting a rezoning to change the zoning designation of the property from P/QP (Public/Quasi-Public) to RF (Residential Foothill).

Based on the information presented above, if the project land use and zoning are changed to Residential Foothill, the project would be consistent with the General Plan, as well as the City's Municipal Code, except for the development standard for the maximum height of walls. The Project Sponsor is pursuing a Minor Exception determination to allow a 10-foot high combination retaining wall/fence on the west side of the development. Therefore, the project



would be consistent with the applicable land use plans and policies and zoning regulations, and project impacts on land use and planning.

Hillside Development Permit

A Hillside Development Permit is required for new single-family dwellings that result in grading with 5 feet or more of cut and fill. The project would include grading to approximately 11 feet and result in approximately 576 cubic yards of cut and 266 cubic yards of fill, and, therefore, would be required to obtain a Hillside Development Permit.

Conclusion

Overall, the project would be consistent with the General Plan and Zoning Ordinance upon approval of the requested discretionary actions: General Plan Amendment, Rezone, Minor Exception, and Hillside Development Permit, and subsequent project review. The project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect; therefore, impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.



4.12 Mineral Resources

<i>Would the project:</i>	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?				✓

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?

No Impact. A significant impact may occur if a project site is located in an area used or available for extraction of a regionally important mineral resource, or if a project would convert an existing or future regionally important mineral extraction use to another use, or if a project would affect access to a site used or potentially available for regionally important mineral resource extraction. The southwestern portion of the project site is located in an area zoned Mineral Resource Zone (MRZ)-2 for aggregate mineral resources.⁸² MRZ-2 is defined as areas containing mineral deposits where adequate information exists that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists. However, the project site is also mapped in an urbanizing area of the greater Los Angeles area and is in a residential community within Monrovia City limits.^{83,84} Therefore, no impacts to mineral resources of statewide or regional significance would occur.

Mitigation Measures: No mitigation measures are required.

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?

No Impact. Refer to Response 4.12(a). The project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. No impact would occur.

Mitigation Measures: No mitigation measures are required.

⁸² Los Angeles County. 2021. Los Angeles County Interactive GIS Map. Available at: https://rpgis.isd.lacounty.gov/Html5Viewer/index.html?viewer=GISNET_Public.GIS-NET_Public. Accessed July 22, 2021.

⁸³ California Department of Conservation (CDOC). 1975. *Urbanized and Urbanizing Areas in the Greater Los Angeles Area as Identified by the Office of Planning and Research*. CDOC Division of Mines and Geology. Available at: <https://maps.conservation.ca.gov/cgsl/informationwarehouse/index.html?map=mlc>. Accessed July 22, 2021.

⁸⁴ City of Monrovia. 2019. City of Monrovia Zoning Map. Available at: <https://www.cityofmonrovia.org/home/showpublisheddocument/1378/636960188069700000>. Accessed July 23, 2021.



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4.13 Noise

<i>Would the project result in:</i>	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 ground borne vibration or ground borne noise levels?				✓
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such 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?				✓

This section provides an overview of applicable noise regulations, and a quantitative assessment of existing noise levels and anticipated noise levels during project construction and operations. Moreover, this section provides a summary of any noise mitigation measures to be implemented to ensure compliance with the federal, state, and/or local noise standards or codes during construction and operation of the project.

General Information

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Sound is characterized by both its amplitude and frequency (or pitch). The human ear does not hear all frequencies equally. In particular, the ear de-emphasizes low and very high frequencies. To better approximate the sensitivity of human hearing, the A-weighted decibel scale (dBA) has been developed. On this scale, the human range of hearing extends from approximately 3 dBA to around 140 dBA.

Noise is generally defined as unwanted or excessive sound, which can vary in intensity by over one million times within the range of human hearing; therefore, a logarithmic scale, known as the decibel scale (dB), is used to quantify sound intensity. Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Noise generated by mobile sources typically attenuates (reduces) at a rate between 3 dBA and 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at an approximate rate between 6.0 dBA and 7.5 dBA per doubling of distance.



There are a number of metrics used to characterize community noise exposure, which fluctuate constantly over time. One such metric, the equivalent sound level (L_{eq}), represents a constant sound that, over the specified period, has the same sound energy as the time-varying sound. Noise exposure over a longer period of time is often evaluated based on the Day-Night Sound Level (L_{dn}). This is a measure of 24-hour noise levels that incorporates a 10-dBA penalty for sounds occurring between 10:00 p.m. and 7:00 a.m. The penalty is intended to reflect the increased human sensitivity to noises occurring during nighttime hours, particularly at times when people are sleeping and there are lower ambient noise conditions. Typical L_{dn} noise levels for light- and medium-density residential areas range from 55 dBA to 65 dBA.

Two of the primary factors that reduce levels of environmental sounds are increasing the distance between the sound source to the receiver and having intervening obstacles such as walls, buildings, or terrain features between the sound source and the receiver. Factors that act to increase the loudness of environmental sounds include moving the sound source closer to the receiver, sound enhancements caused by reflections, and focusing caused by various meteorological conditions.

Regulatory Setting

U.S. Environmental Protection Agency

The EPA offers guidelines for community noise exposure in the *Noise Effects Handbook – A Desk Reference to Health and Welfare Effects of Noise*.⁸⁵ The guidelines consider occupational noise exposure as well as noise exposure in homes. The EPA recognizes an exterior noise level of 55 dBA L_{dn} as a general goal to protect the public from hearing loss, activity interference, sleep disturbance, and annoyance. The EPA and other federal agencies have adopted suggested land use compatibility guidelines that indicate that residential noise exposures of 55 dBA L_{dn} to 65 dBA L_{dn} are acceptable. However, the EPA notes that these levels are not regulatory goals, but are levels defined by a negotiated scientific consensus, without concern for economic and technological feasibility or the needs and desires of any particular community.

State of California

The California Governor's Office of Planning and Research (OPR) *General Plan Noise Element Guidelines* include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The *General Plan Noise Element Guidelines* contain a land use compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the Community Noise Equivalent Level.⁸⁶

⁸⁵ U.S. Environmental Protection Agency (EPA). 1981. *Noise Effects Handbooks. A Desk Reference to Health and Welfare Effects of Noise*. Available at: <https://nepis.epa.gov/Exe/ZyNET.exe/910000AJ.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1981+Thru+1985&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C81thru85%5CTxt%5C00000018%5C910000AJ.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>. Accessed August 2021.

⁸⁶ California Governor's Office of Planning and Research (OPR). 2017. *State of California General Plan Guidelines. Appendix D. Noise Element Guidelines*. Available at: <https://opr.ca.gov/planning/general-plan/guidelines.html>. Accessed August 2021.



CALGreen Code

The State of California requires that residential developments demonstrate compliance with the requirements of the California Green Building Standards Code (CALGreen). CALGreen’s mandatory measures, voluntary tiers, and other regulations, laws and construction codes relate to green building standards, which are applicable to residential construction in California. CALGreen does not have any specific noise level requirements associated with residential development. However, there are mandatory measures applicable to residential development that will affect potential noise from the project. CALGreen Section 4.507 is a mandatory measure to install ENERGY STAR fans with humidity controls in each bathroom. These qualified fans use provide better efficiency with less noise. No other CALGreen requirements are applicable to interior or exterior residential noise levels.

Municipal Code

The Municipal Code Chapter 9.44, Noise, provides noise guidelines and standards for the City. The City does not impose noise limits for temporary construction activities at surrounding noise-sensitive property lines. However, construction hours are established in Municipal Code Section 9.44.080, Exemptions. Municipal Code provisions applicable to the project are discussed below.

9.44.040, Allowable Noise.

(A) The noise standards imposed by this section shall apply to all properties in the City occupied for residential purposes, without regard to zoning classification. Except as otherwise allowed in this chapter, no person shall create or allow the creation of noise on any such residential property which causes the noise level to exceed the actual measured median ambient noise level, or the following presumed ambient noise level, whichever is greater:

Time	Allowable Noise Level—dBA
7:00 a.m. to 9:00 p.m.	55
9:00 p.m. to 7:00 a.m.	50

(B) If the intruding noise source is continuous and cannot be reasonably discontinued for sufficient time in which the ambient noise level can be determined, the presumed ambient noise level shall be used.

9.44.060, Permitted Noise Increase. Increases in noise levels prescribed in § 9.44.040 are permitted in accordance with the following:

Permitted Increase dBA	Duration of Increase Permitted (in minutes/per hour)
5	15
10	5
15	1
20	less than one minute



9.44.080, *Exemptions. The following activities shall be exempt from the provisions of this chapter:*

- (E) The operation of any mechanically powered saw, sander, drill, grinder, lawn or garden tool or similar tool between 7:00 a.m. and 7:00 p.m. on weekdays and the hours of 10:00 a.m. and 10:00 p.m. on weekends and holidays;*
- (F) Construction or demolition work conducted between the hours of 7:00 a.m. and 7:00 p.m. on weekdays and the hours of 9:00 a.m. and 6:00 p.m. on weekends and holidays.*

9.44.090, *Radios, TVs, and Similar Devices.*

- (a) It shall be unlawful for any person within any residential zone of the City to use or operate any radio receiving set, musical instrument, stereo system, entertainment system, television set, or other machine or device for the producing or reproducing of sound or any device by which voice, music, or any other sound is generated, between the hours of 10:00 p.m. and 7:00 a.m. of the following day, in such a manner as to disturb the peace, quiet, and comfort of neighboring residents or any reasonable person of normal sensitiveness residing in the area.*
- (b) Any noise exceeding the ambient noise level at the property line of any property, or, if a condominium or apartment house, within any adjoining unit by more than five decibels shall be deemed to be prima facie evidence, although not the exclusive evidence, of a violation of the provisions of this section.*

Existing Noise Environment

The primary noise source in the vicinity of the project site would be existing residential noise and roadway traffic. Near the project site, the southwest, south, and east sides of the parcel are developed with one- and two-story single-family residences. Open space, including a steep hillside, exists immediately north of the project site. Approximately 380 feet northwest of the project site are the Sawpit Spreading Grounds, which are used to divert water from the Sawpit Reservoir and Sawpit Debris Basin for groundwater recharge. Undeveloped hillsides leading up to the San Gabriel Mountains are north and east of the project site. The Angeles National Forest is 0.75 mile east and 0.92 mile northwest at its closest points. Municipal development, primarily residential, exists to the south and west. Sawpit Wash is approximately 350 feet southwest of the project site. The area around the project is mostly developed residential land.

Noise Measurements

A sound survey has not been conducted as the project site is currently undeveloped and not operational, and the project proposes a single-family residence in an established residential area.



- 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?**

Less Than Significant Impact.

Short-Term Construction Impacts

The City does not impose noise limits for temporary construction activities at surrounding noise-sensitive property lines. However, construction hours are established in Municipal Code Section 9.44.080 and the project would comply with these hours.

Short-term, temporary noise impacts associated with construction activities would primarily result from construction equipment and machinery. Noise levels would vary throughout construction depending on the phase of work, number and locations of operating equipment, distance of the noise receptor from the noise source, atmospheric conditions, and any intervening topography or barriers (e.g., walls, buildings, and vegetation).

Construction activities are generally temporary and have a short duration, resulting in periodic increases in the ambient noise environment. Construction of the project would occur over a 16-month duration and would include site preparation, grading, building construction, paving and architectural coating. Ground-borne noise and other types of construction-related noise impacts typically occur during grading and building activities. These construction activities have the potential to generate the highest noise levels.

Equipment that may be operating during these phases would include, but is not limited to, a rubber-tired dozer, a grader, tractor/loader/backhoe, a crane, a haul truck for the exported soil, and a forklift. The most prevalent sound source during construction would be internal combustion engines used to power this construction equipment. Many construction machines operate intermittently and the types of machines in use at a construction site change with the construction phase. Operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings. Other primary sources of acoustical disturbance would be due to random incidents (lasting less than 1 minute) such as dropping large pieces of equipment or the hydraulic movement of machinery lifts.

As noted above, the project is a single-family residence located in a residential area and construction would be limited to daytime hours. For these reasons, it is not anticipated that construction-type noise at the project site would have significant impacts on the surrounding environment.

Construction noise levels were estimated using the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM). The RCNM is FHWA's national model for the prediction of construction noise. This software is based on actual sound level measurements from various equipment types taken during the Central Artery/Tunnel project conducted in Boston, Massachusetts, during the early 1990s.⁸⁷ Estimates of noise from the construction of the project are based on a roster of the maximum amount of construction equipment used on a given day. Table 4-13, Noise Levels of Major Construction Equipment, shows a list of typical

⁸⁷ Federal Highway Administration (FHWA). 2011. Roadway Construction Noise Model (RCNM). Software Version 1.1.



construction equipment and the noise level at 50 feet. The RCNM has noise levels for various types of equipment preprogrammed into the software; therefore, the noise level associated with the equipment is typical for the equipment type and not based on any specific make or model.

The RCNM assumes that the maximum sound level for the project (L_{max}) is the maximum sound level for the loudest piece of equipment. The approximate noise generated by the construction equipment used at the facility has been conservatively calculated based on an estimated project construction equipment roster projected to be used at the project site at one time, and not considering further attenuation due to atmospheric interference or intervening structures.

The equipment and activities on-site would vary throughout the project, depending on various stages of construction. The predicted noise from construction activity is presented as a worst-case (highest noise level) scenario, where it is assumed all equipment is present and operating simultaneously on-site for each stage of construction. There is an existing residence located approximately 92 feet from the project boundary. Sound levels at this distance are estimated to be 76.7 dBA Leq.

Types of construction equipment likely to be used during construction are listed in Table 4-13. Construction equipment noise levels typically would be less than 85 dBA at 50 feet when equipment is operating at full load. People in the nearby surrounding environment may hear the construction noise, but the overall impact would be short-lived and less than significant.

Table 4-13
Noise Levels of Major Construction Equipment

Equipment Type	Sound Level at 50 Feet (dBA)
Crane	85
Paver	85
Dozers	85
Grader	85
Pickup Trucks	55
Loader	80
Tractor	84
Welder	73
Backhoes	80

Source: Federal Highway Administration (FHWA). 2011. Roadway Construction Noise Model (RCNM). Software Version 1.1.

Construction would not result in the generation of, or exposure of persons to, excessive noise levels for lengthy periods. Municipal Code 9.44.080 includes an exemption for construction conducted between the hours of 7:00 a.m. and 7:00 p.m. on weekdays, and between the hours of 9:00 a.m. and 6:00 p.m. on weekends and holidays. The project construction would



occur only during these allowable construction hours. In addition, the project would adhere to the SC NS-1 through SC NS-4.⁸⁸

Long-Term Operational Impacts

The project is a single-family residence and the primary noise sources associated with the project would include the typical residential noise sources such as heating, ventilating, and air conditioning (HVAC) units. The project would result in minimal additional traffic on adjacent roadways since the project is a single-family residence, therefore vehicular noise in the project vicinity would not be significantly affected. The noise attributable to the project would follow the City’s limit of 55 dBA Ldn at the surrounding environment outside of the project area. Most listeners consider a 3.0-dB increase to be barely perceptible, a 5.0-dB increase to be noticeable, and a 10-dB increase to sound twice as loud. Table 4-14, Sound Level of Typical Noise Sources, presents noises common to the human ear, their average sound power (dBA), and the relative human judgement of loudness. Sounds come in an enormous variety of pitches, loudness, timbres, and rhythms. Based on different land uses, noises that are annoying in one area may be completely innocuous in other areas.

**Table 4-14
Sound Level of Typical Noise Sources**

Noise Source (at a given distance away from the observer)	Scale of A-Weighted Sound Level* (dBA)	Human Judgment of Noise Loudness (relative to a reference loudness of 70 dB*)
Military jet take-off with after-burner (50 feet) ¹	140	
Civil defense siren (100 feet)	130	
Commercial jet take-off (200 feet)	120	Considered the Threshold of Pain *32 times as loud
Pile driver (50 feet) Rock music concert environment	110	*16 times as loud
Ambulance siren (100 feet) Newspaper press (5 feet) Power lawn mower (3 feet)	100	Considered Very Loud *8 times as loud
Motorcycle (25 feet) Propeller plane flyover (1,000 feet) Diesel truck, 40 mph (50 feet)	90	*4 times as loud
Garbage disposal (3 feet) High urban environment	80	*2 times as loud
Passenger car, 65 mph (25 feet) Living room stereo (15 feet) Vacuum cleaner (3 feet)	70	Considered Moderately Loud

⁸⁸ City of Monrovia. 2020c. *City of Monrovia General Plan. Land Use Element*. Available at: <https://www.cityofmonrovia.org/your-government/community-development/planning/general-plan/land-use-element>. Accessed September 15, 2021.



Noise Source (at a given distance away from the observer)	Scale of A-Weighted Sound Level* (dBA)	Human Judgment of Noise Loudness (relative to a reference loudness of 70 dB*)
Normal conversation (5 feet) Air conditioning unit (100 feet) Department store environment	60	*1/2 as loud
Light traffic (100 feet) Private business office environment	50	*1/4 as loud
Commission Sound Limit	55	
Bird calls (distant) Lower limit of urban sound environment	40	Considered Quiet *1/8 as loud
Soft whisper (5 feet) Quiet bedroom environment	30	
Recording studio environment	20	Considered Perceptible to the human ear
	10	Considered the Lower Threshold of Hearing

Notes:

1. The noise environment from which the value is derived is the deck of an aircraft carrier.

* These values are logarithmic measurements (i.e., every 10-dBA increase is perceived by the human ear as approximately twice the previous noise level; therefore, the pile driver is twice as loud as the ambulance siren).

Source: Modified from Bureau of Land Management, Bureau of Indian Affairs, and Southern Ute Indian Tribe. 2002. *Oil and Gas Development on the Southern Ute Indian Reservation, Final Environmental Impact Statement*. July 2002.

Municipal Code Section 9.44.040 states that permanent project-generated noise levels should not exceed median ambient noise levels for daytime and nighttime hours. The project's operations would comply with the radio, television, and/or other sound-generating device noise restrictions in Municipal Code Section 9.44.090. The project-generated noise levels associated with the single-family residence would be in compliance with these City noise regulations. Thus, on-site operational noise impacts from the project would be less than significant.

Standard Conditions:

SC NS-1 All construction equipment shall be equipped with mufflers and other suitable noise attenuation devices.

SC NS-2 Grading and construction contractors shall use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment).

SC NS-3 All residential units located within 500 feet of the construction site shall be sent a notice regarding the construction schedule of the proposed project. A sign, legible at a distance of 50 feet shall also be posted at the construction site. All notices and the signs shall indicate the dates and duration of construction activities, as well as provide a telephone number where residents can inquire about the construction process and register complaints.



SC NS-4 A “noise disturbance coordinator” shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would be required to implement reasonable measures such that the complaint is resolved. All notices that are sent to residential units within 500 feet of the construction site and all signs posted at the construction site shall list the telephone number for the disturbance coordinator.

Mitigation Measures: No mitigation measures are required.

b. Generation of excessive ground-borne vibration or ground-borne noise levels?

No Impact. Project construction can generate varying degrees of ground-borne vibration, depending on the construction procedure and the equipment used. Operation of equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Ground-borne vibrations from construction activities rarely reach levels that damage structures. Construction activities (e.g., ground-disturbing activities, including grading and movement of heavy construction equipment) may generate localized ground-borne vibration and noise. Blasting or pile-driving activities are not anticipated in the construction of the project. Generally, construction-related ground-borne vibration is not expected to extend beyond 25 feet from the generating source. As a result, no vibration-related impacts to the surrounding environment would occur.

The types of project equipment are not expected to produce ground-borne vibration of a level to affect the equipment operation and, thus, no ground-borne vibration impacts would occur from the project equipment.

Mitigation Measures: No mitigation measures are required.

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such 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?

No Impact. No private airstrips are located in the site vicinity and the nearest public airport to the project site is the San Gabriel Valley Airport, located approximately 6 miles to the southwest. Therefore, the project would not expose people residing in the project area nor working on-site to excessive noise levels associated with aircraft. No impacts would occur.

Mitigation Measures: No mitigation measures are required.



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4.14 Population and Housing

<i>Would the project:</i>	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 (for example, through extension of roads or other infrastructure)?			✓	
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

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

Less Than Significant Impact. A project could induce population growth in an area either directly, through the development of new residences or businesses, or indirectly, through the extension of roads or other infrastructure. The project includes a zoning change to create a new residential hillside lot and construction of one single-family residence. In 2020, the population of the City of Monrovia was estimated to be 37,935 people. Given the average household size is 2.65 people, the project would result in a direct increase in population of up to approximately 3 people, or 0.008% of the estimated population.⁸⁹

SCAG estimates that Monrovia’s projected population would be approximately 39,300 persons in 2035. The project’s anticipated contribution to estimated population growth—3 people—would be approximately 0.17% of SCAG’s projected population growth. For these reasons, the project’s anticipated population growth is well within SCAG’s population growth assumptions for the City. Thus, implementation of the project would not induce substantial unplanned population growth within the City, either directly or indirectly. Therefore, this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The project would rezone one vacant lot to Residential Foothill and construct one single-family residence. The project would not displace existing people or housing. No impact would occur.

Mitigation Measures: No mitigation measures are required.

⁸⁹ City of Monrovia. 2021d. Demographics. Available at: <https://www.cityofmonrovia.org/your-government/community-development/planning/demographics>. Accessed August 25, 2021.



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4.15 Public Services

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:			✓	
i. Fire protection?			✓	
ii. Police protection?			✓	
iii. Schools?			✓	
iv. Parks?			✓	
v. Other public facilities?			✓	

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

i. Fire protection?

Less Than Significant Impact. The Monrovia Fire and Rescue Department provides 24-hour fire, rescue, and emergency medical services to the City, including the project site. MFD also includes a Fire Prevention Division and Hazard Materials Division.⁹⁰ The nearest station to the project site is Station 101, located at 141 East Lemon Avenue, approximately 1.25 miles southwest of the project site.

The project would result in the construction of one single-family residence. As discussed in Section 4.14, Population and Housing, although implementation of the project would increase the number of residents within the City, it is not anticipated to result in a substantial increase in population. Due to the limited population increase and the nature of development, a substantial increase in the need for fire facilities compared to the existing conditions is not anticipated. As a result, project implementation is not anticipated

⁹⁰ City of Monrovia. 2021e. Divisions. Available at: <https://www.cityofmonrovia.org/your-government/fire-department/about-us/fire-stations>. Accessed August 25, 2021.



to require the construction of new or physically altered fire facilities and is not anticipated to result in an increase in service calls.

Nonetheless, the project would be subject to Municipal Code Chapter 15.20, Fire Code, which adopts by reference the 2019 Edition of the California Fire Code (Fire Code), which includes site access requirements and fire safety precautions (e.g., fire alarms, sprinkler systems, hydrants, and fire flow requirements). Because of this, the plans and construction would need to be reviewed and approved by MFD for the purpose of consistency with the Fire Code. MFD reviewed and approved the design plans with amendments (refer to Appendix B, Monrovia Fire and Rescue Department Plan Comments). Therefore, this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

ii. *Police protection?*

Less Than Significant Impact. The City of Monrovia Police Department (MPD) provides law enforcement services to the City, including the project site. The nearest MPD station is located approximately 1.2 miles southwest of the project site at 140 East Lime Avenue. According to the General Plan, the police department is staffed with 64 regular police officers, 11 reserves, and 23 volunteer support personnel.

The project would construct one single-family residence. Implementation of the project is not anticipated to result in a substantial increase in population compared to existing conditions. Therefore, project implementation is not anticipated to require the construction of new or physically altered police facilities. This impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

iii. *Schools?*

Less Than Significant Impact. The City is served by the Monrovia Unified School District.⁹¹ The project would construct one single-family residence, which potentially may add up to two children to the student population. The project would be subject to the requirements of AB 2926 and SB 50, which allow school districts to collect development impact fees to minimize potential impacts to school districts as a result of new development. Additionally, pursuant to Government Code Section 65996, the project's demands on school services would be fully offset through the collection of school fees imposed through the Education Code. As such, this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

iv. *Parks?*

Less Than Significant Impact. The nearest City park to the project site is the Grand Avenue Park, located approximately 0.30 mile southwest of the project site at 340 North

⁹¹ City of Monrovia. 2020d. Schools. Available at: <https://www.cityofmonrovia.org/city-services/schools>. Accessed October 30, 2020.



Grand Avenue.⁹² In addition, Monrovia Canyon Park, at 1200 North Canyon Boulevard, is located approximately 0.75 mile north of the project site. The project would result in the construction of one single-family residence, which would not substantially increase the population in the project area. Thus, the project is not anticipated to indirectly result in a substantial increase in demand for park land. Therefore, this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

v. *Other public facilities?*

Less Than Significant Impact. Other public services that could potentially be impacted by the project are public libraries. The project site is served by the Monrovia Public Library, which is located approximately 1.2 miles southwest of the project site.⁹³ The project would construct one single-family residence and is not anticipated to result in a significant increase in the use of the Monrovia Library System. Therefore, this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

⁹² City of Monrovia. 2020e. Visit Monrovia's Parks. Available at: <https://www.cityofmonrovia.org/your-government/parks>. Accessed October 30, 2020.

⁹³ City of Monrovia. 2020f. Library. Available at: <https://www.cityofmonrovia.org/your-government/library>. Accessed October 30, 2020.



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4.16 Recreation

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				✓

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

Less Than Significant Impact. Refer to Response 4.15(a)(iv). The project would not result in a substantial increase in demand for parks or other recreational facilities and would not result in physical deterioration of these facilities. This impact would be less than significant impact.

Mitigation Measures: No mitigation measures are required.

b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. Refer to Response 4.15(a)(iv). The project would construct one single-family residence. The project does not include recreational facilities and would not require the construction or expansion of recreational facilities. No impact would occur.

Mitigation Measures: No mitigation measures are required.



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4.17 Transportation

<i>Would the project:</i>	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. Would the project conflict or be inconsistent with CEQA Guidelines Sections 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?		✓		

Regional and Local Access

The project site would be accessed by I-210 and East Foothill Boulevard, via South Mountain Avenue.

- **I-210 Freeway:** The I-210 freeway (within the jurisdiction of the California Department of Transportation [Caltrans]) is an interstate freeway located south of the project site. The I-210 freeway begins at its junction with Interstate 5, and travels southeast through the San Fernando Valley, Crescenta Valley, and San Gabriel Valley. The I-210 freeway is classified as an interstate freeway until it intersects with SR57 in Glendora. There, it is classified as a State Route in its eastbound direction where it continues.
- **Norumbega Drive:** Norumbega Drive is classified as a Local Street in the City of Monrovia Circulation Element (Circulation Element). Norumbega Drive is a sinuous mountain residential road that runs generally northwest-southeast in the vicinity of the project site. South of its junction with Oakcliff Road it turns and runs northeast-southwest to East Foothill Boulevard. It is constructed as a two-lane undivided roadway. It does not include a bicycle route or sidewalks in the vicinity of the project site.
- **East Foothill Boulevard:** East Foothill Boulevard is classified as a Collector Street within the City boundary and is a four-lane undivided roadway that runs east-west. It includes sidewalks but does not include a bicycle lane. It is a designated truck route between Mountain Avenue and the western border of the City.
- **South Myrtle Road:** South Myrtle Road is classified in the Circulation Element as a Primary Arterial between I-210 and Huntington Drive, and as a Collector Street between Huntington Drive and East Foothill Boulevard. It is a designated truck route between I-210 and Huntington Drive.



- **Mountain Avenue:** Mountain Avenue is constructed as four-lane undivided roadway running north-to-south from south of I-210 to north of East Foothill Boulevard, and an undivided two-lane roadway north of East Foothill Boulevard. In the Circulation Element it is classified as a Secondary Arterial between I-210 and East Foothill Boulevard. It is a designated truck route between I-210 and East Foothill Boulevard.

Existing Transit Conditions

Existing Rail Lines

The Metro “L” (Gold) Line light rail serves the City of Monrovia, with an alignment that generally parallels I-210. The closest station to the project is the Monrovia Station, located north of Duarte Road at 1675 S Primrose Ave, approximately 3 miles southwest of the project site.

Existing Bus Lines

Public transit access to the project site is provided by the Foothill Transit, Line 270. Line 270 runs primarily north-south along Peck Road to Primrose Avenue via South Myrtle Avenue. Line 270 has its terminus at Foothill Boulevard and Primrose Avenue, approximately 2 miles southwest of the project site.

Existing Bicycle Facilities

There are no existing bicycle facilities in the vicinity of the project site. The nearest access to an identified bicycle route is the junction of Norumbega Drive and East Greystone Avenue, approximately 0.5 mile south of the project site.

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?***

Less Than Significant Impact.

Construction

Vehicle trips that would be generated on a daily basis throughout each phase of construction would derive from construction workers and delivery of construction materials. The construction phase with the highest construction trip generation would be grading.

Based on preliminary construction operation estimates and preliminary grading plans, grading the project site would require approximately 252 cubic yards of soil to be exported from the site. Assuming that trucks with a 10-cubic yard capacity would be used during construction, approximately 26 round-trip truck trips are anticipated to be required. The grading period is expected to last for approximately 4 weeks. During peak grading periods, project construction is anticipated to generate an average of one to two daily haul trucks (two to four daily trips) that would be distributed throughout an 8-hour day.

In addition, project construction is projected to require a maximum of 16 round-trip construction worker trips and four vendor or delivery truck trips on a peak day. The majority of construction workers are anticipated to arrive and depart outside peak commute hours, while delivery trucks would arrive and depart throughout the day.



Operation

Operation of the project would not result in any significant effects relating to traffic. The project would construct one single-family residence on an existing residential street. The residence would be approximately 1 to 2 miles from the primary shopping centers, and 1 mile from the downtown area. The residence would cause a negligible increase in traffic trips and VMT on the existing roadway system. Impacts related to the performance of the circulation system would be less than significant. The project would not conflict with any program addressing the circulation system.

The General Plan Circulation Element has established policies that pertain to the project, such as policies related to accident and traffic safety, transit and public transportation, and bicycle routes and pedestrian facilities. These adopted policies include those summarized in Table 4-15, Project Consistency with Monrovia Circulation Element.

**Table 4-15
Project Consistency with Monrovia Circulation Element**

Circulation Element Policies	Project Consistency Analysis
GOAL 6: Protect and encourage non-motorized transportation such as bicycle and pedestrian travel.	
<u>Policy 6:8:</u> Require new developments to provide adequate pedestrian paths on adjacent streets, including wheelchair ramps, and through the development projects, where determined to be appropriate.	<u>Not Applicable.</u> The majority of houses on Norumbega Drive do not have sidewalks and the project does propose the installation of a sidewalk on the property. The project is consistent with other residences in the area and with the design of the existing roadway. Because the project cannot be conditioned to provide sidewalks on other properties and the project is consistent with the surrounding development pattern, this policy is not applicable.
GOAL 7: Develop and maintain a safe and efficient system of hillside streets and bike trails for movement of vehicles, people, and goods.	
<u>Policy 7:1:</u> Strictly follow hillside guidelines for new developments in hillside areas and design hillside streets to Hillside standards and specifications for circulation and street development.	<u>Consistent.</u> The project is located on an existing hillside street. The project would not permanently alter the hillside street. Under mitigation measure TRA-1, the applicant would prepare a Traffic Management Plan to manage construction traffic if required by the City; therefore, the project would not impact the movement of vehicles, people, or goods.
GOAL 8: Provide an adequate supply of convenient parking for all developments in the City, in a manner consistent with the goals of managing transportation demand and providing efficient arterial traffic flows.	
<u>Policy 8:2:</u> Require all new developments to provide off-street parking in compliance with the City's Zoning Code and the requirements of the ADA.	<u>Consistent.</u> The project includes a four-car garage, which exceeds the City's requirements for off-street parking.

The project does not include sidewalks. There is a sidewalk across the street from the project site at 558 Norumbega Drive, however, that is the only sidewalk in the vicinity. Although the project does not include a sidewalk, Norumbega Drive is a narrow, winding hillside street and does not include pedestrian facilities. Therefore, the project is consistent with its surroundings and provision of a sidewalk would not, by itself, create a safe pedestrian path. This impact is considered less than significant.



The City of Monrovia Bicycle Master Plan (Bicycle Master Plan) also sets forth a number of objectives and goals to promote and encourage bicycling. Under the Bicycle Master Plan, Norumbega Drive is not an existing or planned bicycle route.⁹⁴

The project site is not within 0.5 mile of a bicycle route or transit route. The project would not affect access or safety at existing bus or transit stops, nor would it hinder public transit service. Development of the project would not prevent the City from completing any proposed transit, bicycle, or pedestrian facilities.

In conclusion, the project would not conflict with adopted policies, plans, or programs, nor is it expected to negatively affect the performance or safety of existing or planned pedestrian, bicycle, or transit facilities. As such, the project would have a less than significant impact on active transportation and public transit.

Mitigation Measures: No mitigation measures are required.

b. Conflict or be inconsistent with CEQA Guidelines Sections 15064.3, subdivision (b)?

Less than Significant Impact. OPR, in implementing SB 743, issued proposed updates to the CEQA guidelines in November 2017 that amend the Appendix G question for transportation impacts to delete reference to vehicle delay and level of service (LOS) and instead refer to Section 15064.3(b)(1) of the CEQA Guidelines asking if the project would result in a substantial increase in vehicle miles traveled (VMT). The California Natural Resources Agency certified and adopted the revisions to the CEQA Guidelines in December 2018, and as of July 1, 2020, the provisions of the new section are in effect statewide. Concurrently, OPR developed the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Advisory) (December 2018), which provides non-binding recommendations on the implementation of VMT methodology which has significantly informed how VMT analyses are conducted in the State.

In anticipation of the mandated change to VMT, the San Gabriel Valley Council of Governments (SGVCOG), of which the City is a participating agency, undertook the SGVCOG SB 743 Implementation Study (Implementation Study) to assist with answering important implementation questions about the methodology, thresholds, and mitigation approaches for VMT impact analysis in the member agencies. The City used the information produced through the Implementation Study to adopt a methodology and significance thresholds for use in CEQA-compliant transportation analyses. The new metric and thresholds of significance were formally adopted through City Council Resolution No. 2020-52 on July 7, 2020. In September 2020, the City released the City of Monrovia Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment (Transportation Study Guidelines), which set forth the City's study methodology, thresholds, and potential mitigation strategies for VMT impact analysis. The methodologies presented in this analysis are based on the Transportation Study Guidelines.

⁹⁴ City of Monrovia. 2018. *Bicycle Master Plan*. Available at: <https://www.cityofmonrovia.org/home/showdocument?id=19453>. Accessed September 17, 2021.



City Screening Analysis Criteria

Traditionally, public agencies have set certain thresholds to determine whether a project requires detailed transportation analysis or if it could be assumed to have less than significant environmental impacts without additional study. The City has adopted screening criteria, which may be applied to screen projects out of a detailed VMT analysis.⁹⁵ The project may be exempt from VMT analysis if it falls into one of the categories below. Table 4-16, Project Exemption Status based on Monrovia VMT Analysis Screening Criteria, presents screening criteria and project exemption status.

**Table 4-16
Project Exemption Status based on Monrovia VMT Analysis Screening Criteria**

Screening Criteria	Project Exemption Status
<i>Project Type Screening</i>	
<u>Projects generating fewer than 110 daily trips.</u> According to OPR’s research, a land use that generates 110 or fewer trips would not likely lead to a significant impact. Typical uses include: 11 single-family units, 16 multifamily units, 10,000 square feet of office space, and 15,000 square feet of industrial space.	<u>Exempt.</u> The project would construct one single-family residence and is under the typical use for this criterion of 11 single-family units.
<u>Retail projects up to 50,000 square feet I floor area.</u> These are considered local-serving and would therefore be likely to reduce VMT.	<u>Not Exempt.</u> The project is not a retail project.
<i>Low VMT Screening</i>	
<u>Residential projects located in low VMT areas of Monrovia.</u> Mapped areas with low VMT are defined as having 15% below the baseline VMT for the area.	<u>Not Exempt.</u> The project is mapped in an area with higher VMT than the regional average. This area is identified as an area where vehicle travel for residents is essential for mobility.
<i>Transit Priority Area (TPA) Screening</i>	
<u>Projects located within ½ mile of major transit stop or high-quality transit stop.</u> OPR has defined transit priority areas (TPAs) as being areas that are within a ½-mile radius of existing or planned major transit stops or existing stops along a high-quality transit corridor. There are five TPAs in Monrovia.	<u>Not Exempt.</u> The project is not within a mapped TPA.
<i>Affordable Housing Screening</i>	
Affordable housing developments and affordable housing units within mixed-use developments.	<u>Not Exempt.</u> The project would not construct an affordable housing unit.

Source: City of Monrovia. 2020g. *City of Monrovia Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment*. Accessed September 24, 2021.

The project does not meet the criteria to be screened out of VMT analysis based on Low VMT Screening, Transit Priority Area Screening, or Affordable Housing Screening. However, the project does meet the Project Type exemption criteria for projects generating less than

⁹⁵ City of Monrovia. 2020g. *City of Monrovia Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment*. Accessed September 24, 2021.



110 trips per day. According to OPR's research, a land use that generates 110 or fewer trips would not likely lead to a significant impact. Typical uses include: 11 single-family units, 16 multi-family units, 10,000 square feet of office space, and 15,000 square feet of industrial space. Hence the project, which will construct only one single family residence will have less than significant environmental impacts related to VMT without additional study. Therefore, the project would not conflict with CEQA Guidelines Sections 15064.3(b); impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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

No Impact. The project would construct one single-family residence on an existing street. No roadway reconfigurations or similar design features would be needed for the project. Therefore, the project does not include design features that would create a hazard to traffic. No impact would occur.

Mitigation Measures: No mitigation measures are required.

d. Result in inadequate emergency access?

Less Than Significant with Mitigation Incorporated. As discussed in Response 4.9(f), project construction and operations would not interfere with any daily operations of the City of Monrovia Police Department (MPD) or Monrovia Fire and Rescue Department (MFD). The project would incorporate all applicable design and safety standards and regulations as set forth by the CBC, MPD, and MFD to ensure that it does not interfere with the provision of local emergency services (i.e., provision of adequate access roads to accommodate emergency response vehicles, minimum turning radii, adequate numbers/locations of fire hydrants, etc.).

Further, all appropriate fire and emergency access conditions would be incorporated into the project design. Prior to final site plan approval, the Project Sponsor would be required to submit plans to the MPD and MFD for review of compliance with applicable regulations. With implementation of the existing City standards and regulations, site access would be sufficient for emergency vehicles and impacts would be less than significant.

Should temporary partial lane closure be required during the construction phase, the Project Sponsor would be required to implement a Traffic Management Plan to maintain emergency access during the construction process and minimize congestion as stated in Mitigation Measure TRA-1. Thus, implementation of Mitigation Measure TRA-1 would reduce impacts concerning emergency access to less than significant.

Mitigation Measures:

TRA-1 Prior to project construction initiation, the Project Sponsor shall prepare a Traffic Management Plan for approval by the City Traffic Engineer. The Traffic Management Plan shall specify that one direction of travel in each direction on adjacent roadways must always be maintained during project construction activities. If full lane closures are required and one direction of travel in each direction cannot be maintained, the Traffic Management Plan shall identify planned



detours. The Traffic Management Plan shall include measures such as construction signage, limitations on timing for lane closures to avoid peak hours, temporary striping plans, and use of construction flag person(s) to direct traffic during heavy equipment use. The Traffic Management Plan shall be incorporated into project specifications for verification prior to final plan approval by the City Traffic Engineer.



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4.18 Tribal Cultural Resources

<i>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</i>	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), or;		✓		
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		✓		

As of July 1, 2015, California AB 52 was enacted and expanded CEQA by establishing a formal consultation process for California tribes within the CEQA process. The bill specifies that any project that may affect or cause a substantial adverse change in the significance of a tribal cultural resource would require a lead agency to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the project.”

Public Resources Code Section 21074 codified AB 52 and defined a new category of resources under CEQA called “tribal cultural resources.” Tribal cultural resources are defined as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” that are either listed on or eligible for the California Register of Historical Resources (CRHR) or a local historic register, or that the lead agency has determined to be significant based on substantial evidence.

On February 19, 2016, the California Natural Resources Agency proposed to adopt and amend regulations as part of AB 52 implementing Title 14, Division 6, Chapter 3 of the California Code of Regulations, CEQA Guidelines, to include consideration of impacts to tribal cultural resources pursuant to Government Code Section 11346.6. On September 27, 2016, the California Office of Administrative Law approved the amendments to Appendix G of the CEQA Guidelines, and these amendments are addressed within this environmental document.

Desktop analysis of the project site and surrounding 0.5-mile radius consisted of a records search of the CHRIS at the SCCIC and a SLF search by the NAHC. The CHRIS records search was completed to identify previous cultural resources studies and previously recorded cultural resources within a 0.5-mile radius of the project site. The SLF search was completed to identify any locations deemed sacred and/or tribal cultural resources by local Native American tribes. The CHRIS search results were provided on August 25, 2021, and included a review of the NRHP,



CRHR, California Points of Historical Interest list, California Historical Landmarks list, Archaeological Determinations of Eligibility list, and California State Historic Resources Inventory list. The records search also included a review of all available historical USGS 7.5-, 15-, and 30-minute quadrangles. No known cultural resources listed or eligible for listing in a State or local register of historic resources have been identified within the project site.

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)?*

Less Than Significant With Mitigation Incorporated. The results of the CHRIS records search indicated that no cultural resources, including those listed or eligible for listing in a State or local register of historic resources, have been identified within the project site. One historic-age built environment resource (P-19-004717 [Spanish Canyon Motorway]) was identified approximate 0.24-mile northeast of the project site but would not be subject to any direct or indirect (e.g., visual or vibrational) impacts. As a result of the negative records search and lack of impacts to the historic-age Spanish Canyon Motorway (P-19-004717), the project would not affect any resources listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources.

The proposed earthwork for the project, however, would involve ground-disturbing activities within an undeveloped area. As a result, project construction has the potential to uncover previously undiscovered cultural resources that have not been evaluated for listing in a State or local register of historic resources. Any newly identified resources would need to be assessed for their eligibility. Implementation of Mitigation Measure CUL-1as outlined in Section 4.5 and Mitigation Measure TCR-1 would reduce impacts to unknown archaeological resources to less than significant.

Mitigation Measures:

Refer to Mitigation Measures CUL-1 and CUL-2.

TCR-1 Prior to the issuance of grading permits, a Native American Monitor from tribe(s) that consulted on this project pursuant to Assembly Bill 52, and a qualified archeologist shall be retained to monitor all ground-disturbing activities. Ground-disturbing activities include, but are not limited to, brush clearance, grubbing, excavation, trenching, grading, and drilling. A sufficient number of Native American and archaeological monitors shall be present each workday to ensure that simultaneously occurring ground-disturbing activities receive thorough levels of monitoring coverage. Should more than one Tribe request participation in monitoring, a rotating schedule will be implemented. The Native American and qualified archaeological monitors shall have the ability to recommend, with written and photographic justification, the termination of monitoring efforts to the City, and should the City and the qualified archaeologist concur with this assessment, then monitoring shall cease.

Prior to construction, a Native American representative shall present a WEAP training in cooperation with the qualified archaeologist. The WEAP training shall provide an overview of cultural (prehistoric and historic) and tribal cultural resources and outline regulatory requirements for the protection of cultural and



cultural resources. The WEAP will also cover the proper procedures in the event an unanticipated cultural or tribal cultural resource is identified during construction. The WEAP training can be in the form of a video or PowerPoint presentation. Printed literature (handouts) can accompany the training and can also be given to new workers and contractors to avoid the necessity of continuous training over the course of the project.

A cursory pedestrian survey shall be completed by the Native American and archaeological monitors following vegetation removal. If previously unidentified cultural or tribal cultural resources are encountered during the cursory investigation and/or during ground-disturbing activities, the archaeological and Native American monitors shall have the authority to halt ground-disturbing activities within 100 feet of the resource(s) and an ESA physical demarcation shall be established. If historic-age or potential archaeological resources are identified, Mitigation Measure CUL-1 shall be implemented.

The Native American participant(s) shall determine whether the resource is a potential tribal cultural resource. If avoidance is not feasible, a qualified archaeologist, in consultation with the City and Native American participant(s), shall prepare and implement a detailed treatment plan. Treatment for most resources would consist of, but would not be limited to, in-field documentation, archival research, subsurface testing, and excavation.

If human remains and/or grave goods are discovered or recognized at the project site, all ground disturbance shall immediately cease, and the county coroner shall be notified per PRC Section 5097.98, and Health & Safety Code Section 7050.5. Human remains and grave/burial goods shall be treated alike per PRC Section 5097.98(d)(1) and (2).

Any historical archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.

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

Less Than Significant With Mitigation Incorporated. No previously recorded resources were identified by the CHRIS records search. The results of the SLF were received from the NAHC on August 19, 2021, stating that the Gabrieleño Band of Mission Indians – Kizh Nation had identified a tribal cultural resource in the project vicinity. The NAHC recommended that the City contact the Gabrieleño Band of Mission Indians – Kizh Nation for more information.



In compliance with AB 52, the City distributed letters notifying each of the three Tribes that requested to be on the City's list for the purposes of AB 52 of the opportunity to consult regarding the project. The letters were distributed by certified mail on May 25 and June 29, 2021.

- On June 9, 2021, the San Manuel Band of Mission Indians notified the City Planning Division that the project site was located outside of Serrano ancestral territory and, therefore, they would not be requesting consultation.
- The Gabrielino Tongva Indians replied on July 8, 2021, stating that the area is culturally sensitive and Native American Monitoring is required.
- The Gabrieleño Band of Mission Indians – Kizh Nation responded on June 3, 2021, stating that the project is within the tribe's ancestral tribal territory and requested consultation.

In lieu of a verbal consultation, the Gabrieleño Band of Mission Indians – Kizh Nation sent an email regarding the sensitivity of the area. The email provided confidential information relevant to tribal cultural resources that may exist within the area of the project site and identified concerns that the project may affect such resources during ground-disturbing activities. Thus, the project site was identified as sensitive for the presence of previously unidentified tribal cultural resources. They also provided a document listing proposed Mitigation Measures for the project. The Proposed Mitigation Measures included: 1) the retention of a Native American monitor to provide a WEAP training and monitor all ground-disturbing activities; 2) procedures in the event of the discovery of a tribal cultural resource, human remains, and/or grave goods; and 3) procedures for the burial of human remains, funerary remains, and grave goods. These measures have been incorporated into Mitigation Measure TCR-1.

As proposed earthwork for the project would involve ground-disturbing activities within an undeveloped area, project construction has the potential to uncover previously undiscovered tribal cultural resources. The implementation of Mitigation Measure TCR-1 would reduce impacts to unknown tribal cultural resources to less than significant.

Mitigation Measures: Refer to Mitigation Measure TCR-1.



4.19 Utilities and Service Systems

<i>Would the project:</i>	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 telecommunication facilities, the construction or relocation of which could cause significant environmental impacts?			✓	
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 services or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			✓	
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✓	
e. Comply with Federal, State and local management and reduction statutes and regulations related to solid waste?			✓	

a. Require or result in the relocation or construction of new or expanded water, or wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities or expansion of existing facilities, the construction or relocation of which could cause significant environmental impacts?

Less Than Significant Impact.

Water

The City operates its own water utility service system, with all water obtained from five active wells located in the Main San Gabriel Basin with a total capacity of over 10,000 gallons per minute.⁹⁶ According to the City's Urban Water Master Plan, the City's water use was approximately 6,976 acre-feet in 2020, representing 154 gallons per capita per day in 2020.⁹⁷ As discussed in Section 4.14, Population and Housing, the average household size is

⁹⁶ City of Monrovia. 2021f. Water System. Available at: <https://www.cityofmonrovia.org/your-government/public-works/water>. Accessed September 20, 2021.

⁹⁷ City of Monrovia. 2021g. *City of Monrovia 2020 Final Urban Water Master Plan*. Available at: <https://www.cityofmonrovia.org/home/showpublisheddocument/884/637636765470270000>. Accessed September 20, 2021.



2.65 people and thus the project would result in approximately an additional 3 people. Therefore, the project would require an additional 462 gallons per day of potable water or approximately 0.52 acre-feet, which is less than 0.01% of the 2020 water demand.⁹⁸ As such, the project would not substantially increase water demand, and no new or expanded water facilities would be required to accommodate the project.

There is an existing water line in Norumbega Drive. Water service connections would be installed, connecting the one single-family residence to the existing water line within Norumbega Drive. Payment of development fees and connection fees to the City would be required. Additionally, the City would be required to review the project and issue a Will Serve letter stating that the City would supply water to the project prior project approval. No new off-site water facilities are proposed, nor are existing facilities proposed to be expanded, other than connections to the existing system. Therefore, this impact would be less than significant.

Wastewater Treatment

The City's sewer system delivers wastewater sewage to main lines leading to the Sanitation Districts of Los Angeles County San Jose Creek Water Reclamation Plant (Plant), located in the City of Whittier.⁹⁹ The Plant provides primary, secondary, and tertiary treatment at a capacity of 100 million gallons of wastewater per day.

The Sanitation Districts of Los Angeles County provides wastewater generation factors for various land use types. Single-family residential uses are estimated to generate 260 gallons per day of wastewater per parcel.¹⁰⁰ A sewer service connection would be made with the existing sewer line in Norumbega Drive. The City Public Works Department would be required to review the project and issue a Will Serve letter stating that the City would supply sanitation services to the project site prior to project approval. Therefore, the project would be adequately accommodated by the City's existing sewer system and the San Jose Creek Water Reclamation Plant, and this impact would be less than significant.

Stormwater Drainage

The project would construct a single-family residence on a hillside lot and would result in an increase in impervious surface area of approximately 3,900 square feet. Stormwater would flow down Norumbega Drive to Sawpit Wash and enter the wash through existing storm drains. There is no flooding history in Sawpit Wash. The project would be designed to comply with Municipal Code Section 12.36.100 and divert runoff to vegetated areas prior to discharge, which would reduce runoff rates from storms. Therefore, the project is not anticipated to result in impacts to the storm drain system and no new or expanded facilities are required. This impact would be less than significant.

⁹⁸ One acre-foot of water is equal to 325,851 gallons.

⁹⁹ City of Monrovia. 2016. *Sewer System Management Plan*. Available at: <https://www.cityofmonrovia.org/home/showdocument?id=4776>. Accessed September 20, 2021.

¹⁰⁰ Los Angeles County Sanitation Districts. *Table 1, Loadings for Each Class of Land Use*. Available at: <https://www.lacsd.org/home/showpublisheddocument/3644/637644575489800000>. Accessed September 20, 2021.



Dry Utilities

Electricity and natural gas services in the City are currently provided by Southern California Gas Company and Southern California Edison, respectively. Telecommunication services are provided by various companies. The project would result in the construction of a single-family residence and would require private on-site dry utilities associated with electricity, gas, and telecommunications. The Project Sponsor would be required to obtain Will Serve letters from Southern California Gas Company and SCE prior to project approval. Additionally, construction of the project’s dry utilities would be subject to compliance with all applicable local, state, and federal laws, ordinances, and regulations ensuring the project’s construction-related environmental impacts are less than significant.

Mitigation Measures: No mitigation measures are required.

b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less Than Significant Impact. As stated in Response 4.19(a), the City would provide potable water service to the project site. The City relies on groundwater obtained from five active wells located in the Main San Gabriel Basin for supply. The Main San Gabriel Basin contains a total capacity of over 10,000 gallons per minute. Additionally, according to the City of Monrovia 2020 Urban Water Management Plan, the City is capable of purchasing imported water supplies from the Metropolitan Water District of Southern California (MWD), which can supply up to approximately 6,300 gallons per minute (gpm).¹⁰¹ Historically, the City has not used imported water supplies to meet demands. According to the Urban Water Management Plan, the City is currently capable of meeting projected demands during normal, dry, and multiple dry years through 2045 in acre-feet (AF); refer to Table 4-17 through Table 4-19.

**Table 4-17
Normal Year Supply and Demand Comparison**

	2025	2030	2035	2040	2045
Supply totals	7,469	7,855	7,995	8,137	8,282
Demand totals	7,469	7,855	7,995	8,137	8,282
Difference	0	0	0	0	0

Source: City of Monrovia. 2020h. 2020 Urban Water Management Plan. Table 7-2. July.

**Table 4-18
Single Dry Year Supply and Demand Comparison**

	2025	2030	2035	2040	2045
Supply totals	7,274	7,649	7,786	7,920	8,066
Demand totals	7,274	7,649	7,786	7,920	8,066
Difference	0	0	0	0	0

Source: City of Monrovia. 2020h. 2020 Urban Water Management Plan. Table 7-3. July.

¹⁰¹ City of Monrovia. 2020h. Urban Water Management Plan. Available at: <https://www.cityofmonrovia.org/your-government/public-works/water/urban-water-management-plan>. Accessed September 20, 2021.



**Table 4-19
Multiple Dry Year Supply and Demand Comparison**

		2025	2030	2035	2040	2045
First year	Supply Totals	7,719	8,117	8,262	8,409	8,559
	Demand Totals	7,719	8,117	8,262	8,409	8,559
	Difference	0	0	0	0	0
Second year	Supply Totals	8,222	8,646	8,800	8,957	9,117
	Demand Totals	8,222	8,646	8,800	8,957	9,117
	Difference	0	0	0	0	0
Third year	Supply Totals	8,490	8,928	9,087	9,249	9,414
	Demand Totals	8,490	8,928	9,087	9,249	9,414
	Difference	0	0	0	0	0
Fourth year	Supply Totals	8,145	8,565	8,718	8,873	9,031
	Demand Totals	8,145	8,565	8,718	8,873	9,031
	Difference	0	0	0	0	0
Fifth year	Supply Totals	6,747	7,095	7,222	7,351	7,482
	Demand Totals	6,747	7,095	7,222	7,351	7,482
	Difference	0	0	0	0	0

Source: City of Monrovia. 2020h. 2020 Urban Water Management Plan. Table 7-4. July.

The project’s water demand is within the Urban Water Management Plan’s water demand projection for the City, and the City anticipates having sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Therefore, this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

- c. Result in a determination by the wastewater treatment provider which services or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?**

Less Than Significant Impact. As stated in Response 4.19(a), project implementation would not require the relocation or construction of new or expanded wastewater treatment facilities. The project would construct one single-family residence. As such, the project is not anticipated to generate a substantial source of additional wastewater above existing conditions. Further, the City is expected to account for no more than 0.3% of the daily treated wastewater volume in the three receiving reclamation plants (the Whittier Narrows Reclamation Plant, the San Jose Creek Water Reclamation Plant, and the Los Coyotes Water Reclamation Plant), even if the County Sanitation Districts of Los Angeles County (wastewater reclamation plants operator) do not make any capacity improvements over their current treatment capacity.¹⁰²

¹⁰² City of Monrovia. 2008. *Final Environmental Impact Report, Monrovia General Plan Proposed Land Use and Circulations Elements*.



Additionally, the City would need to provide a “Will Serve” letter, which indicates sufficient wastewater collection facilities and treatment capacity are available. As a result, the project’s wastewater demand, in addition to the City’s existing commitments, would not exceed capacity and impacts would be less than significant.

Mitigation Measures: No mitigation measures are required.

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?

Less Than Significant Impact. Athens Services provides solid waste collection for the City, including the project site, and disposes the City’s solid waste at the 11 landfills identified in Table 4-20, Landfills Serving the City of Monrovia.¹⁰³

**Table 4-20
Landfills Serving the City of Monrovia**

Name/Location	Waste from Monrovia in 2019 (tons per year)	Maximum Throughput per Day (tons)	Maximum Permitted Capacity (tons)	Remaining Capacity (tons)	Percent Remaining Capacity
Antelope Valley Public Landfill 1200 W. City Ranch Road Palmdale, CA 93551	114	5,548	30,200,000	17,911,225	59.3%
Azusa Land Reclamation Company Landfill Asbestos Containing Waste Disposal Site 1211 West Gladstone Street Azusa, CA 91702	4,132	8,000	80,571,760	51,512,201	63.9%
Chiquita Canyon Sanitary Landfill 29201 Henry Mayo Drive Castaic, CA 91384	2,090	12,000	110,366,000	60,408,000	54.7%
El Sobrante Landfill 10910 Dawson Canyon Road Corona, CA 91719	6,385	16,054	209,910,000	143,977,170	68.6%
Frank R. Bowerman Sanitary Landfill 11002 Bee Canyon Access Road Irvine, CA 92618	471	11,500	266,000,000	205,000,000	77.1%
Mid-Valley Sanitary Landfill 2390 N. Alder Avenue Rialto, CA 92377	18,251	7,500	101,300,000	61,219,377	60.4%

¹⁰³ California Department of Resources Recycling and Recovery (CalRecycle). 2019a. *Jurisdiction Disposal by Facility and Alternative Daily Cover (ADC) Tons by Facility*. Available at: <https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility>. Accessed September 21, 2021.



Name/Location	Waste from Monrovia in 2019 (tons per year)	Maximum Throughput per Day (tons)	Maximum Permitted Capacity (tons)	Remaining Capacity (tons)	Percent Remaining Capacity
Olinda Alpha Landfill 1942 N. Valencia Avenue Brea, CA 92823	2,258	8,000	148,800,000	34,200,000	22.9%
San Timoteo Sanitary Landfill San Timoteo Canyon Road Redlands, CA 92373	5,874	2,000	22,685,785	12,360,396	54.4%
Simi Valley Landfill & Recycling Center 2801 Madera Road Simi Valley, CA 93065	1,300	64,750	119,600,000	82,954,873	69.4%
Sunshine Canyon City/County Landfill 14747 San Fernando Road, Sylmar Sunshine LF (in Los Angeles County), CA 91342	68	12,100	140,900,000	77,900,000	55.2%
Victorville Sanitary Landfill 18600 Stoddard Wells Road Victorville, CA 92307	723	3,000	93,400,000	79,400,000	85.0%
Total	41,666				

Data for year 2019.

Source: California Department of Resources Recycling and Recovery (CalRecycle). 2019b. SWIS Facility/Site Search. Available at: <https://www2.calrecycle.ca.gov/SolidWaste/Site/Search>. Accessed September 21, 2021.

Construction

The project would construct one single-family residence on a vacant lot. Given the remaining capacity of area landfills (see Table 4-20), construction waste materials would not exceed the capacity of local or regional landfills. Further, all construction activities would be subject to conformance with relevant federal, state, and local requirements related to solid waste disposal. Specifically, the project would be required to demonstrate compliance with the California Integrated Waste Management Act of 1989 (AB 939), which requires all California cities to “reduce, recycle, and re-use solid waste generated in the State to the maximum extent feasible.” The California Integrated Waste Management Act of 1989 requires that at least 50% of waste produced is recycled, reduced, or composted. The project would also be required to demonstrate compliance with the 2022 (or most recent) Green Building Code, which includes design and construction measures that act to reduce construction-related waste through material conservation measures and other construction-related efficiency measures. Compliance with these programs ensures the project’s construction-related solid waste impacts would be less than significant.



Operation

The proposed residence would generate approximately 12.23 pounds per day of solid waste.¹⁰⁴ To compare this to one of the landfills serving the City, this represents approximately 0.00008% of the maximum daily throughput at the Mid-Valley Sanitary Landfill. The remaining capacity of the landfills used by the City range from 22.9% to 85.0%. The single-family residence would be required to comply with all City and State regulations regarding solid waste. Therefore, the project would not generate solid waste more than state or local standards, or in excess of the capacity of local landfills, and this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

e. Comply with Federal, State and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. Refer to Response 4.19(d) above. The project would comply with all federal, state, and local statutes and regulations related to solid waste, including the California Integrated Waste Management Act and the 2022 (or most recent) Green Building Code. Therefore, this impact would be less than significant.

Mitigation Measures: No mitigation measures are required.

¹⁰⁴ California Department of Resources Recycling and Recovery (CalRecycle). 2019c. Estimated Solid Waste Generation Rates. Available at: <https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates>. Accessed September 21, 2021.



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4.20 Wildfire

<i>If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:</i>	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?		✓		

a. Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. As discussed in Section 4.9, Hazards and Hazardous Materials, the project site is within a Local Responsibility Area (LRA) in a very high fire hazard severity zone (VHFHSZ), as well as within in a Wildfire-Urban Influence (WUI).^{105,106} Monrovia Fire and Rescue has adopted the City of Monrovia Wildfire Protection Plan, which includes plans for evacuation of hillside residents due to wildfire.¹⁰⁷

The project site is accessible from Norumbega Drive, which is approximately 30 feet wide in the vicinity of the site. Project construction may temporarily block portions of Norumbega Drive, particularly during installation of utilities and delivery of materials by large vehicles. Therefore, mitigation is required to address traffic disruption during construction. Mitigation Measure HAZ-1 would require construction to stop and remove obstacles to traffic in the event of a wildfire emergency. Mitigation Measures TRA-1 would ensure adequate emergency access is maintained during construction. In the event of a wildfire, construction on the project would stop and all vehicles and materials would be removed from the street. During operation

¹⁰⁵ California Department of Forestry and Fire Protection (CAL FIRE). 2007. Fire Hazard Severity Zone Viewer. Available at: FHSZ Viewer (ca.gov). Accessed August 25, 2021.

¹⁰⁶ City of Monrovia. 2021b. *Vulnerability Assessment: Resiliency, Climate Adaptation, and Wildfire*. Available at: <https://www.cityofmonrovia.org/home/showpublisheddocument/26307/637624796825430000>. Accessed August 25, 2021.

¹⁰⁷ City of Monrovia. 2014. Fire and Rescue. *Community Wildfire Protection Plan*. Available at: <https://www.cityofmonrovia.org/home/showpublisheddocument/1836/636244055698530000>. Accessed September 15, 2021.



of the project, access to the site by fire and other emergency services would remain unchanged and therefore, even though the project is located in a VHFHSZ, construction of one single-family residence at this site would not impair an adopted emergency response plan or emergency evacuation plan. While the project site is located within a VHFHSZ within an LRA, impacts to emergency response and/or emergency evacuation plans are considered less than significant with implementation of Mitigation Measures HAZ-1 and TRA-1.

Mitigation Measures: Refer to Mitigation Measures HAZ-1 and TRA-1.

- 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?**

Less Than Significant Impact. Refer to Response 4.20(a). The project would not significantly increase ignition risks or fuel load within the project area. For these reasons, the project would not create a significant increase in exposure of people or structures to a significant risk or loss, injury or death involving wildland fires.

Mitigation Measures: No mitigation measures are required.

- 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?**

Less Than Significant With Mitigation Incorporated. The project would result in the construction of one single-family residence on Norumbega Drive, which is an existing residential street with existing utilities and infrastructure. The project would be required to extend utility laterals from existing utilities on Norumbega Drive to serve the property, including power and water. The project would not require extension of the road or other utilities, including for fire suppression as there is an existing hydrant approximately 100 feet from the project that would sufficiently serve the project site. Therefore, no impact would occur from project operation.

Project construction would include clearing vegetation from portions of a hillside in a Very High Fire Hazard Severity Zone. Because the project is located in the foothills of the San Gabriel Mountains with dry vegetation, construction may exacerbate fire risk temporarily as the site for the dwelling and landscaping is being cleared. Therefore, the project requires implementation of Mitigation Measure WFR-1, which would minimize fire risk during activities that would use electric equipment by requiring construction crews to carry fire prevention equipment during activities involving electrical equipment. Thus, the implementation of Mitigation Measure WFR-1 would reduce impacts related to fire risk to less than significant.

Mitigation Measure:

- WFR-1** During site clearing within the project site when any electrical construction equipment is in use, the construction crew shall have fire prevention equipment (such as fire extinguishers, emergency sandbags, etc.) accessible at all times to put out any accidental fires that could occur from the use of electrical construction equipment.



- 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?**

Less Than Significant Impact with Mitigation. Implementation of the project would result in the construction of one single-family residence on a hillside lot. As discussed in Response 4.7(a)(iv), Geology and Soils, Landslides, the project is in a mapped seismic landslide zone with slopes ranging from 1.5:1 to 2:1. The Geotechnical Analysis concluded that the proposed construction and grading for the residence would be safe against geotechnical hazards such as landslides, settlement, or slippage. The residence and retaining walls would be developed in accordance with the 2019 CBC (or most recent version), which is further enforced through implementation of SC GS-1 and Mitigation Measure GS-1, thus minimizing the potential for post-fire slope instability. Therefore, with the implementation of SC GS-1 and Mitigation Measure GS-1, the project would have a less than significant potential to 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; this impact would be less than significant.

Standard Conditions: Refer to SC GS-1.

Mitigation Measures: Refer to Mitigation Measure GS-1.



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4.21 Mandatory Findings of Significance

<i>Would the project:</i>	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 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 an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)		✓		
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		✓		

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

Less Than Significant Impact With Mitigation Incorporated. As concluded in Section 4.4, Biological Resources, the project site would retain and protect all oak trees and include measures to protect nesting birds, mammals and special-status reptiles during construction. As a result of analysis conducted for biological resources, several mitigation measures have been provided within this Draft IS/MND to ensure that resources are not adversely impacted if and when the project is constructed. Specifically, Standard Conditions SC BIO-1 through SC BIO-6 to broadly address the property assurances before and during construction to protect special status species and other wildlife, Standard Condition SC BIO-2 has been provided to address potential impacts to special-status reptiles, Mitigation Measure BIO-1 to address nesting birds, Mitigation Measure BIO-2 to address mountain lions, Mitigation Measure BIO-3 to provide for the reporting of mountain lion and black bear spotting in the project area (beyond the project site), Mitigation Measure BIO-4 to address bats, and SC BIO-7 through SC BIO-11 as well as Mitigation Measures BIO-7 and BIO-8 to address the potential for indirect impacts to oak trees. Therefore, impacts to sensitive plant or animal species would be less than significant with mitigation incorporated.



As indicated in Section 4.5, Cultural Resources, Section 4.7, Geology and Soils, and Section 4.18, Tribal Cultural Resources, impacts on cultural, paleontological, or tribal cultural resources are not anticipated to occur. Nonetheless, due to the proposed excavation, there is a possibility that unknown cultural resources may be uncovered during site disturbance activities. In the unlikely event that previously unidentified cultural resources are encountered during ground-disturbing activities, Mitigation Measure CUL-1 and CUL-2 would require all project construction efforts in the immediate area to halt until an archaeologist evaluates the find and recommends a course of action. Mitigation Measure TCR-1 would require a Tribal Monitor during site disturbance activities and implementation of appropriate actions should unknown tribal cultural resources be discovered during site disturbance. Further, if evidence of subsurface paleontological resources is found during construction, SC GS-2 would ensure that project construction activities would cease within 50 feet of the discovery and the City Planning Division be contacted. With direction from the City Planning Division, a qualified paleontologist may be contacted to evaluate the find and recommend a course of action.

Thus, with implementation of Mitigation Measures CUL-1, CUL-2, and TCR-1, and SC GS-2, the project would not potentially 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, 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 an individual 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.)***

Less Than Significant Impact With Mitigation Incorporated. A significant impact may occur if a project, in conjunction with related projects, would result in impacts that are less than significant when viewed separately, but would be significant when viewed together. As concluded in Sections 4.1 through 4.20, the project would not result in any significant impacts in any environmental categories with implementation of standard conditions and project mitigation measures. As discussed in Response 4.3(b), 4.8(a), 4.8(b), and 4.13(a) — pertaining to cumulative air quality, greenhouse gas emissions, and noise, respectively — the incremental effects of the project would be less than considerable when viewed in connection with the effects of past projects, current projects, or probable future projects. Therefore, impacts would be less than significant.

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

Less Than Significant Impact With Mitigation Incorporated. Previous sections of this Initial Study reviewed the project’s potential impacts related to aesthetics, air quality, noise, hazards and hazardous materials, traffic, and other issues. As concluded in these previous sections, the project would not have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly, following conformance with the existing regulatory framework, standard conditions, and mitigation measures. Thus, impacts would be reduced to less than significant.



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6.0 REPORT PREPARATION

City of Monrovia (Lead Agency)

Planning Division
415 South Ivy Avenue
Monrovia, California 91016

Sheri Bermejo, Planning Division Manager
Vincent Gillespie, Assistant Planner

SWCA Environmental Consultants (Environmental Analysis)

51 West Dayton Street
Pasadena, California 91105

John Dietler, Ph.D, Senior Vice President
Bobbette Biddulph, Senior Environmental Project Manager
Juliet Bolding, Planner
Shannon Pagan, Planner
Pauline Roberts, Ph.D, Lead Senior Biologist
Elizabeth Denniston, Cultural Resources Specialist
Erin Wielenga, Air Quality Specialist
Mathew Carson, Paleontology Specialist



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7.0 CONSULTANT RECOMMENDATION

Based on the information and environmental analysis contained in this Initial Study, we recommend the City of Monrovia prepare a Mitigated Negative Declaration for the Norumbega Drive Residence Project. We find the project could have a significant effect on certain environmental issues but that mitigation measures have been identified that reduce such impacts to a less than significant level. We recommend the second category be selected for the City of Monrovia's determination (see Section 8.0, Lead Agency Determination).

January 23, 2024

Date

A handwritten signature in blue ink, appearing to read "BB", with a long horizontal stroke extending to the right.

Bobbette Biddulph, Senior Project Manager
SWCA Environmental Consultants



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8.0 LEAD AGENCY DETERMINATION

On the basis of this initial evaluation:

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

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

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

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

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

Signature: Sheri Bermejo

Title: Planning Division Manager

Printed Name: Sheri Bermejo

Agency: City of Monrovia

Date: 2/1/2024



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DRAFT
REVISED INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
APPENDICES

Norumbega Drive Residence Project



LEAD AGENCY:

City of Monrovia
Planning Division
415 South Ivy Avenue
Monrovia, California 91016
Contact: Vincent Gillespie, Planning Technician
(626) 932-5504

PREPARED BY:

SWCA Environmental Consultants
51 West Dayton Street
Pasadena, California 91105
Contact: Bobbette Biddulph
(626) 240-0587

February 2024

SWCA Project No. 67447

This document is designed for double-sided printing to conserve natural resources.



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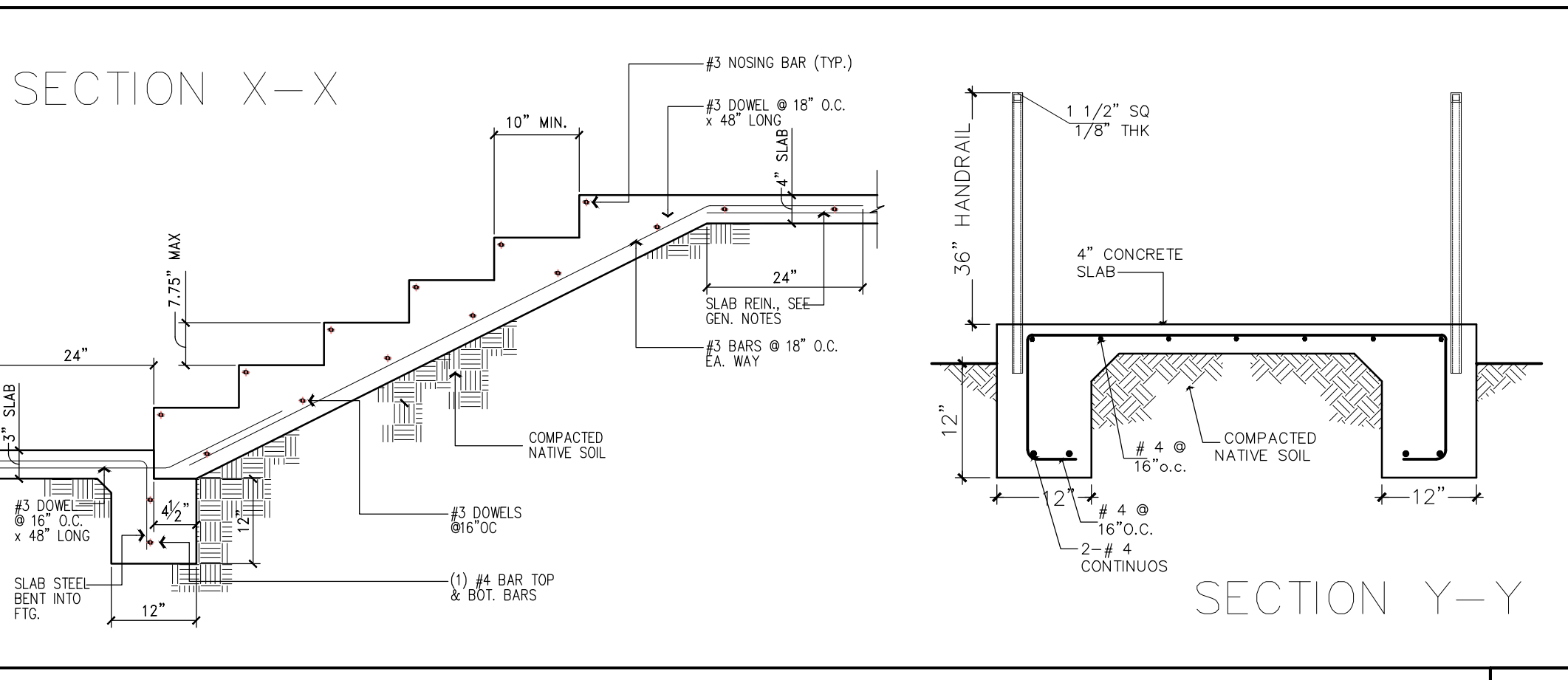
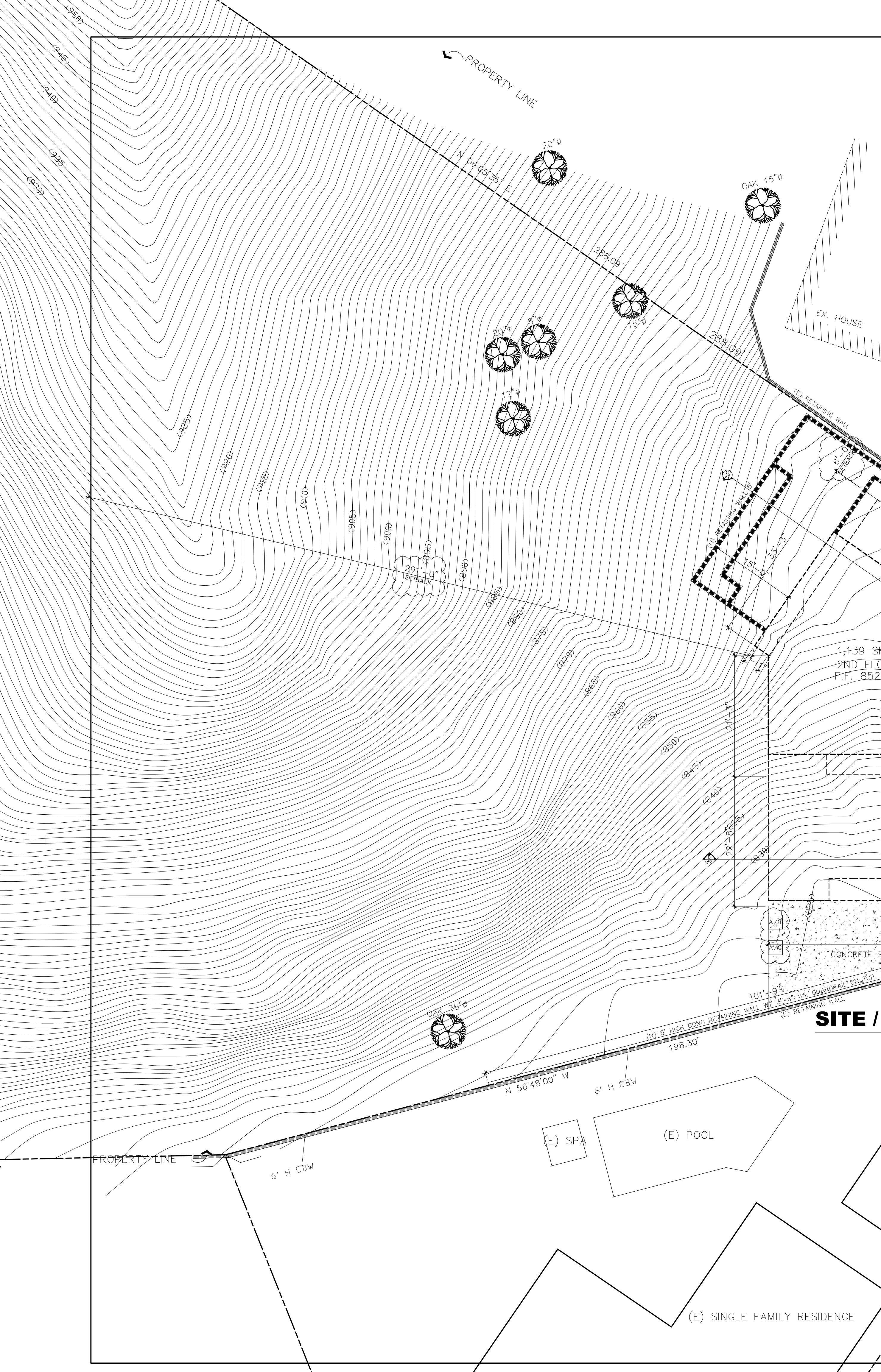
- Appendix A. Design Plans
- Appendix B. Monrovia Fire and Rescue Department Plan Comments
- Appendix C. Air Quality and Greenhouse Gas Technical Report
- Appendix D. Revised Biological Assessment
- Appendix E. Arborist Report
- Appendix F. Geotechnical Engineering Investigation Report
- Appendix G. Response to Comments on February 2022 Draft Initial Study/Mitigated Negative Declaration
- Appendix H. Mountain Lion Habitat Assessment
- Appendix I. Mitigation Monitoring and Reporting Plan



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APPENDIX A

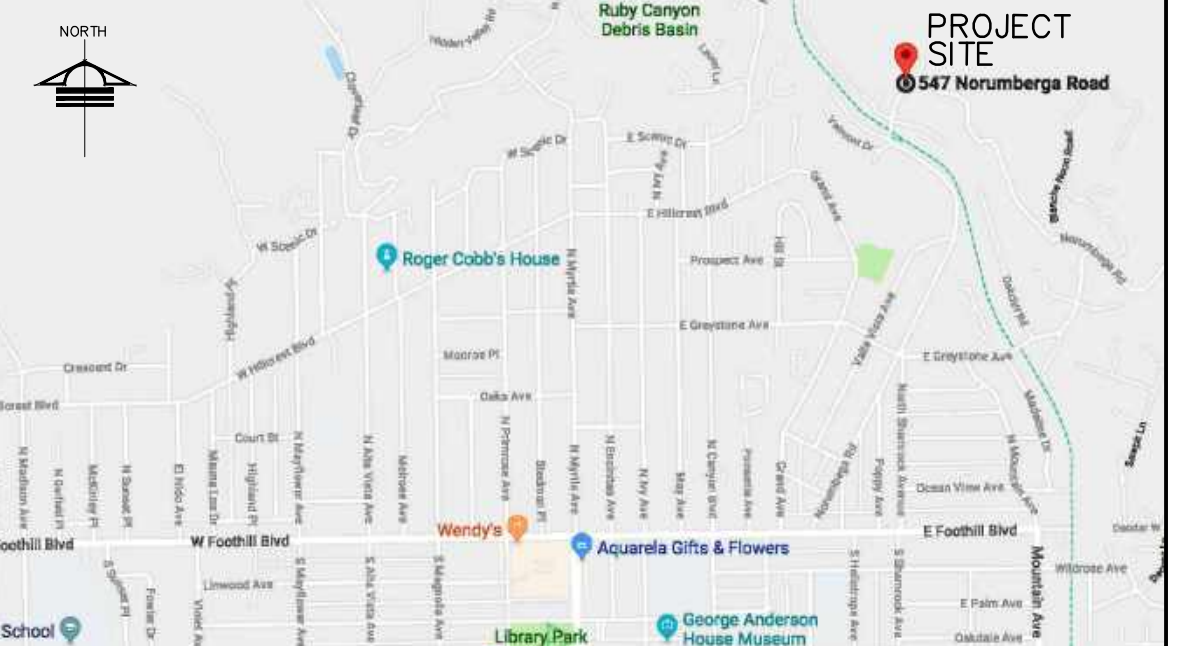
Design Plans



NEW RESIDENCE

NORUMBEGA RD MONROVIA, CA 91016

PROJECT SITE
547 Norumbega Road



TYPE OF CONSTRUCTION:	V-B
OCCUPANCY GROUP	R3/U
USE CODE:	SINGLE FAMILY
ZONE:	RF
NO. OF STORIES	2
SITE AREA	1,295 AC = 56,410 SF
PROPOSED 4 CAR GARAGE	1,348 SF
PROPOSED PORCH	72 SF
1ST FLOOR	2,619 SF
2ND FLOOR	1,139 SF
TOTAL LIVABLE	3,758 SF
LEGAL DESCRIPTION:	
PARCEL #	8523-002-045
TRACT:	NORUMBEGA
LOT NO:	1

BUILDING DATA	3
DESIGNER:	OWNER:
GONZALO HERRERA 245 N COUNTRY CLUB RD GLENDORA, CA 91741 (626) 533-6120	GONZALEZ, MARGARITA FIGUEROA 123 SAN ANGELO AVE LA PUENTE, CA 91746 (626) 672-5317

BUILDING DATA	2
T-1	SITE / ROOF PLAN
G-1	GRADING PLAN
G-2	GRADING SECTIONS
A-1	GARAGE FLOOR PLAN
A-2	FIRST FLOOR PLAN
A-3	SECOND FLOOR PLAN
A-4	S & E ELEVATIONS
A-5	N & W ELEVATIONS
A-6	WEST ELEVATIONS
A-7	SECTIONS
A-8	SECTIONS
A-9	COLOR RENDER
A-10	COLOR RENDER & SECTION
A-11	MATERIAL BOARD

SHEET INDEX	1
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PROJECT TITLE
NEW RESIDENCE

SHEET TITLE
SITE PLAN

REVISIONS

NO.	DATE	DESCRIPTION

DRAWN: GH
CHK.:
APP.:
SCALE: AS SHOWN
JOB NO.:
DATE: 7/26/23
SHEET NO.: **T-1**

CONCEPTS
DESIGN STUDIO

GONZALO HERRERA
245 N COUNTRY CLUB RD
GLENDORA, CA 91741
TEL: 626.533.6120
gopher@conceptsdesignstudio.com

GEOTECHNICAL RECOMMENDATIONS:

SITE PREPARATION

PRIOR TO INITIATING GRADING OPERATIONS, ANY DEMOLISHED STRUCTURES AND ASSOCIATE FOOTINGS, UTILITY LINES, EXISTING VEGETATION, ORGANIC SOIL, TRASH, DEBRIS, OVER-SIZED MATERIALS (GREATER THAN 8 INCHES), AND OTHER DELETERIOUS MATERIALS WITHIN FILL AREAS SHOULD BE REMOVED FROM THE SITE.

EXCAVATION/SURFICIAL SOIL REMOVALS

IN AREAS TO RECEIVE FILL AND IMPROVEMENTS SUCH AS DRIVEWAY AND PLANNED CONCRETE FLATWORKS, PREVIOUSLY PLACED FILL AND COLLUVIUM SHOULD BE REMOVED TO A DEPTH OF 3 FEET BELOW THE EXISTING GRADE AS DIRECTED BY THE PROJECT GEOTECHNICAL ENGINEER AND/OR ENGINEERING GEOLOGIST. SOME RELATIVELY DEEPER REMOVALS SHOULD BE ANTICIPATED IN LOCALIZED AREAS. LOCALLY DEEPER REMOVALS MAY BE NECESSARY TO EXPOSE COMPETENT NATURAL GROUND. THE ACTUAL REMOVAL DEPTHS SHOULD BE DETERMINED IN THE FIELD AS CONDITIONS ARE EXPOSED. VISUAL INSPECTION AND/OR TESTING MAY BE USED TO DEFINE REMOVAL REQUIREMENTS.

THE PROPOSED CUT AREA WITHIN THE PROPOSED BUILDING PAD SHOULD BE CUT TO GRADE. ALL EXCAVATIONS SHOULD BE OBSERVED BY A REPRESENTATIVE OF THIS OFFICE TO VERIFY THE SUBGRADE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL REMOVALS OR OTHER MITIGATIVE MEASURES ARE NEEDED.

TREATMENT OF REMOVAL BOTTOMS

SOILS EXPOSED WITHIN AREAS APPROVED FOR FILL PLACEMENT SHOULD BE SCARIFIED TO A DEPTH OF 6 INCHES, CONDITIONED TO NEAR OPTIMUM MOISTURE CONTENT, THEN COMPACTED IN-PLACE TO 90 PERCENT RELATIVE COMPACTION BASED ON LABORATORY STANDARD ASTM D-1557-12.

STRUCTURAL BACKFILL

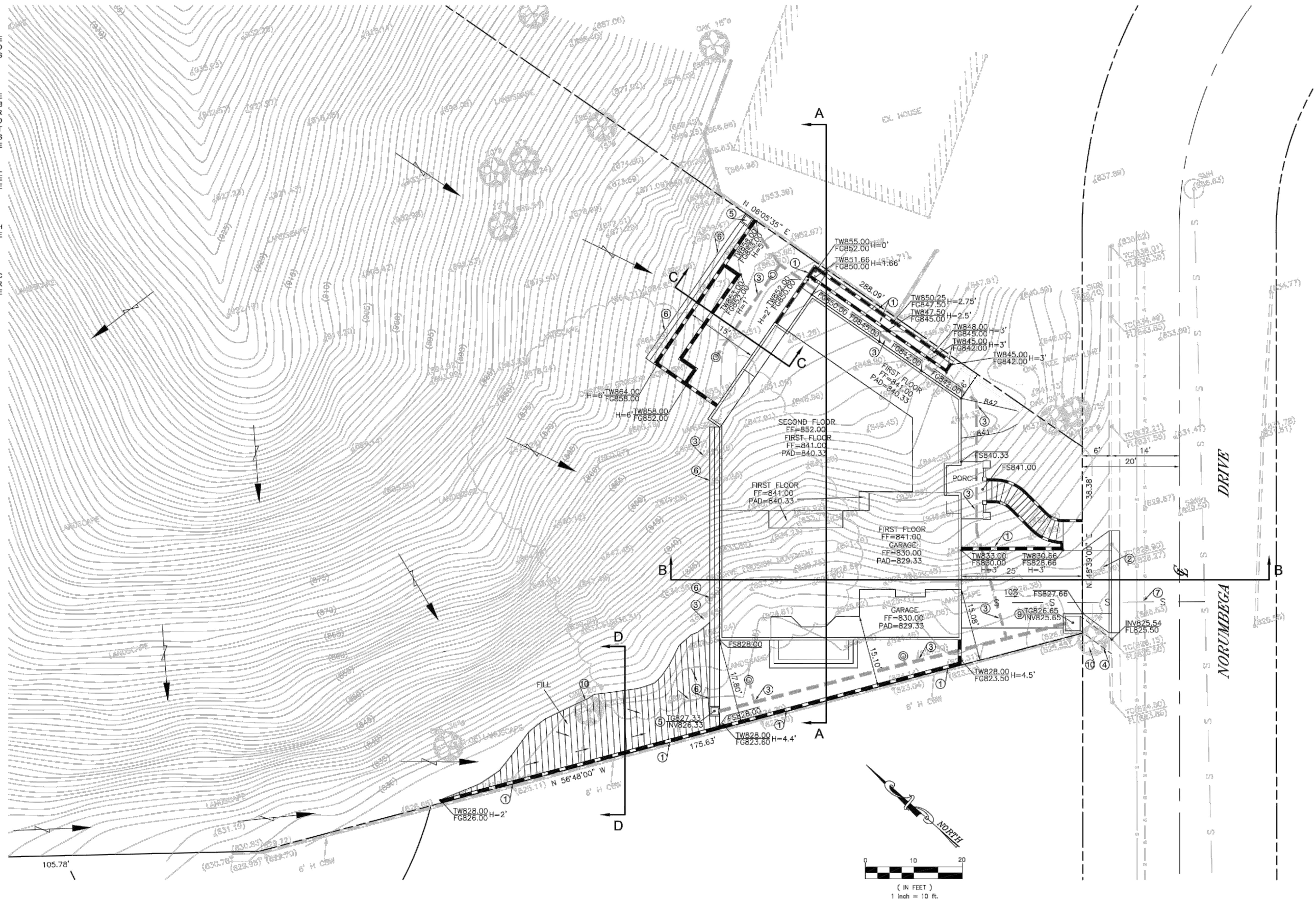
THE ONSITE SOILS MAY BE USED AS COMPACTED FILL PROVIDED THEY ARE FREE OF ORGANIC MATERIALS AND DEBRIS. FILLS SHOULD BE PLACED IN RELATIVELY THIN LIFTS; BROUGHT TO NEAR OPTIMUM MOISTURE CONTENT, THEN COMPACTED TO OBTAIN AT LEAST 90 PERCENT RELATIVE COMPACTION BASED ON LABORATORY STANDARD ASTM D-1557-12.

NOTES:

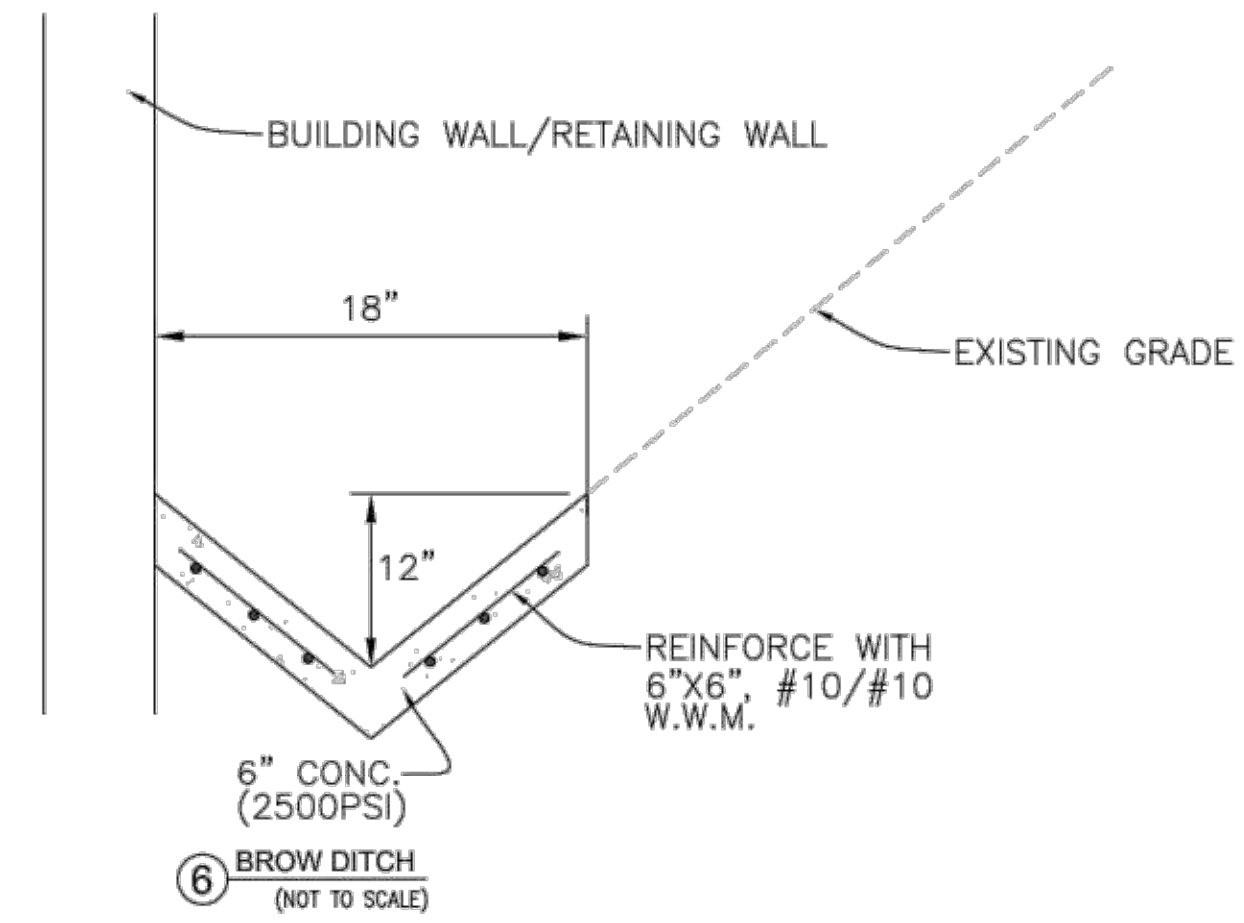
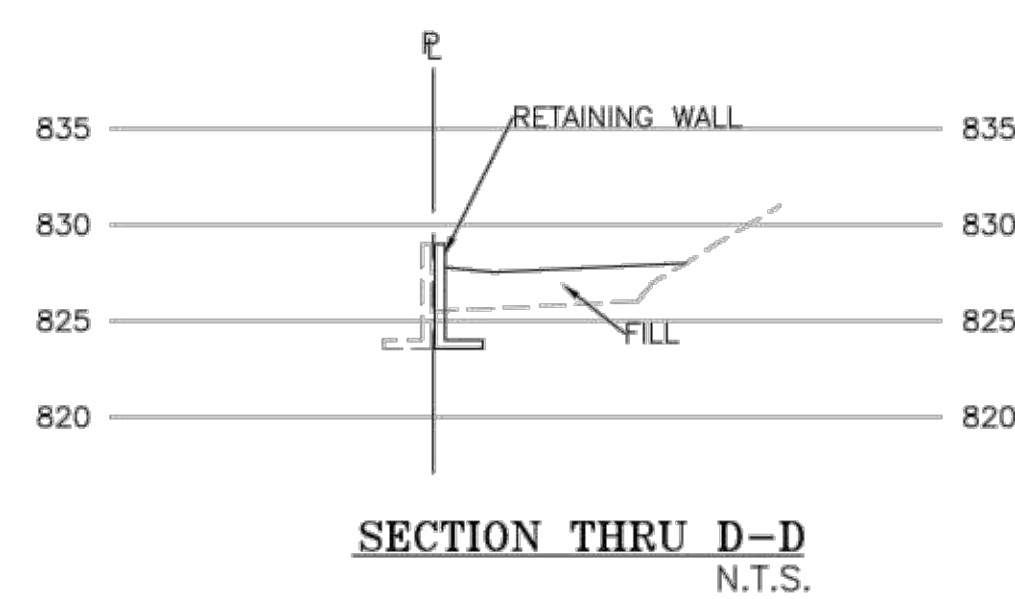
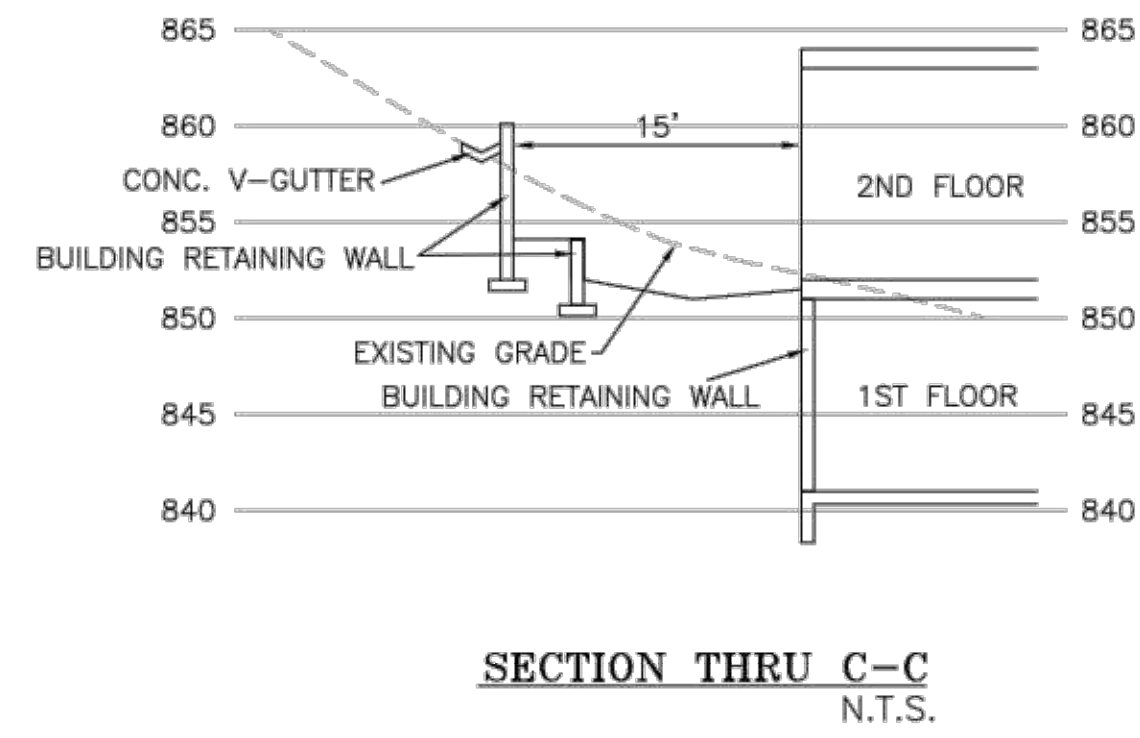
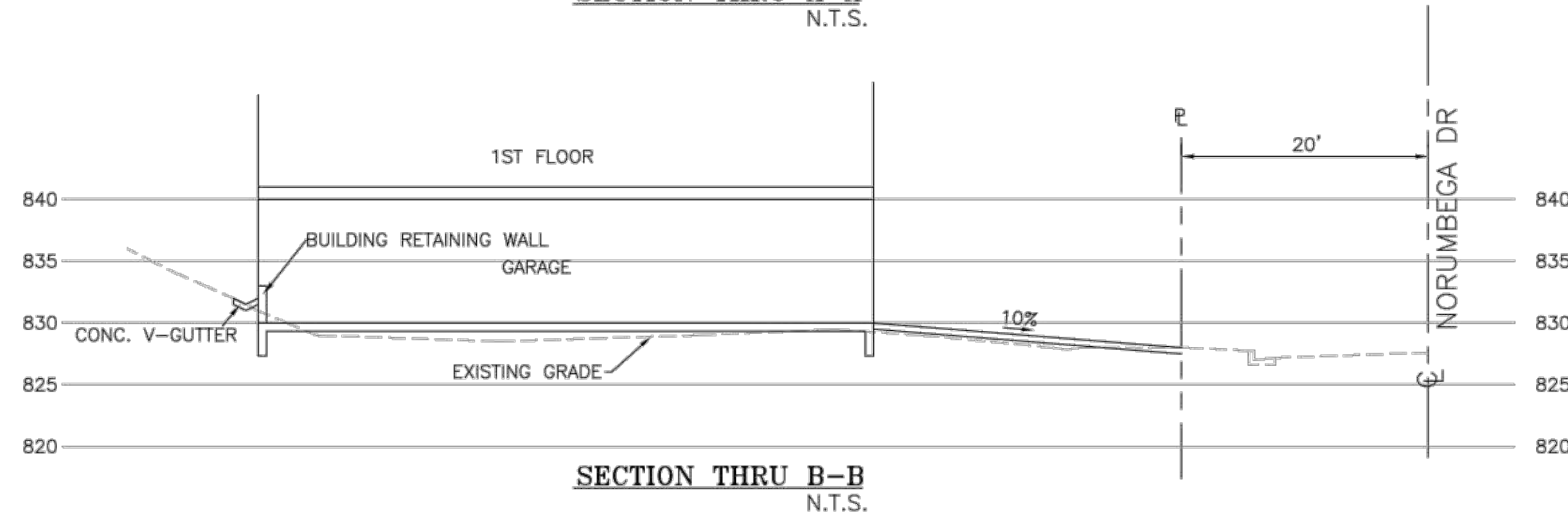
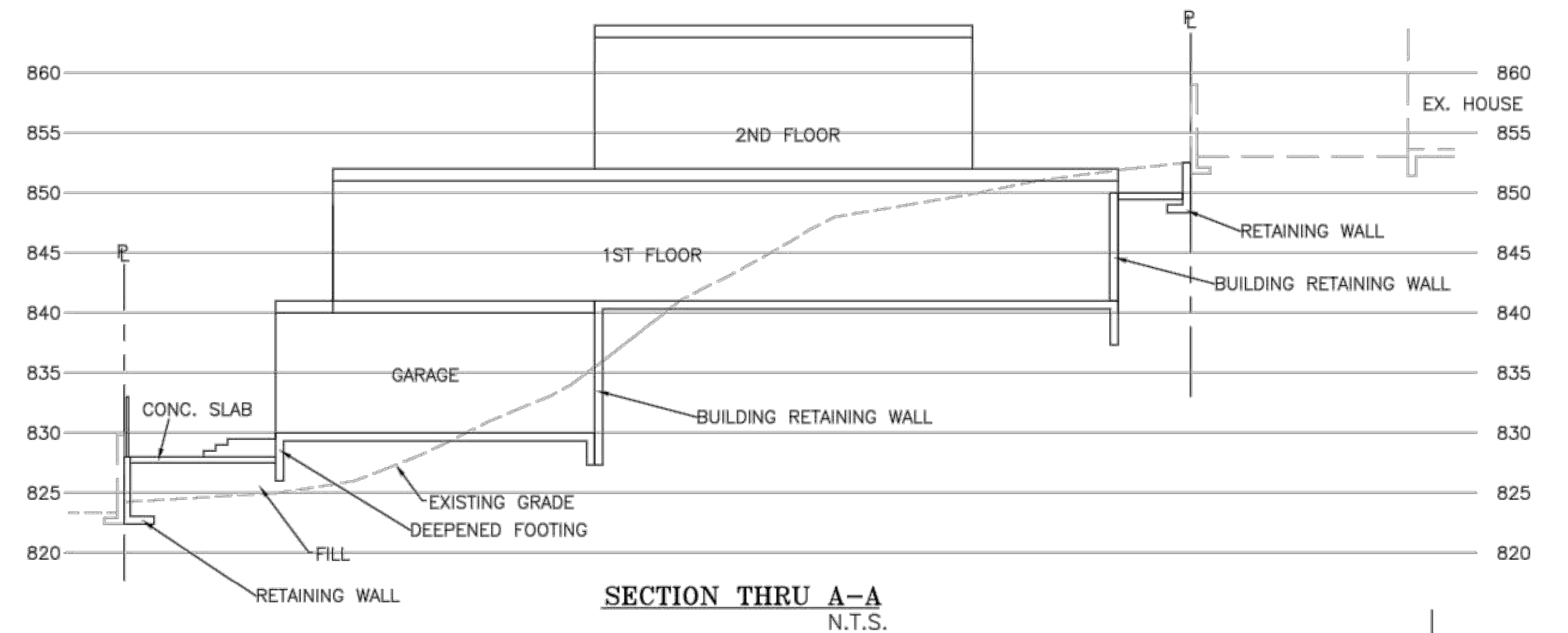
- ① RETAINING WALL PER SEPARATE PERMIT
- ② CONSTRUCT DRIVEWAY APRON PER CITY STD 305, W=13', X=4'
- ③ INSTALL 6" PVC DRAINAGE PIPE
- ④ CONSTRUCT 36" WIDE PARKWAY DRAIN PER SPPWC STD 151-2
- ⑤ CONSTRUCT 24"x24" CONCRETE CATCH BASIN
- ⑥ CONSTRUCT 18" WIDE BY 12" DEEP BROW DITCH
- ⑦ CONSTRUCT 6" VCP SEWER HOUSE CONNECTION
- ⑧ INSTALL 8" PVC DRAINAGE PIPE
- ⑨ CONSTRUCT 36"x36" CONCRETE CATCH BASIN
- ⑩ REMOVE EXISTING TREE

NOTE:

ALL WORK IN THE PUBLIC RIGHT-OF-WAY REQUIRES A SEPARATE ENCROACHMENT PERMIT FROM THE PUBLIC WORKS DEPARTMENT



UNDERGROUND SERVICE ALERT CALL: TOLL FREE 811 TWO WORKING DAYS BEFORE YOU DIG	BENCHMARK DESCRIPTION: TEMPORARY BENCHMARK LOCATION: FOUND LEAD AND NAIL AT INTERSECTION OF DUARTE ROAD AND MAYFLOWER AVENUE RECORDED: ELEVATION: 427.32' DATUM:	GEOTECHNICAL / SOIL ENGINEER: THE SOILS REPORT PREPARED BY CAL LAND ENGINEERING, INC. DATED 10-25-2018 JOB# 18-023-023GE IS HEREBY MADE A PART OF THESE PLANS. ENGINEER 10-08-2020 DATE	ENGINEERING TITLE BLOCK CAL LAND ENGINEERING, INC. 575 E. LAMBERT RD., BREA CA 92821 PH: ONE: 714 671 1050 FAX: 714 671 1090 JACK LEE RCE NAME ENGINEER 10-08-2020 DATE		<table border="1"> <thead> <tr> <th>DATE</th> <th>SIGNATURE</th> <th>DELTA</th> <th>REVISION DESCRIPTION</th> <th>DATE</th> <th>APPROVED</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	DATE	SIGNATURE	DELTA	REVISION DESCRIPTION	DATE	APPROVED							APPROVALS INFRASTRUCTURE MAINTENANCE DIVISION PLANNING DIVISION BUILDING DIVISION FIRE DEPARTMENT CONSTRUCTION / AS-BUILT RECORD CITY INSPECTOR CONSTRUCTION DATE COMPLETED:	CITY OF MONROVIA DEPARTMENT OF PUBLIC WORKS GRADING PLAN NORUMBEGA DR, MONROVIA, CA ATLAS NO. REFERENCE DRAWINGS: APPROVED: DATE: 10-08-2020 SCALE: 1" = 10' DRAWING NUMBER: 6- SHEET 2 OF 4
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UNDERGROUND SERVICE ALERT
CALL: TOLL FREE **811**
TWO WORKING DAYS BEFORE YOU DIG

BENCHMARK
DESCRIPTION: TEMPORARY BENCHMARK
LOCATION: FOUND LEAD AND NAIL AT INTERSECTION OF DUARTE ROAD AND MAYFLOWER AVENUE
RECORDED:
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THE SOILS REPORT PREPARED BY CAL LAND ENGINEERING, INC. DATED 10-25-2018, JOB # 18-023-023GE IS HEREBY MADE A PART OF THESE PLANS.
Jack Lee 10-08-2020
ENGINEER DATE



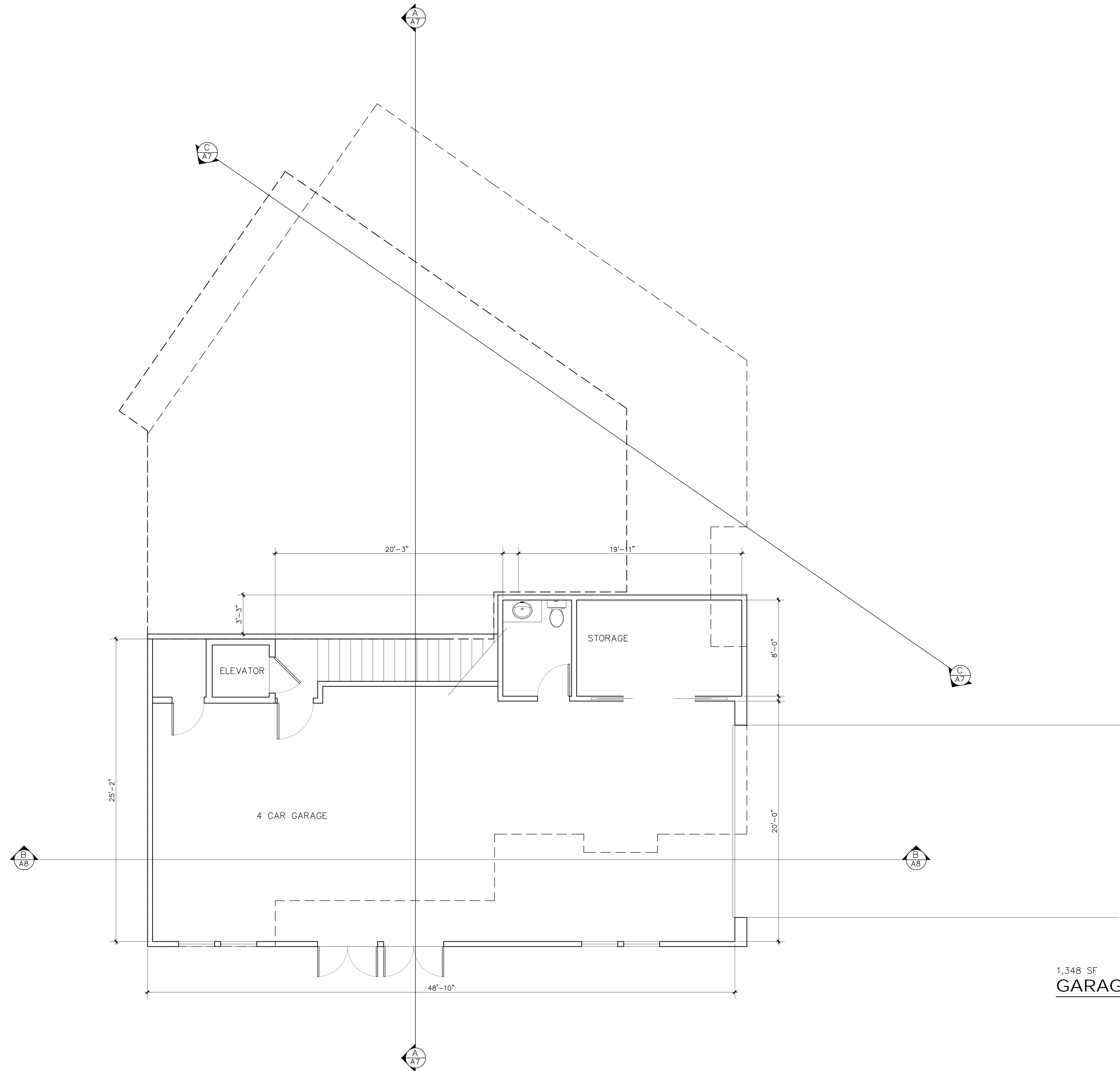
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CAL LAND ENGINEERING, INC.
576 E. LAMBERT RD., BREA CA 92821
PHONE: 714 671 1050
FAX: 714 671 1090
JACK LEE
RCE NAME
Jack Lee 10-08-2020
SIGNATURE DATE



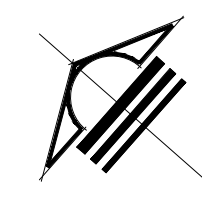
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APPROVALS	
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PLANNING DIVISION	SIGNATURE _____ DATE _____
BUILDING DIVISION	SIGNATURE _____ DATE _____
FIRE DEPARTMENT	SIGNATURE _____ DATE _____
CONSTRUCTION / AS-BUILT RECORD	SIGNATURE _____ DATE _____
CITY INSPECTOR	SIGNATURE _____ DATE _____
CONSTRUCTION DATE COMPLETED:	SIGNATURE _____ DATE _____

CITY OF MONROVIA
DEPARTMENT OF PUBLIC WORKS
GRADING PLAN - DETAILS
NORUMBEGA DR, MONROVIA, CA
ATLAS NO. _____ REFERENCE DRAWINGS: _____
APPROVED _____ DATE: 10-08-2020
DRAWN BY: *JB* DESIGNED BY: *JCL* CHECKED BY: *JK* FIELD BOOK: _____
REVISION _____ DATE _____ BY _____
DRAWING NUMBER **G-6**
SHEET 3 OF 4



1,348 SF
GARAGE FLOOR PLAN
 SCALE 1/4" = 1'-0"



SHEET TITLE

GARAGE FLOOR

REVISIONS

NO.	DATE	DESCRIPTION
△		

DRAWN G. H.
 CHK.
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 SCALE AS SHOWN
 JOB NO.
 DATE 2/9/23
 SHEET NO.

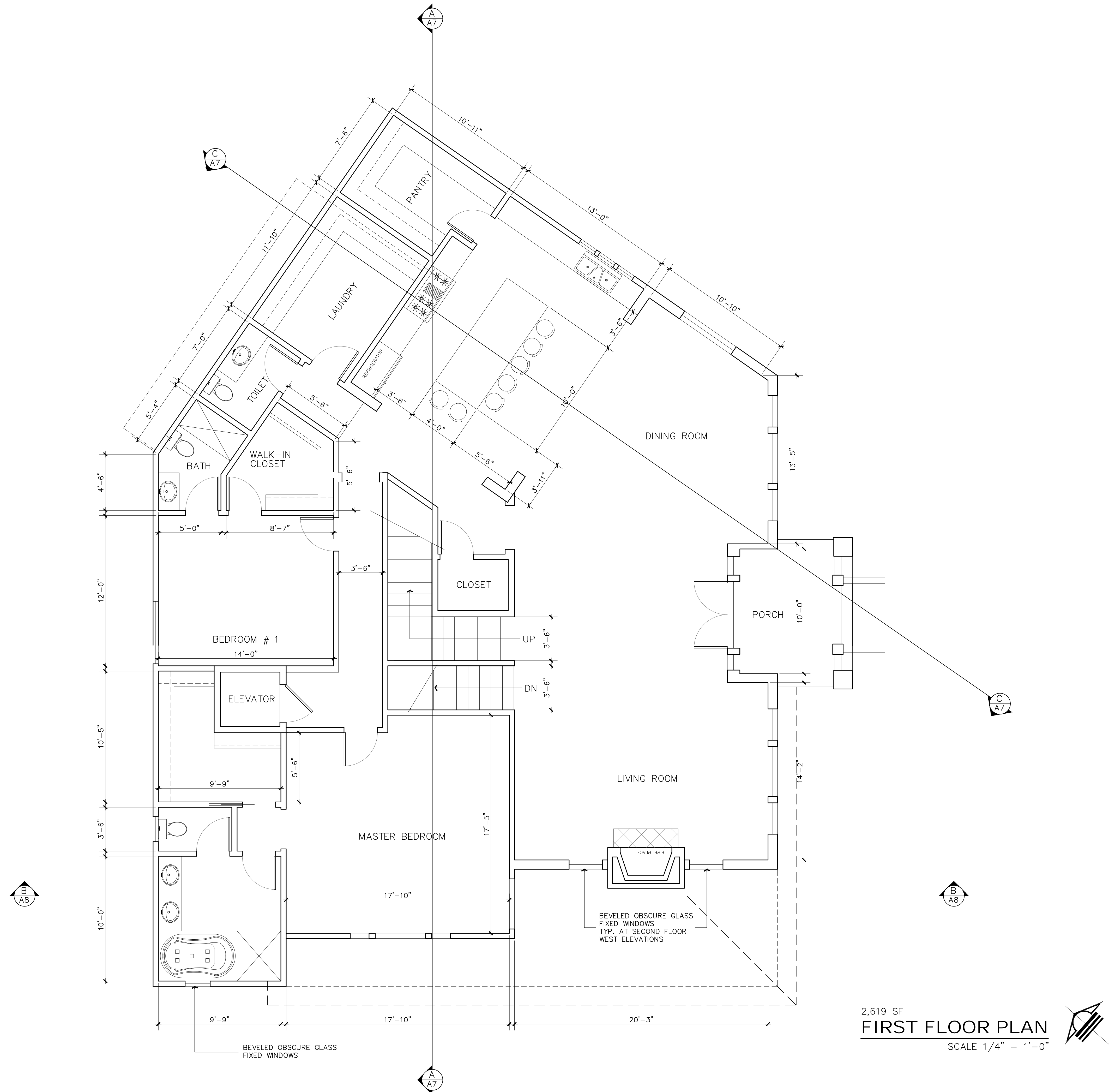
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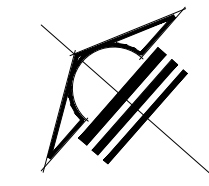
PROJECT TITLE

NEW RESIDENCE

NORUMBEGA RD.
 MONROVIA CA, 91016



2,619 SF
FIRST FLOOR PLAN
 SCALE 1/4" = 1'-0"



SHEET TITLE

FIRST FLOOR

PROJECT TITLE

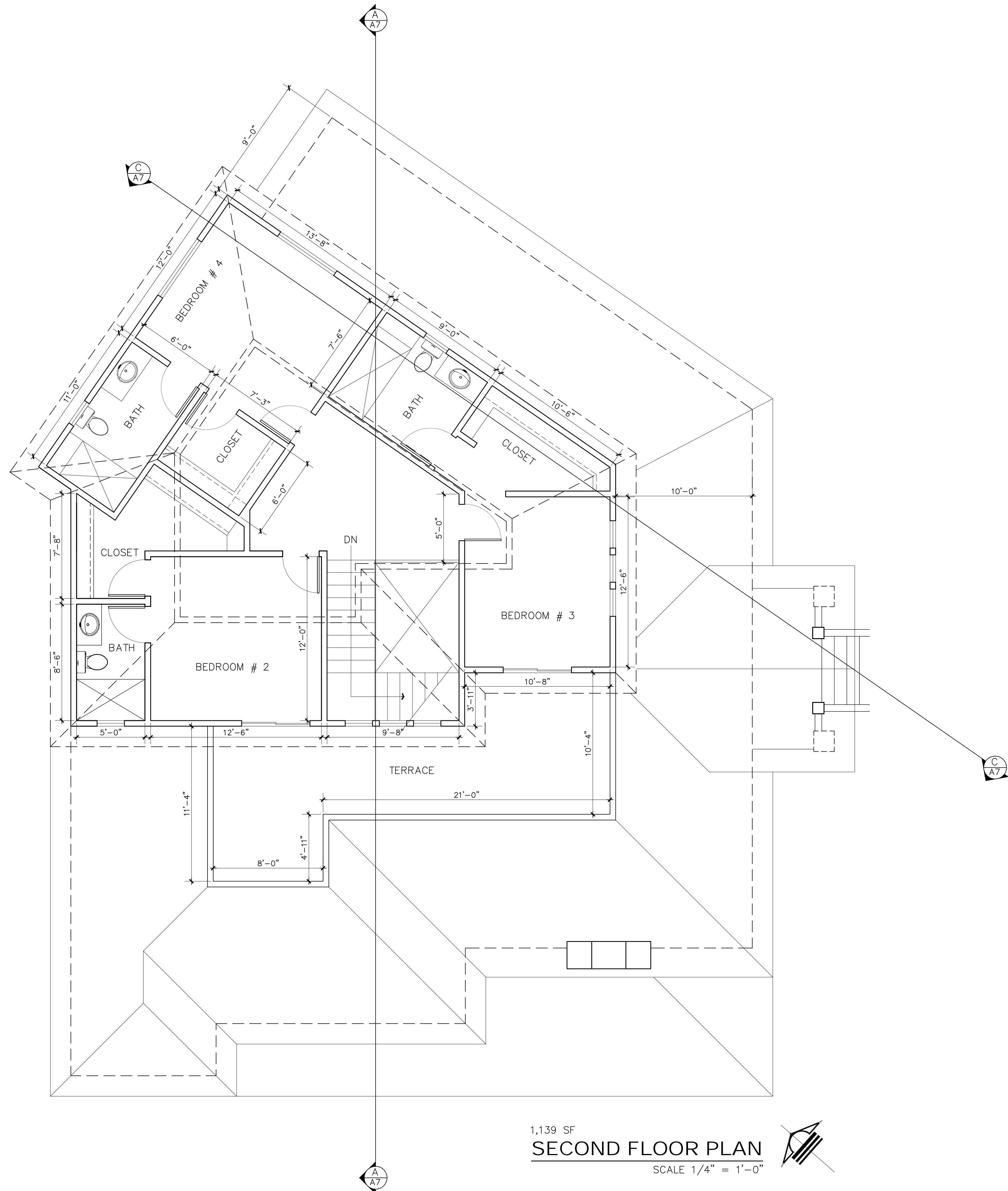
NEW RESIDENCE

REVISIONS

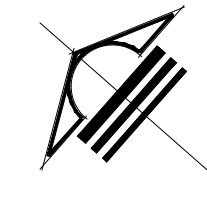
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 OF



1,139 SF
SECOND FLOOR PLAN
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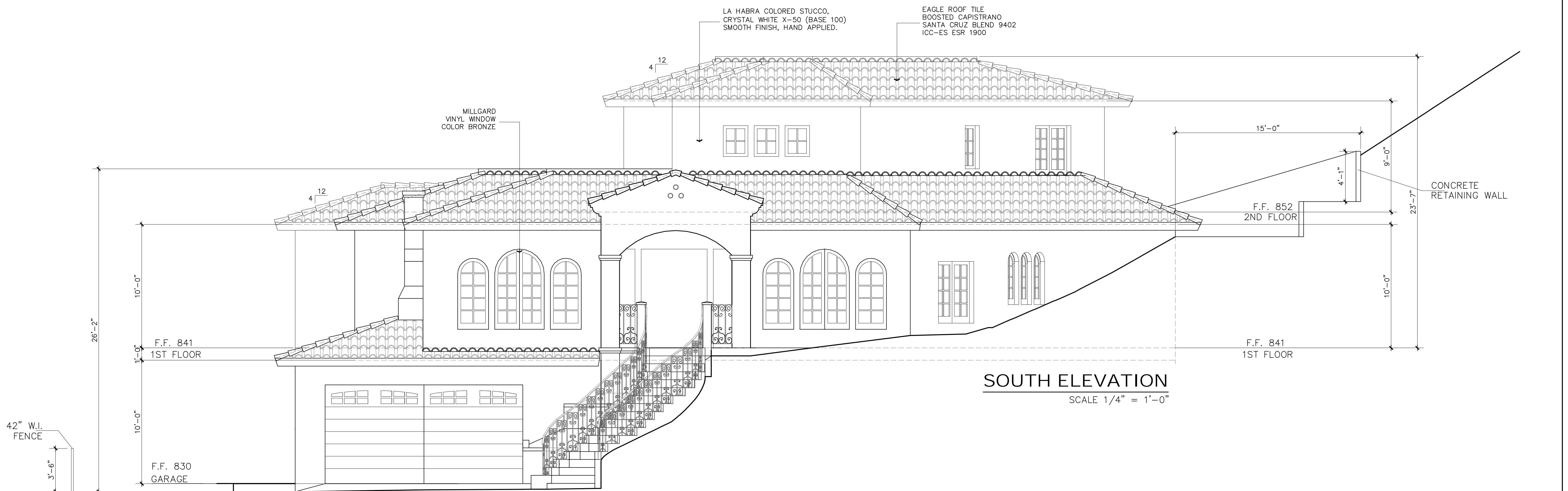
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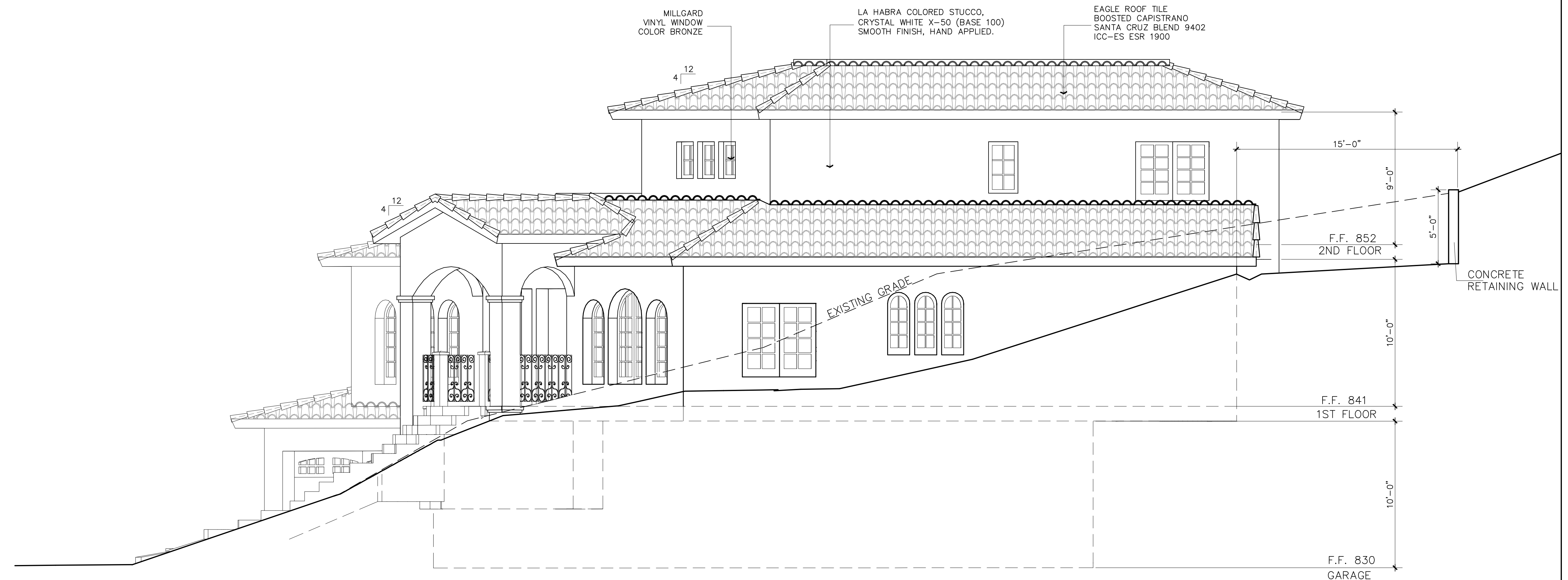
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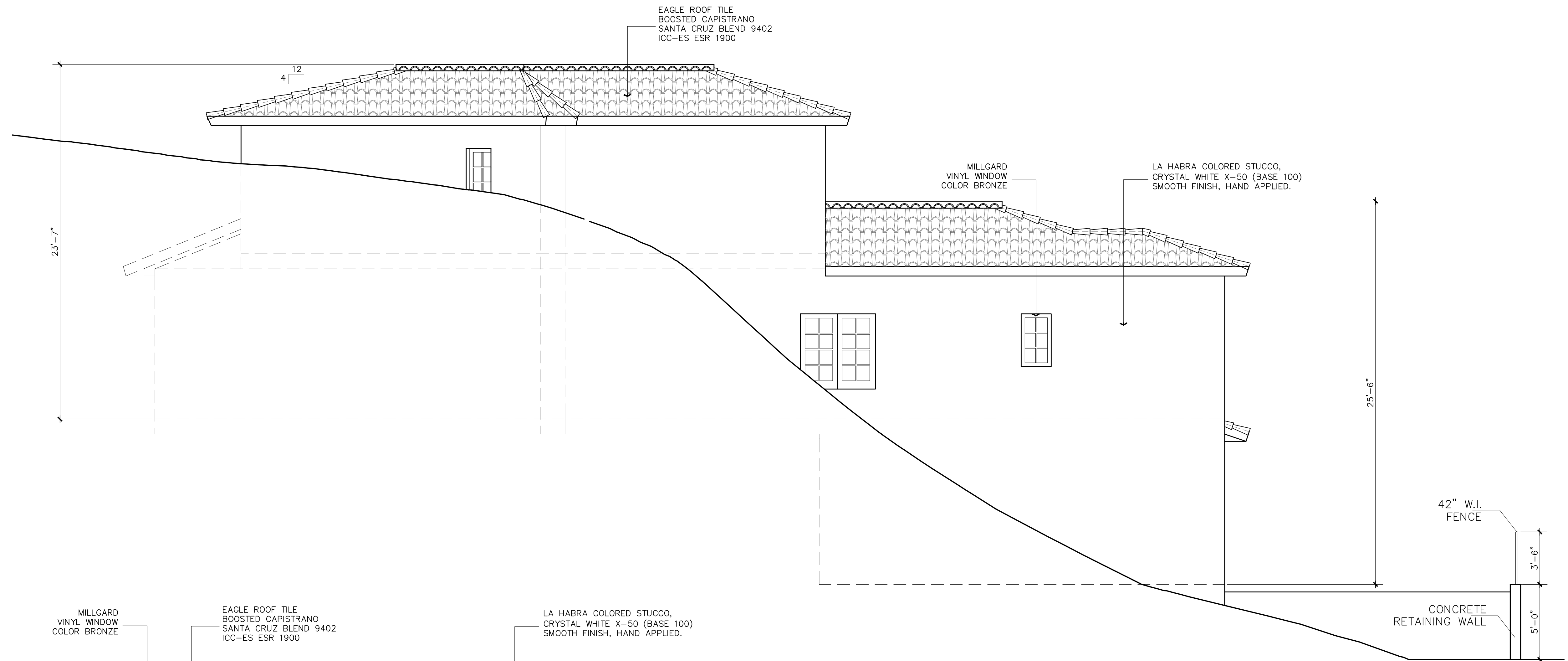
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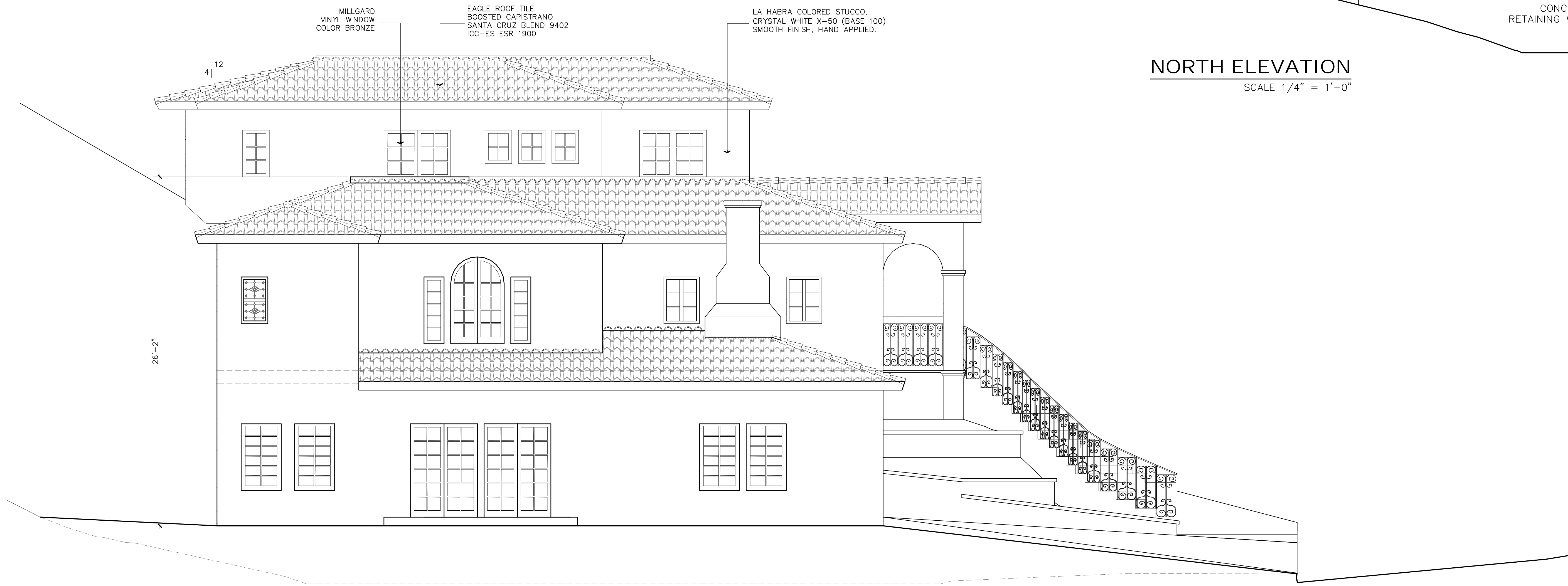
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EAST ELEVATION
 SCALE 1/4" = 1'-0"



NORTH ELEVATION
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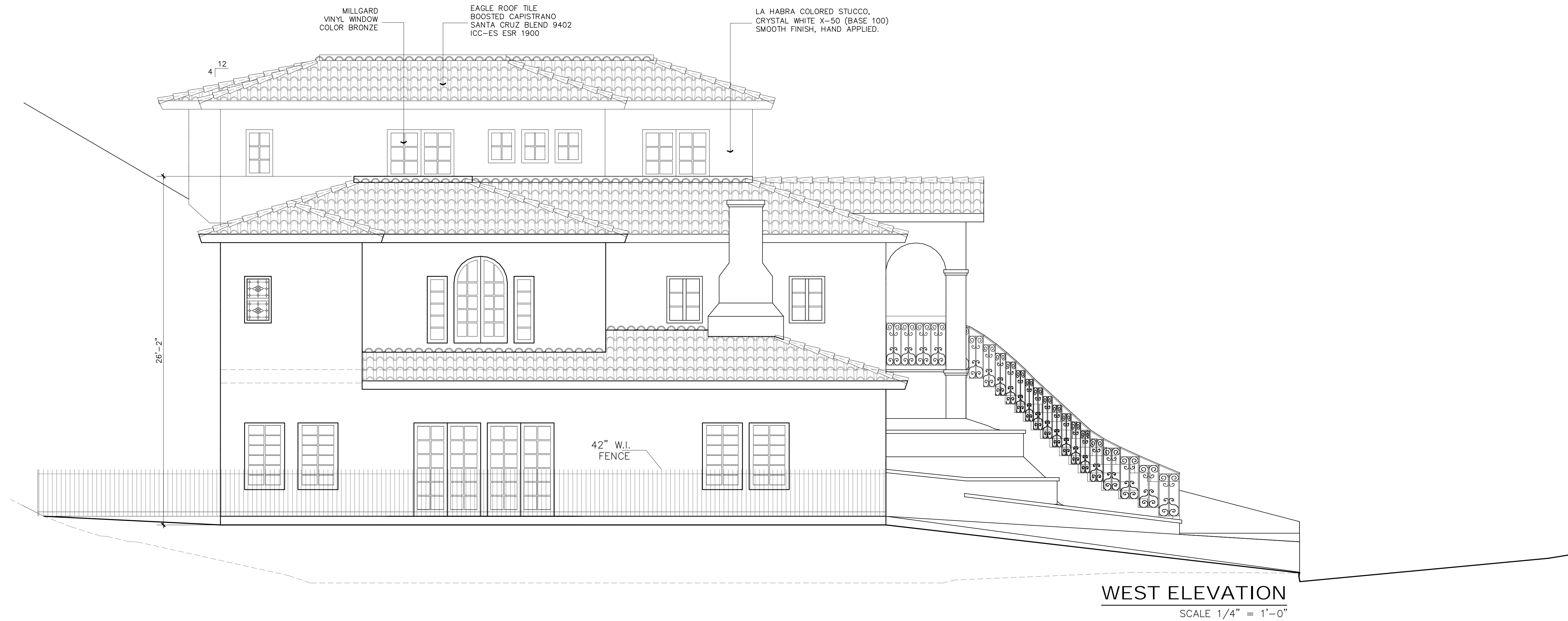


WEST ELEVATION
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REVISIONS

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 APP.
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 JOB NO.
 DATE 2/9/23
 SHEET NO.



PROJECT TITLE
NEW RESIDENCE

NORUMBEGA RD.
 MONROVIA CA, 91016

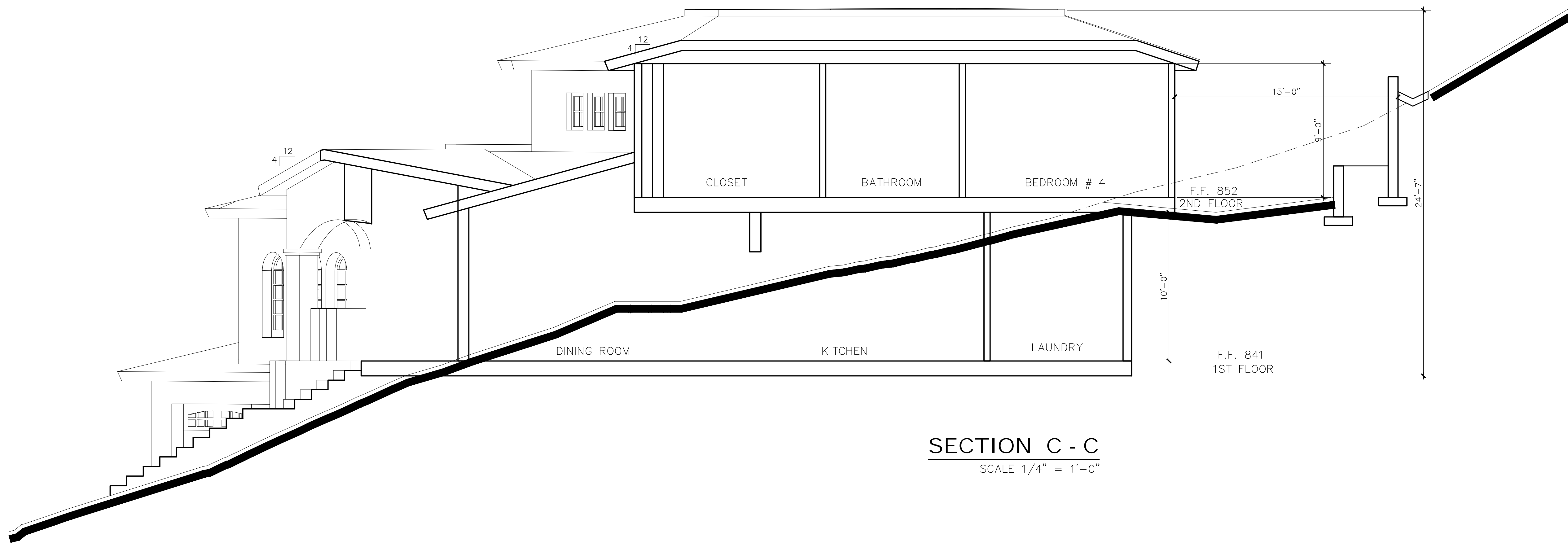
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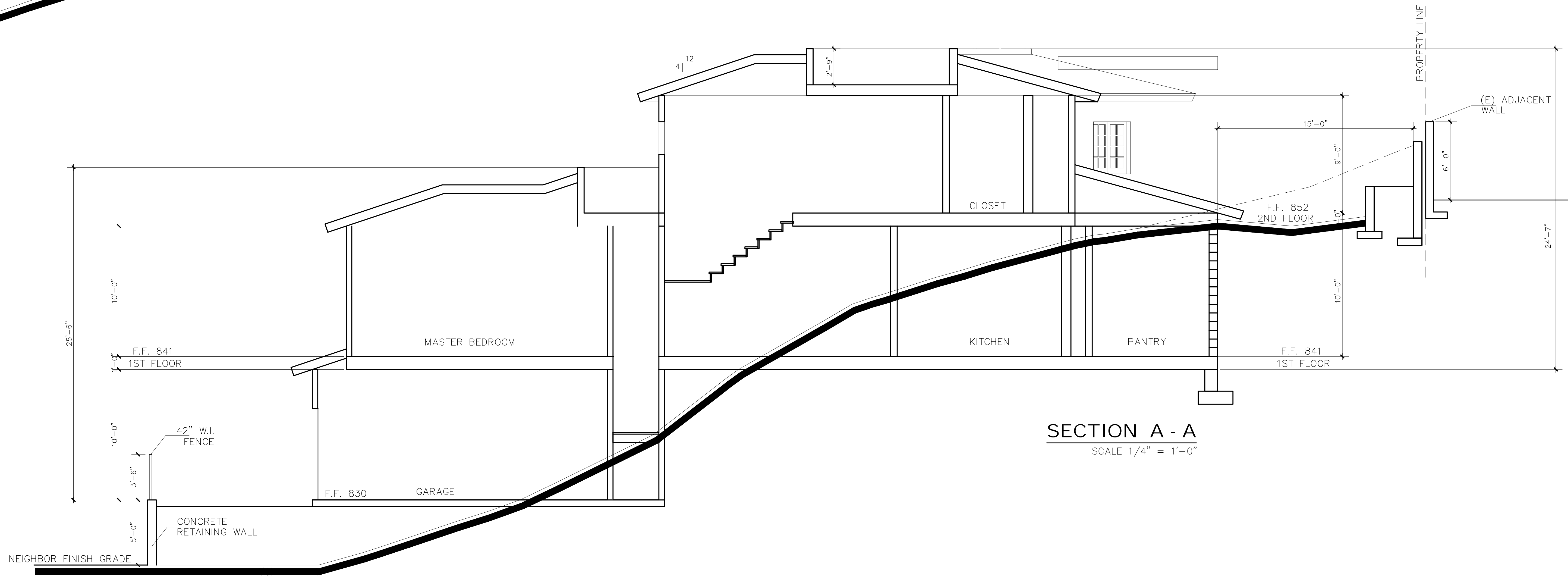
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SECTION C - C
SCALE 1/4" = 1'-0"

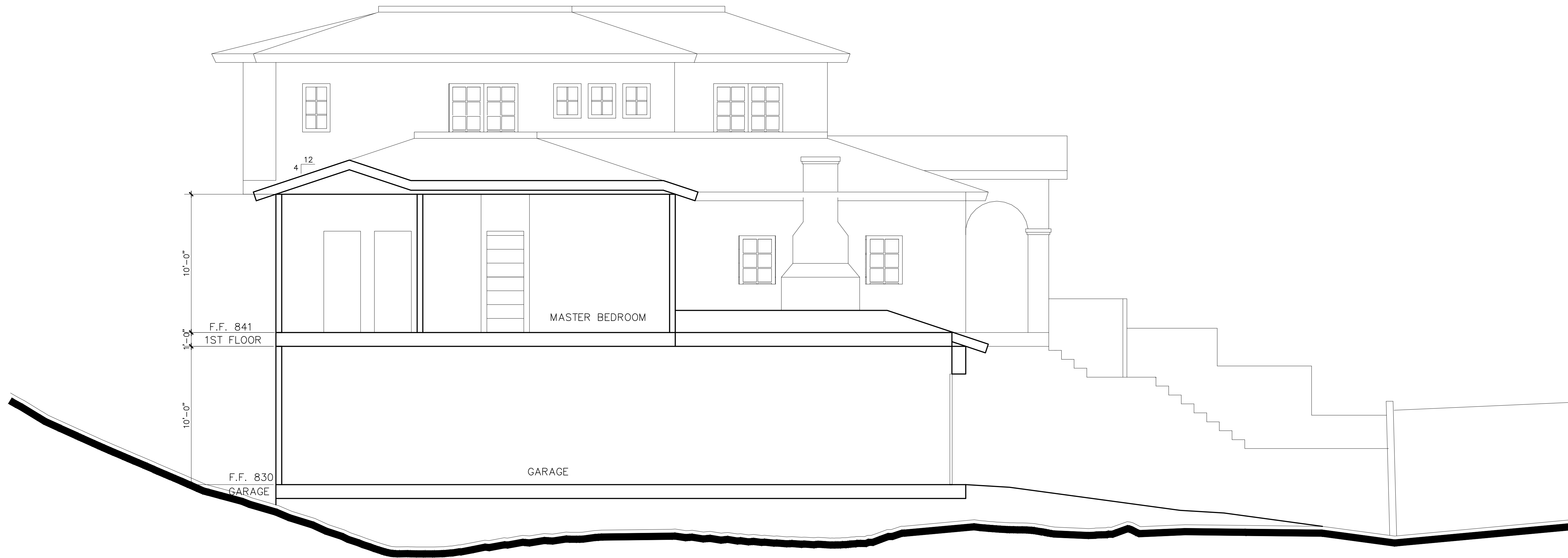


SECTION A - A
SCALE 1/4" = 1'-0"

REVISIONS

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 JOB NO.
 DATE 7/26/23
 SHEET NO.



SECTION B - B
 SCALE 1/4" = 1'-0"



BACK VIEW



BACK VIEW



FRONT VIEW



VIEW 1



VIEW 2



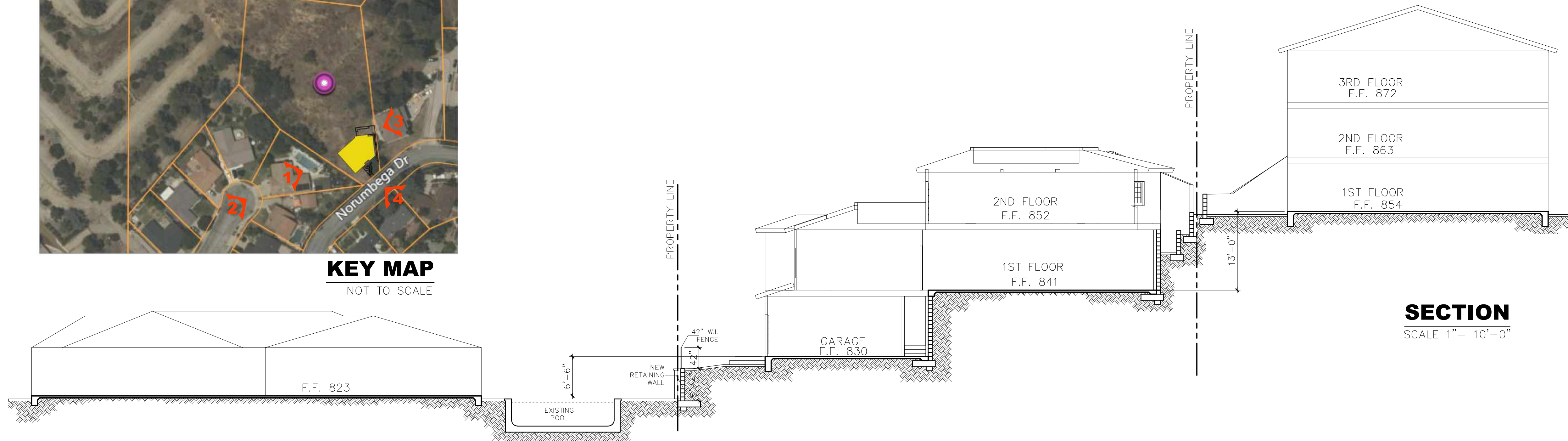
VIEW 3



VIEW 4



KEY MAP
NOT TO SCALE



REVISIONS		
NO.	DATE	DESCRIPTION

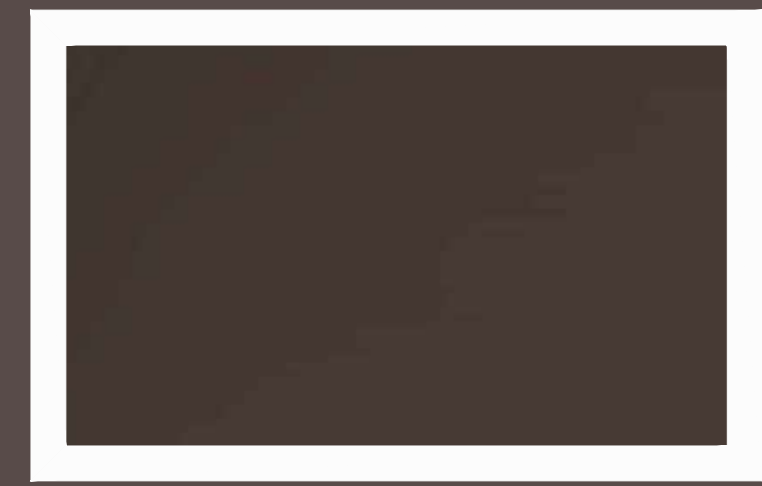
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 JOB NO. _____
 DATE 7/26/23
 SHEET NO.



1 LA HABRA COLORED STUCCO
CRYSTAL WHITE X-50 (BASE 100)
HAND APPLIED,
SMOOTH FINISH



2 EAGLE ROOF TILE
3723 ADOBE BLEND
ICC-ES ESR 1900



3 WOOD FASCIA
DUNN EDWARDS
DET 691
SPICED HOT CHOCOLATE



4 STAIR CASE AND PORCH FLOORING
12X12 ANTIQUE SALTILLO TILE



5 RUSTIC WOOD
GARAGE DOOR



6 MARVIN CLAD WINDOW
ULTIMATE FRENCH CASEMENT PUSH OUT
COLOR BAHAMA BROWN

NEW RESIDENCE
MONROVIA, CA 91016
NORUMBEGA RD

APPENDIX B

Monrovia Fire and Rescue Department Plan Comments

**MONROVIA FIRE DEPARTMENT
PLAN COMMENTS
(626) 256-8110**

DATE: August 31, 2021

PROJECT: Proposed SFD
Norumbega Dr

The Fire Department has reviewed the submitted plan for conformance with the minimum applicable code requirements. The plans are being returned with the following notations:

- 1) Structure shall be fire sprinklered per CRC 313 and MMC amendments.
- 2) Structure is located in the Wildland Urban Interface and shall comply with CRC 337 requirements.
- 3) A vegetation management plan in compliance with CFC 4906 and the MMC shall be provided with architectural submittal.

APPENDIX C

Air Quality and Greenhouse Gas Technical Report

The logo for SWCA (Southwest Consulting & Associates) is positioned vertically on the left side of the page. It consists of the letters 'S', 'W', 'C', and 'A' stacked vertically in a large, light blue, serif font.

Air Quality & Greenhouse Gas Technical Report

Norumbega Drive Residence Project
Los Angeles County, California

AUGUST 2021

PREPARED FOR

Group Atom Development

PREPARED BY

SWCA Environmental Consultants

**AIR QUALITY & GREENHOUSE GAS
TECHNICAL REPORT
NORUMBEGA DRIVE RESIDENCE PROJECT
LOS ANGELES COUNTY, CALIFORNIA**

Prepared for
Group Atom Development

Prepared by
SWCA Environmental Consultants

August 2021

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1 INTRODUCTION

Group Atom Development (Applicant), retained SWCA Environmental Consultants (SWCA) to conduct an air quality and greenhouse gas emissions (GHGs) technical report in support of the proposed Norumbega Drive Residence Project (project) in the city of Monrovia, Los Angeles County, California (county). The purpose of this report is to explain the methodologies used to evaluate the effects of the proposed residence on ambient air quality & GHGs. This air quality technical report provides a summary of the air pollutant and GHG emissions calculation methodologies, a summary of the mitigation measures assumed and the results of the air pollutant and GHG emissions calculations. The evaluation of project impacts was conducted as recommended in the South Coast Air Quality Management District (SCAQMD) California Environmental Quality Act (CEQA) Handbook as amended and supplemented (SCAQMD 2021), which is incorporated into this technical document by reference.

2 PROJECT DESCRIPTION AND LOCATION

The proposed Project consists of the construction of one new home on Norumbega Drive near the intersection of Norumbega Drive and Norumbega Road in Monrovia, Los Angeles County, California (Assessor's Parcel Number [APN] 8523-002-045). The project would construct one new single-family residence on Norumbega Drive. The project site includes a single lot on Norumbega Drive in the hilly northwestern area of the city of Monrovia, in the San Gabriel Valley of Los Angeles County, California. The project site is at the western end of Norumbega Drive, across the street from 554 Norumbega Drive and approximately 350 feet northeast of the junction with Norumbega Road. The project site is 1.295 acres. The parcel is undeveloped. It supports disturbed chaparral and coastal sage scrub as well as oak woodlands.

The project proposes to build a 2-story residence that would be 3,758 square feet of livable space. As well, a 4-car garage on the lowest level would be an additional 1,348 square feet. The lot is 56,410 square feet (1.295 acres). The lot is a wedge-shape and the narrowest part, which fronts the street, is just over 33 feet in width.

There is an existing water line in Norumbega Drive that would serve the project. There is an existing sewer line in Norumbega Drive that would serve the project. Existing utilities include an overhead electrical line on the north side of Norumbega Drive and an existing natural gas line in Norumbega Drive. Natural gas and electricity access has not been defined to date. All connections would be through underground service connections. Existing infrastructure exists in the Norumbega Drive right-of-way.

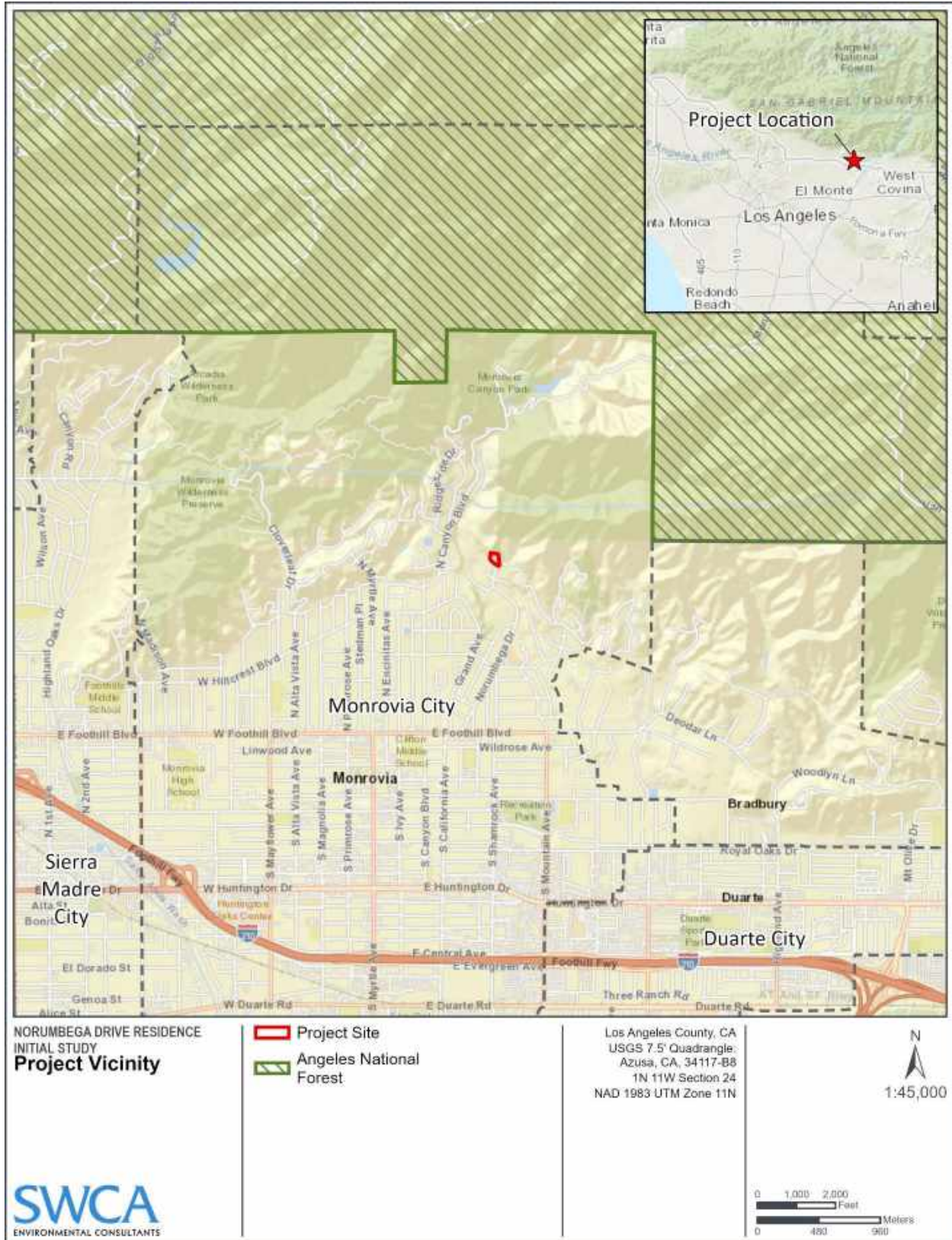


Figure 1. Vicinity map.

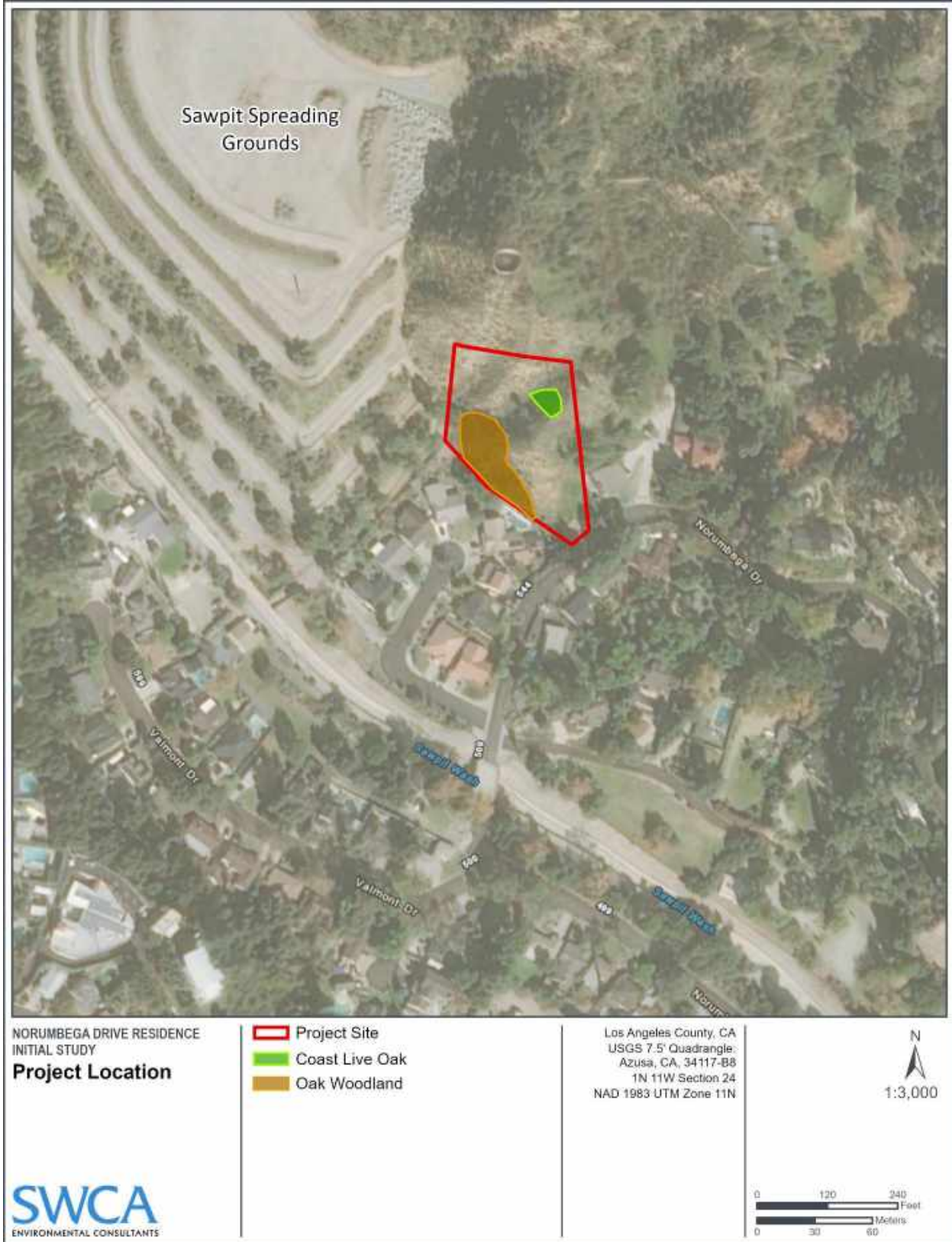


Figure 2. Project location.

2.1 Construction Scheduling and Phasing

It is anticipated that construction activities start in September 20, 2021 and would last approximately 16 months with the Project operation starting in 2023. Further details about the construction phasing are provided in the Methodology section of this report.

2.2 Operations

Once construction is completed the Project would be a fully constructed and functional single-family residence. There will be typical electrical consumption, water consumption, and travel to the Project consistent with a single-family residence.

2.3 Existing Environment

The Project is located in the city of Monrovia, in Los Angeles County within the South Coast Air Basin (SCAB). The SCAB consists of all of Orange County and non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. The SCAQMD has jurisdiction within the SCAB. Ambient air quality is affected by the climate, topography, and the type and amount of pollutants emitted.

2.4 Climate and Topography

The SCAB is generally an arid desert region, with a significant portion located below sea level.

Los Angeles County and the broader South Coast Air Basin are defined by a semi-arid, Mediterranean climate with mild winters and warm summers. The San Gabriel, San Bernardino, and San Jacinto Mountains bound the Basin to the north and east trap ambient air and pollutants within the Los Angeles and Inland Empire valleys below. The City's climate, and that of Southern California in general, is generally controlled by the strength and position of the subtropical high-pressure cell over the Pacific Ocean. It maintains moderate temperatures and comfortable humidity, and limits precipitation to a few storms during the winter rainy season. Temperatures are normally mild, excepting the summer months, which can bring temperatures well above 100 degrees Fahrenheit (° F). The annual average temperature in the Basin is approximately 62 degrees Fahrenheit. Near the City of Monrovia, winds are driven by the dominant land/sea breeze circulation system. Regional wind patterns are dominated by daytime onshore sea breezes while at night the wind generally slows and reverses direction traveling towards the sea. The frequency of calm winds (less than 2 miles per hour) is less than 10 percent, meaning there is little stagnation near the City, especially during busy daytime traffic hours; however, the Basin experiences temperature inversions which inhibit the dispersion of pollutants. Inversions may be either ground based or elevated. Ground-based inversions, sometimes referred to as radiation inversions, are most severe during clear, cold, early winter mornings. Under conditions of a ground-based inversion, very little mixing or turbulence occurs, and high concentrations of primary pollutants may occur local to major roadways. Elevated inversions can be generated by a variety of meteorological phenomena. Elevated inversions act as a lid or upper boundary and restrict vertical mixing. Below the elevated inversion, dispersion is not restricted.

City of Monrovia elevations range from approximately 440 feet above mean seal level (AMSL) in the southern portion of the City to approximately 1,240 feet AMSL in the northern portion of the City. Portions of the City's sphere of influence include step hillsides and rugged terrain that can reach 1,800 feet AMSL. The project site and immediate surroundings includes steep hillsides. The project site varies from approximately 824 feet above mean sea level (MSL) at Norumbega Drive to 951 feet MSL at the

northwestern corner, which is its highest point. The property slopes steeply toward Norumbega Drive, which in turn slopes toward Norumbega Road and the Sawpit Wash.

3 REGULATORY SETTING

Federal, state, and local agencies have set ambient air quality standards for certain air pollutants through statutory requirements and have established regulations and various plans and policies to maintain and improve air quality, as described below.

3.1 Criteria Pollutants

3.1.1 Federal

The federal Clean Air Act (CAA), which was passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The CAA delegates primary responsibility for clean air to the U.S. Environmental Protection Agency (EPA). The EPA develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies. Under the act, the EPA has established the National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants that are pervasive in urban environments and for which state and national health-based ambient air quality standards have been established. Ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), and particulate matter (PM₁₀ – respirable particles less than 10 microns in diameter, and PM_{2.5} – fine particles less than 2.5 microns in diameter) are the six criteria air pollutants. Ozone is a secondary pollutant, Nitrogen oxides (NO_x) and volatile organic compounds (VOCs) are of particular interest as they are precursors to ozone formation. The NAAQS are divided into primary and secondary standards; the primary standards are set to protect human health within an adequate margin of safety, and the secondary standards are set to protect environmental values, such as plant and animal life. The standards for all criteria pollutants are presented in Table 1.

The CAA requires EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The act also mandates that the state submit and implement a State Implementation Plan (SIP) for areas not meeting the NAAQS. These plans must include pollution control measures that demonstrate how the standards will be met.

3.1.2 State

The State of California began to set its ambient air quality standards (i.e., CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. The California Clean Air Act (CCAA) was adopted by the California Air Resources Board (ARB) in 1988. The CCAA requires all air district of the state to achieve and maintain the CAAQS by the earliest practical date. Table 1 shows the CAAQS currently in effect for each of the criteria pollutants, as well as the other pollutants recognized by the state. As shown in Table 1, the CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles

Table 1: State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	
			Primary	Secondary
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	--	Same as Primary
	8 Hour	0.070 ppm (137 µg/m ³)	0.070 ppm (137 µg/m ³)	
Respirable Particulate Matter (PM ₁₀)	24 Hour	50 µg/m ³	150 µg/m ³	Same as Primary
	Annual Mean	20 µg/m ³	--	
Fine Particulate Matter (PM _{2.5})	24 Hour	--	35 µg/m ³	Same as Primary
	Annual Mean	12 µg/m ³	12.0 µg/m ³	15 µg/m ³
Carbon Monoxide (CO)	1 Hour	20 ppm (23 µg/m ³)	35 ppm (40 mg/m ³)	--
	8 Hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	--
Nitrogen Dioxide (NO ₂)	1 Hour	0.18 ppm (339 µg/m ³)	100 ppb (188 µg/m ³)	--
	Annual Mean	0.030 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	Same as Primary
Sulfur Dioxide (SO ₂)	1 Hour	0.25 ppm (655 µg/m ³)	75 ppb (196 µg/m ³)	--
	3 Hour	--	--	0.5 ppm (1300 µg/m ³)
	24 Hour	0.04 ppm (105 µg/m ³)	0.14 ppm	--
	Annual Mean	--	0.030 ppm	--
Lead (Pb)	30 Day Average	1.5 µg/m ³	--	--
	Calendar Quarter	--	1.5 µg/m ³	Same as Primary
	Rolling 3-Month Average	--	0.15 µg/m ³	Same as Primary
Visibility reducing particles	8 Hour	10-mile visibility standard, extinction of 0.23 per kilometer	No National Standards	
Sulfates	24 Hour	25 µg/m ³		
Hydrogen sulfide (H ₂ S)	1 Hour	0.03 ppm (42 µg/m ³)		
Vinyl chloride	24 Hour	0.01 ppm (265 µg/m ³)		
Notes: ppm = parts per million; ppb = parts per billion; µg/m ³ = micrograms per cubic meter; "--" = no standard. Source: CARB 2016.				

The ARB and local air districts are responsible for achieving CAAQS, which are to be achieved through district-level air quality management plans (AQMPs) that would be incorporated into the SIP. In California, the EPA has delegated authority to prepare SIPs to ARB, which in turn, has delegated that authority to individual air districts. Each district plan is required to either (1) achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

Other ARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air districts) and setting emissions standards for new motor vehicles and for other emission sources, such as consumer products and certain off-road equipment.

The CCAA substantially adds to the authority and responsibilities of air districts. CCAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures (TCMs). The CCAA also emphasizes the control of indirect and area-wide sources of air pollutant emissions and gives local air pollution control districts explicit authority to regulate indirect sources of air pollution.

3.1.3 Attainment Status

Depending on whether or not the applicable ambient air quality standards (AAQS) are met or exceeded, the air basin is classified as being in “attainment” or “nonattainment.” The USEPA and California Air Resources Board (CARB) determine the air quality attainment status of designated areas by comparing ambient air quality measurements from state or local ambient air monitoring stations with the NAAQS and CAAQS. These designations are determined on a pollutant-by-pollutant basis. Consistent with federal requirements, an unclassifiable/ unclassified designation is treated as an attainment designation.

Table 2 presents the federal and state attainment status for the project area. As shown in the Table 2, the Los Angeles County – South Coast Air Basin is currently designated as nonattainment for O₃, PM₁₀ and PM_{2.5} under state standards. Under federal standards, the County is in nonattainment for O₃, and nonattainment for PM_{2.5}. The area is currently in attainment or unclassified status for all other ambient air quality standards.

Table 2: Federal and State Attainment Status

Pollutant	Federal Designation	State Designation
Ozone (O ₃) 1-hr	Nonattainment	Nonattainment
O ₃ 8-hr	Nonattainment	Nonattainment
Particulate Matter (PM ₁₀) 24-hour & Annual	Attainment	Nonattainment
Particulate Matter (PM _{2.5})	Nonattainment	-
PM _{2.5} Annual	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment (Maintenance)	Attainment
Nitrogen Dioxide (NO ₂) 1 hour	Attainment	Attainment
NO ₂ Annual	Attainment (Maintenance)	Attainment
Sulfur Dioxide (SO ₂)	Attainment	Attainment
Lead (Pb)	Partial Nonattainment	Attainment
Hydrogen Sulfide (H ₂ S)	-	Attainment
Sulfates	-	Attainment
Visibility Reducing Particles	-	Unclassified
Notes: (-) = Not Identified/ No Status. Source: CARB2017		

Toxic Air Contaminants Regulation

California regulates toxic air containments (TACs) primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588 – Connelly). In the early 1980s, the ARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Toxic Air Contaminant Identification and Control Act of 1983 (AB 1807) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

In August 1998, ARB identified DPM emissions from diesel-fueled engines as a TAC. In September 2000, ARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel fueled engines and vehicles (ARB 2000). The goal of the plan is to reduce diesel PM₁₀ (inhalable particulate matter) emissions and the associated health risk by 75% in 2010 and by 85% by 2020. The plan identified 14 measures that target new and existing on-road vehicles (e.g., heavy-duty trucks and buses, etc.), off-road equipment (e.g., graders, tractors, forklifts, sweepers, and boats), portable equipment (e.g., pumps, etc.), and stationary engines (e.g., stand-by power generators, etc.). During the control measure phase, specific statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles will be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions. The proposed Project would be required to comply with applicable diesel control measures.

Odorous Compounds

Odors are generally regarded as an annoyance rather than a health hazard. 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 ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor, and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

3.1.4 Local

The SCAQMD is the agency responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards in the district.

The SCAQMD adopted its CEQA Air Quality Handbook in 1993. SCAQMD is currently in the process of developing an "Air Quality Analysis Guidance Handbook" to replace the CEQA Air Quality Handbook approved by the South Coast AQMD Governing Board in 1993. Supplemental information, as well as a description of now obsolete sections of the handbook are available through SCAQMD to provide guidance on how to determine the significance of impacts, including air pollutant emissions, related to the development of residential, commercial, and industrial projects. Where impacts are determined to be significant, the SCAQMD provides guidance to mitigate adverse impacts to air quality from development projects. The SCAQMD is the agency principally responsible for comprehensive air pollution control in the region.

The SCAQMD has developed rules and regulations that regulate stationary sources, area sources, and certain mobile source emissions, and is responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

The following SCAQMD rules are applicable to the Project:

Rule 401 – (Visible Emissions) prohibits discharge into the atmosphere from any single source of emission for any contaminant for a period or periods aggregating more than three minutes in any one hour that is as dark or darker in shade than that designated as No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.

Rule 402 – (Nuisance) prohibits discharges of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property

Rule 403 – (Fugitive Dust) prohibits emissions of fugitive dust from any grading activity, storage pile, or other disturbed surface area if it crosses the project property line or if emissions caused by vehicle movement cause substantial impairment of visibility (defined as exceeding 20 percent capacity in the air). Rule 403 requires the implementation of Best Available Control Measures and includes additional provisions for projects disturbing more than five acres and those disturbing more than fifty acres.

Rule 431.2 – (Sulfur Content of Liquid Fuels) The purpose of this rule is to limit the sulfur content in diesel and other liquid fuels for the purpose of reducing the formation of SO_x and particulates during combustion and of enabling the use of add-on control devices for diesel-fueled internal combustion engines. The rule applies to all refiners, importers, and other fuel suppliers such as distributors, marketers, and retailers, as well as to users of diesel, low-sulfur diesel, and other liquid fuels for stationary-source applications in the SCAQMD. The rule also affects diesel fuel supplied for mobile sources

Rule 445 – (Wood Burning Devices) prohibits installation of woodburning devices such as fireplaces and wood-burning stoves in new development unless the development is located at an elevation above 3,000 feet or if existing infrastructure for natural gas service is not available within 150-feet of the development. All fireplaces installed at the proposed Project will be natural gas fueled fireplaces.

Rule 481 – (Spray Coating Operations) imposes equipment and operational restrictions during construction for all spray painting and spray coating operations.

Rule 1110.2 – (Emissions from Gaseous- and Liquid-Fueled Engines) This rule applies to stationary and portable engines rated at greater than 50 horsepower. The purpose of Rule 1110.2 is to reduce NO_x, VOCs, and CO emissions from engines. Emergency engines, including those powering standby generators, are generally exempt from the emissions and monitoring requirements of this rule because they have permit conditions that limit operation to 200 hours or less per year as determined by an elapsed operating time meter.

Rule 1113 – (Architectural Coatings) establishes maximum concentrations of VOCs in paints and other applications and establishes the thresholds for low-VOC coatings.

Rule 1143 – (Consumer Paint Thinners and Multi-Purpose Solvents) prohibits the supply, sale, manufacture, blend, package or repackage of any consumer paint thinner or multi-purpose solvent for use in the SCAQMD unless consumer paint thinners or other multi-purpose solvents comply with applicable VOC content limits

The City of Monrovia's existing General Plan does not establish specific goals, policies, or standards related to air quality; however, the City's Monrovia General Plan Proposed Land Use and Circulation Elements EIR (City of Monrovia 2008) included the following mitigation measures related to air quality:

AIR-A: The City shall require applicants to analyze the air quality impacts of construction for each project

AIR-B: If project-level analysis demonstrates that NO_x emissions would be significant, the project shall provide a plan, for approval by the City, demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, shall utilize all feasible measures to reduce the emissions to a less than significant level. Acceptable options for reducing emissions may include use of late model low-emission diesel engines, alternative fuels, engine retrofit technology, and/or other options as they become available. The SCAQMD web site provides specific information on mitigation options for off-road and on-road construction equipment.

AIR-C: The following measure shall be incorporated into all project specifications to reduce diesel engine emissions of O₃ precursors including ROG and NO_x, PM₁₀, PM_{2.5}, and diesel PM: Idling Restrictions. Idling of diesel-powered vehicles and equipment shall not be permitted during periods of non-active vehicle use. Diesel-powered engines shall not be allowed to idle for more than 5 consecutive minutes in a 60-minute period when the equipment is not in use, occupied by an operator, or otherwise in motion, except as follows:

- When it is necessary to operate auxiliary systems installed on the equipment, only when such system operation is necessary to accomplish the intended use of the equipment;
- When equipment is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control;
- To bring the equipment to the manufacturer's recommended operating temperature;
- When the ambient temperature is below 40 degrees F or above 85 degrees F; or
- When equipment is being repaired.

AIR-D: The City shall require that all new residential fireplaces to be fueled by natural gas. Wood stoves and wood burning fireplaces shall be prohibited.

AIR-E: The City shall require applicants to analyze the potential for creating a local CO hotspot due to traffic congestion that could result from implementation of projects anticipated in the proposed General Plan amendments to the Land Use and Circulation Element

3.2 Climate Change and Greenhouse Gases

Construction climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to GHGs, particularly those generated from the production and use of fossil fuels. While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), tetrafluoromethane, hexafluoroethane, HFC-23 (fluoroform), HFC-134a (1,1,1,2-tetrafluoroethane), and HFC-152a (difluoroethane).

GHGs refer to atmospheric gases that absorb solar radiation and subsequently emit radiation in the thermal infrared region of the energy spectrum, trapping heat in the Earth's atmosphere. These gases include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and water vapor, among others. A growing body of research attributes long-term changes in temperature, precipitation, and other elements of Earth's climate to large increases in GHG emissions since the mid-nineteenth century, particularly from human activity related to fossil fuel combustion. Anthropogenic GHG emissions of particular interest include CO₂, CH₄, N₂O, and fluorinated gases.

GHGs differ in how much heat each can trap in the atmosphere (global warming potential, or GWP). The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO₂, the most abundant GHG. The definition of GWP for a particular GHG is expressed relative to CO₂ over a specified time period. GHG emissions are typically measured in terms of pounds or tons of carbon dioxide equivalent (CO₂e). For example, the 2007 International Panel on Climate Change Fourth Assessment Report calculates the GWP of CH₄ as 25 and the GWP of N₂O as 298, over a 100-year time horizon (IPCC 2007). Generally, estimates of all GHGs are summed to obtain total emissions for a project or given time period, usually expressed in metric tons (MTCO₂e), or million metric tons (MMTCO₂e).

3.2.1 Federal

At the federal level there is currently no overarching law related to climate change or the reduction of GHGs. The EPA is developing regulations under the CAA to be adopted in the near future, pursuant to the EPA's authority under the CAA. Foremost amongst recent developments have been the settlement agreements between the EPA, several states, and nongovernmental organizations (NGOs) to address GHG emissions from electric generating units and refineries; the U.S. Supreme Court's decision in *Massachusetts v. EPA*; and EPA's "Endangerment Finding," "Cause or Contribute Finding," and "Mandatory Reporting Rule." On Sept. 20, 2013, the EPA issued a proposal to limit carbon pollution from new power plants. The EPA is proposing to set separate standards for natural gas-fired turbines and coal-fired units. Although periodically debated in Congress, no federal legislation concerning GHG limitations is has yet been adopted. In *Coalition for Responsible Regulation, Inc., et al. v. EPA*, the United States Court of Appeals upheld the EPA's authority to regulate GHG emissions under CAA. Furthermore, Under the authority of the CAA, the EPA is beginning to regulate GHG emissions starting with large stationary sources. In 2010, the EPA set GHG thresholds to define when permits under the New Source Review Prevention of Significant Deterioration (PSD) standard and Title V Operating Permit programs are required for new and existing industrial facilities.

3.2.2 State

California has been innovative and proactive in addressing GHG emissions through passage of legislation including Senate and Assembly bills and executive orders, some of which are listed below.

Executive Order (EO) S-3-05. In 2005, the governor issued EO S-3-05, establishing statewide GHG emissions reduction targets. The goal of this EO is to reduce California's GHG emissions to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. The EO further directed the secretary of the California EPA to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming. The first such Climate Action Team Assessment Report was produced in March 2006 and has been updated every 2 years thereafter. This goal was further reinforced with the passage of Assembly Bill 32 (AB 32) in 2006 and Senate Bill 32 (SB 32) in 2016.

Assembly Bill 32 (AB 32 California Global Warming Solution Act). In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.), which codified the 2020 GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code Section 38551(b)). The law requires ARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions. The Scoping Plan was prepared and approved on December 11, 2008 and was later updated in May 2014. The update highlights California’s progress toward meeting the “near-term” 2020 GHG emission reduction goals (to the level of 427 million MT of CO₂e) defined in the original Scoping Plan. It also evaluates how to align the State’s longer-term GHG reduction strategies with other State policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use. 2005, the governor issued EO S-3-05, establishing statewide GHG emissions reduction.

Senate Bill 97 (SB 97). Chapter 185, 2007, Greenhouse Gas Emissions: This bill requires the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Executive Order (EO) S-01-07 (January 18, 2007). This order, signed by Governor Schwarzenegger, sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by the year 2020. ARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

Senate Bill 375 (SB 375). Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

Executive Order B-30-15. On April 20, 2015, Governor Brown signed EO B-30-15 to establish a GHG reduction target of 40 percent below 1990 levels by 2030. The Governor’s executive order aligns California’s GHG reduction targets with those of leading international governments such as the 28-nation European Union which adopted the same target in October 2014. California is on track to meet or exceed its legislated target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, summarized above). California’s new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2°C, the warming threshold at which there will likely be major climate disruptions such as severe droughts and rising of sea levels. The targets stated in EO B-30-15 have not been adopted by the state legislature.

Senate Bill 32 (SB 32) September 2016. Chapter 249 of the bill codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030. SB 32 provides another intermediate target between the 2020 and 2050 targets set in EO S-3-05.

Renewable Energy Portfolio. The Renewable Portfolio Standard (RPS) promotes diversification of the state’s electricity supply and decreased reliance on fossil fuel energy sources. Originally adopted in 2002

with the initial requirement that 20% of electricity retail sales must be served by renewable resources by 2017 (referred to as the “initial RPS”). The goals have been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020.

The program was accelerated in 2015 with SB 350 which mandated a 50% RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65% of RPS procurement to be derived from long-term contracts of 10 or more years. In 2018, SB 100 was signed into law, which again increases the RPS to 60% by 2030 and requires all the state's electricity to come from carbon-free resources by 2045.

In April 2011, the Governor signed SB 2 (1X) codifying California’s 33 percent RPS goal; Section 399.19 requires the California Public Utilities Commission, in consultation with the California Energy Commission, to report to the Legislature on the progress and status of RPS procurement and other benchmarks. The purpose of the RPS upon full implementation was to provide 33 percent of the state’s electricity needs through renewable energy sources. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.

The program was further accelerated in 2015 with SB 350 which mandated a 50% RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65% of RPS procurement to be derived from long-term contracts of 10 or more years. Most recently, on September 10, 2018, Governor Brown signed the SB 100 which aims at eliminating fossil fuel from electricity generation in California. The Bill sets a target of 100 percent carbon-free electricity by 2045.

The RPS is included in ARB’s Scoping Plan list of GHG reduction measures to reduce energy sector emissions. It is designed to accelerate the transformation of the electricity sector through such means as investment in the energy transmission infrastructure and systems to allow integration of large quantities of intermittent wind and solar generation. Increased use of renewables would decrease California’s reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector. In 2008, as part of the Scoping Plan original estimates, ARB estimated that full achievement of the RPS would decrease statewide GHG emissions by 21.3 million MT CO₂e. In 2010, ARB revised this number upwards to 24.0 million MT CO₂e.

3.2.3 Local

City of Monrovia Climate Change Regulations

The City of Monrovia, along with Southern California Edison and Intergy Corporation, has implemented an Energy Action Plan that contains goals and specific actions to ensure that sufficient, dependable, and reasonably-priced electrical power and energy supplies are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for the city's consumers and taxpayers. The Energy Action Plan looks at self-generation and demand reduction strategies that can further offset the energy, water, and transportation needs for the city of Monrovia, including the use of renewable energy sources. Appendix A to the Energy Action Plan includes the City’s environmental accords or actions; however, none of these actions are directly applicable to individual development projects. Rather, Appendix A to the Energy Action Plan primarily lists actions that apply to City equipment, electricity consumption, and GHG emissions sources, or which would be implemented on a City-wide basis.

3.2.4 Air Pollutants

3.2.4.1 CRITERIA AIR POLLUTANTS

The federal and state governments have established ambient air quality standards for six criteria pollutants: carbon monoxide (CO), ozone (O₃), particulate matter (PM), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead (Pb). Ozone and particulate matter are generally considered as regional pollutants because they or their precursors affect air quality across a region. Pollutants such as CO, NO₂, SO₂, and Pb are local pollutants in that they tend to accumulate in the air locally. In addition to being a regional pollutant, particulate matter is also considered a local pollutant. In the area of the proposed project site, ozone and particulate matters are of particular concern because of their attainment status at the regional level.

3.2.4.2 TOXIC AIR CONTAMINANTS

The federal TACs are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. Although there are no ambient standards established for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or other acute (short-term) or chronic (long-term) health problems. For TACs that are known or suspected carcinogens, the ARB has consistently found that there are no levels or thresholds below which exposure is risk free. Individual TACs vary greatly in the risks they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health effects, a similar factor, called a Hazard Index, is used to evaluate risk. TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA). Examples of TAC sources include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources. The TACs that are relevant to the implementation include DPM and airborne asbestos.

DPM was identified as a TAC by the ARB in August 1998 (CARB,1998). DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled vehicles contribute approximately 40% of the statewide total, with an additional 57 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources, contributing about 3 percent of emissions, include shipyards, warehouses, heavy equipment repair yards, and oil and gas production operations. Emissions from these sources are from diesel-fueled internal combustion engines. Stationary sources that report DPM emissions also include heavy construction, manufacturers of asphalt paving materials and blocks, and diesel-fueled electrical generation facilities a metal found naturally in the environment as well as in manufactured products.

Exposure to DPM can have immediate health effects. DPM can have a range of health effects including irritation of eyes, throat, and lungs, causing headaches, lightheadedness, and nausea. Exposure to DPM also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. Children, the elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. In California, DPM has been identified as a carcinogen.

Airborne Asbestos. Asbestos occurs naturally in ultramafic rock (which includes serpentine). When this material is disturbed in connection with construction, grading, quarrying, or surface mining operations, asbestos-containing dust can be generated. Asbestos is a known carcinogen. Exposure to asbestos can result in adverse health effects such as lung cancer, mesothelioma (cancer of the linings of the lungs and abdomen), and asbestosis (scarring of lung tissues that results in constricted breathing).

3.2.4.3 GREENHOUSE GASES

Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. There is a general scientific consensus that global climate change is occurring, caused in whole or in part by increased emissions of GHGs that keep the Earth's surface warm by trapping heat in the Earth's atmosphere, in much the same way as glass traps heat in a greenhouse. The Earth's climate is changing because human activities, primarily the combustion of fossil fuels, are altering the chemical composition of the atmosphere through the buildup of GHGs. GHGs are released by the combustion of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.

Carbon Dioxide (CO₂)

In the atmosphere, carbon generally exists in its oxidized form, as CO₂. Natural sources of CO₂ include the respiration (breathing) of humans, animals and plants, volcanic outgassing, decomposition of organic matter and evaporation from the oceans. Anthropogenic sources of CO₂ include the combustion of fossil fuels and wood, waste incineration, mineral production and deforestation. Anthropogenic sources of CO₂ amount to over 30 billion tons per year, globally. Natural sources release substantially larger amounts of CO₂. Nevertheless, natural removal processes, such as photosynthesis by land and ocean-dwelling plant species, cannot keep pace with this extra input of man-made CO₂, and, consequently, the gas is building up in the atmosphere.

Methane (CH₄)

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition occurring in landfills accounts for the majority of human-generated CH₄ emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation, manure management, and rice cultivation are also significant sources of CH₄ in California.

Nitrous Oxide (N₂O)

Nitrous oxide is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. Nitrous oxide is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion produce N₂O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N₂O emissions in California.

Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulfur Hexafluoride (SF₆)

HFCs are primarily used as substitutes for ozone depleting substances regulated under the Montreal Protocol (1987), an international treaty that was approved on January 1, 1989 and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion. PFCs and SF₆ are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no primary aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry leads to greater use of PFCs.

The magnitude of the impact on global warming differs among the GHGs. The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming

potential (GWP), expressed as a function of how much warming would be caused by the same mass of CO₂. Thus, GHG emissions are typically measured in terms of pounds or tons of CO₂ equivalents (CO₂e). HFCs, PFCs, and SF₆ have a greater “global warming potential” than CO₂. In other words, these other GHGs have a greater contribution to global warming than CO₂ on a per-mass basis. However, CO₂ has the greatest impact on global warming because of the relatively large quantities of CO₂ emitted into the atmosphere.

3.2.4.4 SENSITIVE RECEPTORS

Some population groups, such as children, the elderly, and acutely and chronically ill persons are considered more sensitive to air pollution than others. Sensitive receptor locations typically include residential areas, hospitals, elder-care facilities, rehabilitation centers, daycare centers, and parks. The Project site is in a residential urban area. In the vicinity of the project site, the southwest, south and east sides of the parcel are developed with one- and two-story single-family homes. The Project itself is a residence located within one mile of other residences.

3.2.4.5 EXISTING AMBIENT LOCAL AIR QUALITY

Existing levels of ambient air concentrations and historical trends and projections in the project area are best documented by measurements made by the SCAQMD and CARB. The closest most representative air monitoring station to the project site is the project site is the Azusa Monitoring Station on 803 N. Loren Avenue. The Azusa Monitoring Station monitors ozone, PM_{2.5}, and PM₁₀. This was determined to be appropriate since the project area is only nonattainment for ozone, PM₁₀ and PM_{2.5}. The most recent published data for the monitoring stations is presented in Table 3, which encompasses the years of 2015 through 2019.

Table 3: Existing Local Ambient Air Quality from 2015 – 2019

Pollutant	Averaging Time	Standard	2015	2016	2017	2018	2019
Ozone (O3)	1-Hour	Maximum Concentration (ppm)	0.122	0.146	0.152	0.139	0.123
		Days > CAAQS (0.09 ppm)	21	30	38	24	34
	8-Hour	Maximum Concentration (ppm) ^a	0.096	0.106	0.114	0.099	0.094
		Days > NAAQS (0.07 ppm)	27	39	62	42	39
Particulate Matter (PM10)	24-Hour	Maximum Concentration ($\mu\text{g}/\text{m}^3$) - National	101.0	74.0	83.9	78.3	82.0
		Maximum Concentration ($\mu\text{g}/\text{m}^3$) - State	99.0	74.6	83.9	78.3	80.3
		Days > NAAQS ($150\ \mu\text{g}/\text{m}^3$)	0	0	0	0	0
		Days > CAAQS ($50\ \mu\text{g}/\text{m}^3$)	75.6	*	*	59	24
Particulate Matter ^c (PM2.5)	24-Hour	Maximum Concentration ($\mu\text{g}/\text{m}^3$)	70.3	32.1	24.9	41.8	70.3
		Days > NAAQS ($35\ \mu\text{g}/\text{m}^3$)	6.1	0	0	3	3
		National Std. 98 th Percentile ^b	30.0	29.0	21.2	35.3	28.3

AAM – Annual Arithmetic Mean; CAAQS – California ambient air quality standards; $\mu\text{g}/\text{m}^3$ – micrograms per cubic meter; NAAQS – National ambient air quality standards; ppm – parts per million; n/a – sufficient data not available to determine the value

The estimated number of measured concentrations above national standards are shown in **bold**.

Note: Ambient data for CO, NO₂, SO₂ and airborne lead are not included in this table since the entire Los Angeles County is currently in compliance with state and federal standards for these pollutants.

^a The 8-hour ozone standard is attained when the fourth highest concentration in a year, averaged over 3 years, is less than or equal to the new national standard of 0.07 ppm. (Values listed in table represent midnight-to-midnight 24-hour averaged and exclude exceptional events.)

^b Attainment condition for PM_{2.5} is that the 3-year average of the 98th percentile of 24-hour concentrations at each monitor within an area must not exceed the standard.

^c O₃, PM_{2.5} and PM₁₀ data are from Azusa Monitoring Station located at 803 N. Loren Ave., approximately 4.3 miles from the project site.

Source: CARB, 2019, EPA 2019

4 IMPACTS AND MITIGATION MEASURES

4.1 Thresholds of Significance

The Project is Based upon criteria presented in CEQA Appendix G, a project would have a significant air quality impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan (SCAQMD 2016 AQMP);
- Result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under applicable federal or state ambient air quality standards;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The SCAQMD has also established significance thresholds based on the state CEQA significance criteria, adopted guidelines for implementation of CEQA in its CEQA Air Quality Handbook (SCAQMD 2021). The SCAQMD recommended thresholds of significance are discussed below.

4.1.1 Construction

For construction-related emissions, SCAQMD indicates the thresholds presented in Table 4. In any case, regardless of the size of the project, the standard mitigation measures for construction equipment and fugitive PM₁₀ must be implemented at all construction sites. The list of mitigation measures that would be implemented for the proposed Project (derived from City's General Plan requirements) is provided in Section 3.1.4.

Table 4: SCAQMD-Recommended Construction Thresholds of Significance

Pollutant	Threshold (lbs/day)
ROG	75
NOx	100
CO	550
PM10	150
PM2.5	55
SOx	150
Lead	3

Source: SCAQMD 2021

4.1.2 Operations

The operational phase of a proposed project has the potential of creating lasting or long-term impacts on air quality, it is important that a proposed development evaluate the potential impacts carefully. Therefore, air quality analyses should compare all operational emissions of a project, including motor vehicle, area source, and stationary or point sources to the thresholds in Table 5 provides general guidelines for determining the significance of impacts and the recommended type of environmental analysis required based on the total emissions that are expected from the operational phase of a project.

Table 5: SCAQMD-Recommended Operations Thresholds of Significance

Pollutant	Threshold (lbs/day)
ROG	55
NOx	55
CO	550
PM10	150
PM2.5	55
SOx	150
Lead	3

Source: SCAQMD 2021

SCAQMD has adopted interim threshold of significance for projects' GHG emissions. The SCAQMD's Interim GHG Thresholds are as follows:

- Industrial projects: 10,000 metric ton (MT) per year emissions of carbon monoxide equivalent (CO₂e)
- Residential, commercial and mixed-use projects: 3,000 MT CO₂e per year

The proposed Project is considered a residential development; as such, this analysis, compares the direct and indirect emissions from the project with the 3,000 MT threshold level.

4.1.3 Displaced Grid Electricity Emissions

Indirect sources of emissions can be of different forms. The proposed Project is a residence with electricity demands, water use etc. The GHG emissions from the Project's proposed electrical use, natural gas use, water use, waste disposal, and landscaping have been determined in the Project's CalEEMod operational calculations. As required by the adopted 2019 Green Building Code, a solar system is required for the residence.¹ Therefore the Project would provide a renewable energy resource that would displace a portion of the GHG emitted. However, due to the minimal GHG emissions from the project, these displaced emissions have not been quantified as part of this assessment.

5 METHODOLOGY

5.1 CalEEMod

The proposed Project would result in both short-term and long-term emissions of air pollutants associated with construction and operations of the proposed Project. Construction emissions would include exhaust from the operation of conventional construction equipment, on-road emissions from employee vehicle trips and haul truck trips, and fugitive dust as a result of grading and vehicle travel. Operational emissions would include daily trips to the residence as well as the emissions from the residence itself.

Construction and operational emissions were estimated using California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operation of a variety of land use projects. The model utilizes widely accepted federal and state models for emission estimates and default data from sources such as USEPA AP-42 emission factors, CARB vehicle emission models, and studies from California agencies such as the California Energy Commission (CEC). The model quantifies direct emissions from construction and operations, as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

The model was developed in collaboration with the air districts in California. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions.

¹ California Building Standards Commission. 2019. *2019 California Green Building Standards Code. Cal Green*. California Code of Regulations, Title 24, Part 11. Available at: <https://codes.iccsafe.org/content/CAGBSC2019/cover>. Accessed August 15, 2021.

5.2 Construction Emissions

Construction emissions associated with the proposed Project, including emissions associated with the operation of off-road equipment, haul-truck trips, on-road worker vehicle trips, vehicle travel on paved and unpaved surfaces, and fugitive dust from material handling activities were calculated using CalEEMod version 2020.4.0. Emissions modeling included emissions generated during the following phases: site preparation, grading, building construction, paving, and architectural coating.

Construction-worker estimates and vendor truck trips by construction phase were provided by the Applicant. Haul truck trips during the grading phase were based on project applicant-provided earthwork quantities. Grading will occur up to a depth of 11 feet which is currently estimated to involve approximately 576 cubic yards of cut and 266 cubic yards of fill. Approximately 252 cubic yards of soil would be exported from the site, and would require approximately 26 haul truck round trips during the grading phase.

Modeling input data was based on anticipated construction schedule and phasing. Construction equipment and usage required for each phase were obtained using information provided by the Applicant, or derived from similar projects, and default parameters contained in the model for the Project area (Los Angeles County). The construction duration is assumed to be approximately 16 months. Project construction would consist of different activities which would be undertaken in phases, through to the operation of the Project. It has been conservatively assumed that some of these phases would occur simultaneously. Table 6 shows the Project's anticipated construction schedule and the phases that overlap to make the "worst-case" construction time period. This occurs in the last week of Month 14 (year 2023) when building construction and paving may occur simultaneously. Table 7 includes the anticipated equipment used in each phase for the Project.

Table 6: Construction Phasing

	Month 1	Month 2	Month 3-13	Month 14-15	Month 16	Month 17												
Construction Phase	Week #																	
Site Preparation	x																	
Grading	x	x	x	x														
Building Construction					x	x	x	x	x	x	x	x						
Paving												x	x	x	x	x	x	
Architectural Coating																		x
Operations Phase																		
Single Family Residence																		x

Table 7: Construction Anticipated Equipment

Phase (Duration)	Equipment Used		
	Type	Number	Hrs/day
1. Site Preparation (1 week)	Rubber Tired Dozers	1	8
	Grader	2	8
	Tractors/Loaders/Backhoes	1	8
2. Grading (4 weeks)	Graders	2	8
	Rubber Tired Dozers	1	8
	Tractors/Loaders/Backhoes	1	8
3. Building Construction (52 weeks)	Cranes	1	8
	Forklifts	1	8
	Welders	1	8
4. Paving (13 weeks)	Cement and Mortar Mixer	1	8
	Tractor/Loader/Backhoe	1	8
	Pavers	1	8
5. Architectural Coating (1 week)	Air compressor	1	8
Notes: For the parameters that are not provided in the table (e.g., equipment horsepower and load factor) CalEEMod defaults were used. A maximum of 16 one-way daily worker trips (LD_Mix) and 4 one-way daily vendor/delivery trips (HDT_Mix) was utilized for the entirety of the 16 month construction period. During the grading phase 52 one-way haul truck trips are assumed. The CalEEMod defaults for the on-road vehicles trip lengths were utilized. All roads traveled to the Project are assumed to be paved, per CalEEMod defaults.			

5.3 Operational Emissions

The Project will be a single-family residence when in “operation”. For estimation of operational emissions, the CalEEMod defaults for a 5,106 square foot single family residence (3,758 square feet of livable space and a 1,348 square feet 4-car garage) located on a 1.3 acre lot were conservatively assumed. Operation of the Project would generate emissions from mobile sources, including vehicle trips from future residents; area sources, including the use of consumer products, architectural coatings for repainting, and landscape maintenance equipment; and energy sources, including combustion of fuels used for space and water heating and cooking appliances.

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating, water heating, and stoves are calculated in the building energy use module of CalEEMod. The project would not include woodstoves or fireplaces (wood). As such, area source emissions associated with these sources were not included. Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Consumer product VOC emissions are estimated in CalEEMod based on the floor area of residential buildings and on the default factor of pounds of VOC per building square foot per day. CalEEMod calculates the VOC evaporative emissions from application of residential surface coatings based on the VOC emission factor, the building square footage, the assumed fraction of surface area, and the reapplication rate. The VOC emission factor is based on the VOC content of the surface coatings, and SCAQMD’s Rule 1113 (Architectural Coatings) governs the VOC content for interior and exterior coatings. The model default reapplication rate of 10% of area per year is assumed. Consistent with CalEEMod defaults, it is assumed

that the residential surface area for painting equals 2.7 times the floor square footage, with 75% assumed for interior coating and 25% assumed for exterior surface coating. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers. The emissions associated from landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per residential dwelling unit per day and grams per square foot of nonresidential building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days. For Los Angeles County, the average annual “summer” days are estimated to 365 days; however, it is assumed that landscaping equipment would likely only operate during the week (not weekends), so operational days were assumed to be 250 days per year in CalEEMod. By design, the project would not include turf, and the proposed landscaped area would be minimal. Nonetheless, emissions associated with potential landscape maintenance equipment were included to conservatively capture potential project operational emission sources. As represented in CalEEMod, energy sources include emissions associated with building electricity and natural gas usage. CalEEMod default values for energy consumption were applied.

Mobile sources for the project operations would primarily be the resident’s vehicles traveling to and from the residence. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. CalEEMod default data, including temperature, trip characteristics, emissions factors, and trip distances, were conservatively used for the model inputs to estimate daily emissions from proposed vehicular sources.

Operational emissions associated with the proposed project were quantified using CalEEMod version 2020.4.0.

6 IMPACT ANALYSIS

Impact AQ-1 Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. A project is conforming with applicable adopted plans if it complies with the applicable SCAQMD rules and regulations and emission control strategies in the applicable air quality attainment plans. The project would comply with the applicable rules and regulations, including the use of standard mitigation measures for construction equipment and fugitive dust.

Consistency with air quality plans is typically conducted based on a comparison of project-generated growth in employment, population, and vehicle miles traveled (VMT) within the region, which is used for development of the emissions inventories contained in the air quality plans. While the Project would contribute to energy supply, which is one factor of population growth, the proposed Project is a residence and would not significantly increase employment or growth within the region. Moreover, development of the proposed Project would increase the amount of renewable energy and help California meet its Renewable Portfolio Standard (RPS).

Furthermore, the thresholds of significance, adopted by the air district (SCAQMD), determine compliance with the goals of attainment plans in the region. As such, emissions below the SCAQMD regional mass daily emissions thresholds presented in Table 4 and Table 5 would not conflict with or obstruct implementation of the applicable air quality plans. As **Error! Reference source not found.** and Table 9 show, the emissions from proposed Project construction (unmitigated) and operation (unmitigated) are below the thresholds of significance; therefore, the proposed Project does not conflict with implementation of the SCAQMD applicable air quality plans.

Impact AQ-2 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact. The Project implementation would generate emissions of criteria air pollutants during construction and operation. The estimated emissions from construction and operations of the Project are summarized in Table 8 and Table 9. The detailed assumptions and calculations, as well as CalEEMod outputs are provided in Appendix A of this report.

Table 8: Unmitigated Construction Emissions Summary

Construction Phase	Pollutant Emission (pounds per day)					
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂
Site Preparation	2.21	25.00	10.54	8.84	4.48	0.03
Grading	2.42	27.33	12.90	9.44	4.65	0.03
Building Construction	0.92	7.83	5.58	0.56	0.39	0.01
Paving	0.50	4.39	6.08	0.41	0.25	0.01
Architectural Coating	5.64	1.94	3.01	0.30	0.15	0.01
Peak Daily Emission	5.64	27.30	12.96	9.43	4.65	0.03
SCAQMD Significance Thresholds	75	100	550	150	55	150
Threshold Exceeded?	No	No	No	No	No	No

NA = Not applicable, no threshold
 SCAQMD significance thresholds are based on maximum daily emissions.
 Emission were quantified using CalEEMod, version 2020.4.0 using “single-family residence” land use category and modifying default values, where applicable.
 Summer model results are presented above.
 The phases that overlap to make the “worst-case” construction time period occur in Month 14 (year 2023) when building construction and paving may occur simultaneously.
 Model results (Summer, Winter & Annual) and assumptions are provided in Appendix A.

As Table 8 shows, estimated unmitigated construction emissions for all pollutants are below SCAQMD significance thresholds. The Project’s operation consists of typical single-family residence “operational” emissions, conservatively estimated using CalEEMod defaults. Operational emissions are summarized in Table 9. As shown, the Project emissions during “operations” of the residence would be well below the SCAQMD significance thresholds.

Table 9: Unmitigated Operational Emissions Summary

Activity	Pollutant Emission (pounds per day)				
	ROG	NOx	CO	PM ₁₀	PM _{2.5}
Area	0.79	0.12	6.21	1.00	1.00
Energy	0.0008	0.0064	0.0027	0.0005	0.0005
Mobile	0.03	0.03	0.31	0.07	0.02
Peak Daily Emission (Total Operational)	0.82	0.15	6.53	1.07	1.02
SCAQMD Significance Thresholds	55	55	550	150	55
Threshold Exceeded?	No	No	No	No	No

SCAQMD significance thresholds are based on maximum daily emissions.
Emission were quantified using CalEEMod, version 2020.4.0 using “user defined industrial” category and modifying default values using project-specific data/assumptions, where available.
Model results and assumptions are provided in Appendix A.

As presented above, the proposed Project would not violate any air quality standards or contribute substantially to an existing or projected air quality violation. The impact is less than significant, and no mitigation required; however, per requirements of SCAQMD, any standard mitigation measures would be implemented during construction and operation of the Project.

Impact AQ-3 Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, daycare centers, and places of worship. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

Sensitive receptors near the project include existing one- and two-story single-family homes on the southwest, south and east sides of the parcel. In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing localized significance thresholds (LSTs) for construction and operation impacts (stationary sources only). The CO hotspot analysis following the LST analysis addresses localized mobile source impacts.

Localized Significance Thresholds

LSTs were developed in response to SCAQMD Governing Boards’ Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the Final Localized Significance Threshold Methodology, dated June 2003 (revised 2008), for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with project-specific level projects. The SCAQMD provides the LST lookup tables for one, two, and five acre projects emitting CO, NO_x, PM_{2.5}, or PM₁₀ for 41 different Source Receptor Areas (SRA) throughout the Basin. The project site is located within SRA 9, East San Gabriel Valley.

Construction

Based on the SCAQMD guidance on applying CalEEMod to LSTs, the project would disturb approximately two acres of land per day. Therefore, the LST screening thresholds for two acres were utilized for the construction LST analysis. To be conservative, the LST value for 25 meters was utilized. Table 10,

Localized Short-Term Construction Emissions, shows the localized mitigated construction-related emissions. It is noted that the localized emissions presented in Table 10 include only on-site emissions (i.e., from construction equipment and fugitive dust), and do not include off-site emissions (i.e., from hauling activities). As seen in Table 10, on-site emissions would not exceed the LST screening thresholds for SRA 9. Impacts would be less than significant in this regard.

Table 10: Localized Short-Term Construction Emissions

Emissions Source ¹	Pollutant (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Site Preparation	24.72	9.83	4.45	2.51
Grading	26.61	12.09	4.76	2.63
Building Construction	7.54	4.87	0.35	0.33
Paving	4.14	5.43	0.20	0.19
Architectural Coating	1.74	2.41	0.09	0.09
SCAQMD LST Screening Thresholds²	128	786	7	5
Threshold Exceeded?	No	No	No	No
Notes:				
1. Emissions were calculated using CalEEMod (CalEEMod version 2020.4.0).				
2. The Localized Significance Thresholds (LSTs) were determined using Appendix C of the SCAQMD's <i>Final Localized Significant Threshold Methodology</i> , revised July 2008, for pollutants NO _x , CO, PM ₁₀ , and PM _{2.5} . The Localized Significance Threshold was based on the anticipated daily acreage disturbance for construction (two acres; therefore the 2-acre threshold was used) and Source Receptor Area 9.				

As detailed in Table 10, construction emissions would not exceed the SCAQMD LST screening thresholds for any construction phase. Therefore, the project would result in a less than significant impact related to sensitive receptors, due to localized construction emissions.

Diesel Particulate Matter

Emissions of diesel particulate matter (DPM) associated with heavy-duty construction equipment are a toxic air contaminant (TAC). DPM is mainly composed of particulate matter (i.e., PM_{2.5}) and gases, which contain potential cancer-causing substances. The majority of heavy-duty equipment construction activity would occur during the grading and site preparation phases. As shown in Table 10, emissions from mitigated construction activities are well below the SCAQMD significance threshold. As construction activities would be short term, operation of heavy-duty construction equipment is not expected to expose sensitive receptors to substantial DPM concentrations. As such, impacts would be less than significant in this regard.

Operations

As shown in Table 11, Localized Significance of Operational Emissions, the project's operational emissions would not exceed the LST screening thresholds for the potential sensitive receptors within 25 meters of the Project. It should be noted the localized operational CalEEMod results do not include off-site mobile emissions per SCAQMD guidance. As detailed in Table 11, daily operational emissions would not exceed the SCAQMD LST screening thresholds. Thus, impacts would be less than significant in this regard.

Table 11: Localized Significance of Operational Emissions

Emissions Source ¹	Pollutant (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Area Source	0.115	6.22	1.00	1.00
Energy Consumption	0.0064	0.0027	0.0005	0.0005
Total Project Operational Emissions	0.121	6.223	1.001	1.001
SCAQMD LST Screening Thresholds	128	953	2	2
Threshold Exceeded?	No	No	No	No
Notes:				
1. Emissions were calculated using CalEEMod (CalEEMod version 2020.4.0).				
2. The Localized Significance Thresholds (LSTs) were determined. The Localized Significance Threshold was based on the anticipated daily acreage disturbance for construction (two acres; therefore the 2-acre threshold was used) and Source Receptor Area 9.				

Carbon Monoxide Hotspots

Projects involving traffic impacts may result in the formation of locally high concentrations of CO, known as CO “hot spots.” It is not anticipated that the project would have a significant impact on traffic in the area as it is a single-family residence and will have the typical traffic associated. Based on the BAAQMD CO hotspot screening-level analysis, a project would not cause a CO hotspot if the net increase in intersection traffic volumes is less than 44,000 vehicles per hour. The Project’s traffic will be significantly below 44,000 vehicles per hour. Therefore, project-generated traffic would not exceed the BAAQMD significance threshold. Thus, CO hotspot impacts at sensitive receptors would be less than significant.

Air Quality Health Impacts

As evaluated above, the project’s localized emissions would not exceed the SCAQMD’s LST screening thresholds. Therefore, the project would not exceed the most stringent applicable Federal or State ambient air quality standards for emissions of CO, NO_x, PM₁₀, or PM_{2.5}, which were developed to represent levels at which the most susceptible persons (children and the elderly) are protected from health effects. In other words, the ambient air quality standards are purposefully set in a stringent manner to protect sensitive populations with respiratory problems (e.g., children, the elderly, etc.). Thus, the project’s localized emissions would not create an air quality health impact, and a less than significant impact would occur in this regard.

Impact AQ-4 Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

No Impact. According to the SCAQMD’s CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The project does not include any of these uses or odor sources. However, certain odors may emanate from construction operations if diesel-powered construction equipment during the construction period for the project. These odors would be limited to the construction period and would disperse quickly; therefore, these odors would not be considered a significant impact.

The project is a residential development that would not include land uses with sources that have the potential to generate substantial odors and impacts associated with odors during operation would be less than significant.

Impact AQ-5 Would the project generate GHG emissions, either directly or indirectly, that may have an adverse effect on the environment?

Beneficial Impact. The Project-related direct and indirect emissions of GHGs were estimated using the similar methods for quantification of criteria air pollutants. The estimated emissions are summarized in Table 12. Detailed assumptions and calculations, as well as CalEEMod outputs are provided in Appendix A of this report. Total GHG emissions from all phases of construction activities were amortized over the estimated 30-year life of the project and added to the annual operational emissions of GHGs.

Table 12: Greenhouse Gas Emissions Summary

Emissions Source	GHG Emissions (Metric Tons CO ₂ e/year)
Construction Equipment & Vehicle Emissions	248.72
Operations Emissions	15.52
Construction Emissions – Amortized ¹	8.3
Operational Emissions – Facility site ²	15.52
Total	23.8
Significance Threshold ³	3,000
Threshold Exceeded?	No
1. Total construction emissions amortized over project life of 30 years. 2. Includes direct and indirect emissions of project site operations. 3. The SCAQMD interim threshold for GHG emissions, 3,000 MT/year for commercial projects, is used. Calculations, assumptions and model outputs are provided in Appendix A	

As Table 12 shows, the proposed Project's annual indirect GHG emissions from the displacement of fossil fuel fired electricity generation is significantly higher than the Project's annualized direct and indirect emissions sources, as such, the overall effect of the proposed Project is to reduce GHG emissions. Therefore, the proposed project would have a beneficial GHG emissions impact.

Impact AQ-6 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Less Than Significant Impact. Currently, there are no federal, State, or local climate change or GHG emissions regulations that address the GHG emissions Project construction. The project operation will, there are a number of federal, State, and local plans and policies, and GHG emissions reduction strategies that are potentially applicable to the proposed project, either directly or indirectly. The project operation is consistent with the following:

- The Project is consistent with the AB 32 scoping plan strategies to increase the total amount of renewable energy sources consistent with the goal of the State's Renewable Portfolio Standard (RPS).
- The Project is consistent with the CARB's emission reduction strategy presented in the Scoping Plans. The 2008 Scoping Plan specifically addresses critical measures directed at emission sources that are included in the cap-and-trade program that are designed to achieve cost-effective emissions reductions while accelerating the necessary transition to the low-carbon economy.
- The proposed Project implementation will help California meet its Renewable Portfolio Standard (RPS) requirements.

The Project would help promote California’s GHG policies by creating renewable energy resources and would not exceed applicable GHG screening levels. Therefore, the proposed Project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. Moreover, Projects that are consistent with applicable plan, policy, or regulation adopted to reduce GHG emissions are considered less than significant during construction and operation.

6.1 Mitigation Measures

The proposed Project would not generate short- or long-term emissions of regulated air pollutants, TACs, or GHG in amounts that exceed SCAQMD-recommended thresholds of significance. No mitigation is required for the proposed Project; however, the proposed Project would implement best management practices to reduce diesel engine idling and fugitive dust. These practices are consistent with the City’s General Plan requirements and are described in Section 3.1.4.

7 REFERENCES & LITERATURE CITED

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APPENDIX A

CalEEMod Results

Air Pollutant & GHG Emission Calculations

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Norumbega Drive Residence Project
Los Angeles-South Coast County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1.00	Dwelling Unit	1.30	5,106.00	6

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The 2-story residence would be 3,758 square feet of livable space. As well, a 4-car garage on the lowest level would be an additional 1,348 square feet. The lot is 56,410 square feet (1.295 acres).

Construction Phase - Demolion - None

Site Prep - 1 week

Grading - 4 weeks

Building Construc.- 52 weeks

Paving - 13 weeks

Arch. Coating - 1 week

Off-road Equipment - Equipment defaults modified to reflect Project

Off-road Equipment - Equipment defaults modified to reflect Project

Off-road Equipment - Equipment defaults modified to reflect Project

Off-road Equipment - Equipment defaults modified to reflect Project

Off-road Equipment - Equipment defaults modified to reflect Project

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading - Grading phase assumes approx. 35 total passes over the 1.3 acre lot
 576 cubic yards of cut and 266 cubic yards of fill. Approximately 252 cubic yards of soil would be exported from the site

Trips and VMT - 16 one way worker trips per day maximum
 4 one way vendor trips per day maximum
 52 one way haul truck trips per grading phase

Land Use Change -

Woodstoves - No woodstoves or fireplaces

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	6.00
tblConstructionPhase	NumDays	200.00	314.00
tblConstructionPhase	NumDays	4.00	24.00
tblConstructionPhase	NumDays	10.00	80.00
tblConstructionPhase	NumDays	2.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	8/29/2022	1/20/2023
tblConstructionPhase	PhaseEndDate	8/1/2022	10/25/2022
tblConstructionPhase	PhaseEndDate	10/25/2021	10/24/2021
tblConstructionPhase	PhaseEndDate	8/15/2022	1/12/2023
tblConstructionPhase	PhaseEndDate	10/19/2021	9/26/2021
tblConstructionPhase	PhaseStartDate	8/16/2022	1/13/2023
tblConstructionPhase	PhaseStartDate	10/26/2021	10/25/2021
tblConstructionPhase	PhaseStartDate	10/20/2021	9/27/2021
tblConstructionPhase	PhaseStartDate	8/2/2022	10/12/2022
tblConstructionPhase	PhaseStartDate	10/16/2021	9/20/2021

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	0.05	0.00
tblGrading	AcresOfGrading	36.00	46.00
tblGrading	MaterialExported	0.00	252.00
tblLandUse	LandUseSquareFeet	1,800.00	5,106.00
tblLandUse	LotAcreage	0.32	1.30
tblLandUse	Population	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripNumber	32.00	52.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	10.00	16.00
tblTripsAndVMT	WorkerTripNumber	13.00	16.00

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblTripsAndVMT	WorkerTripNumber	0.00	16.00
tblTripsAndVMT	WorkerTripNumber	8.00	16.00
tblTripsAndVMT	WorkerTripNumber	0.00	16.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00

2.0 Emissions Summary

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.4123	27.3029	12.9551	0.0319	8.2983	1.1409	9.4392	3.5951	1.0499	4.6450	0.0000	3,121.2388	3,121.2388	0.8932	0.0409	3,155.7443
2022	1.3201	11.3175	11.5660	0.0232	0.4089	0.5177	0.9266	0.1096	0.4827	0.5923	0.0000	2,220.4228	2,220.4228	0.5180	0.0323	2,242.9888
2023	5.6366	3.9759	6.0605	0.0109	0.2045	0.1805	0.3850	0.0548	0.1673	0.2221	0.0000	1,047.4352	1,047.4352	0.2567	0.0152	1,058.3861
Maximum	5.6366	27.3029	12.9551	0.0319	8.2983	1.1409	9.4392	3.5951	1.0499	4.6450	0.0000	3,121.2388	3,121.2388	0.8932	0.0409	3,155.7443

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.4123	27.3029	12.9551	0.0319	3.8675	1.1409	5.0084	1.6537	1.0499	2.7036	0.0000	3,121.2388	3,121.2388	0.8932	0.0409	3,155.7443
2022	1.3201	11.3175	11.5660	0.0232	0.4089	0.5177	0.9266	0.1096	0.4827	0.5923	0.0000	2,220.4228	2,220.4228	0.5180	0.0323	2,242.9888
2023	5.6366	3.9759	6.0605	0.0109	0.2045	0.1805	0.3850	0.0548	0.1673	0.2221	0.0000	1,047.4352	1,047.4352	0.2567	0.0152	1,058.3861
Maximum	5.6366	27.3029	12.9551	0.0319	3.8675	1.1409	5.0084	1.6537	1.0499	2.7036	0.0000	3,121.2388	3,121.2388	0.8932	0.0409	3,155.7443

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7887	0.1150	6.2161	0.0201		1.0012	1.0012		1.0012	1.0012	147.5410	18.1486	165.6895	0.6902	3.3000e-004	183.0432
Energy	7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655
Mobile	0.0296	0.0308	0.3075	6.7000e-004	0.0686	4.8000e-004	0.0691	0.0183	4.5000e-004	0.0187		68.7367	68.7367	4.4600e-003	2.7700e-003	69.6726
Total	0.8191	0.1523	6.5263	0.0208	0.0686	1.0022	1.0708	0.0183	1.0022	1.0205	147.5410	95.1019	242.6429	0.6948	3.2500e-003	260.9812

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7887	0.1150	6.2161	0.0201		1.0012	1.0012		1.0012	1.0012	147.5410	18.1486	165.6895	0.6902	3.3000e-004	183.0432
Energy	7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655
Mobile	0.0296	0.0308	0.3075	6.7000e-004	0.0686	4.8000e-004	0.0691	0.0183	4.5000e-004	0.0187		68.7367	68.7367	4.4600e-003	2.7700e-003	69.6726
Total	0.8191	0.1523	6.5263	0.0208	0.0686	1.0022	1.0708	0.0183	1.0022	1.0205	147.5410	95.1019	242.6429	0.6948	3.2500e-003	260.9812

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/20/2021	9/26/2021	6	6	
2	Grading	Grading	9/27/2021	10/24/2021	6	24	
3	Building Construction	Building Construction	10/25/2021	10/25/2022	6	314	
4	Paving	Paving	10/12/2022	1/12/2023	6	80	
5	Architectural Coating	Architectural Coating	1/13/2023	1/20/2023	6	6	

Acres of Grading (Site Preparation Phase): 9

Acres of Grading (Grading Phase): 46

Acres of Paving: 0

Residential Indoor: 10,340; Residential Outdoor: 3,447; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	8.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Grading	Graders	2	8.00	187	0.41

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Graders	2	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	7.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	4	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	16.00	4.00	52.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	3	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6128	0.0000	7.6128	3.4820	0.0000	3.4820			0.0000			0.0000
Off-Road	2.1396	24.7162	9.8324	0.0249		1.0196	1.0196		0.9381	0.9381		2,411.6205	2,411.6205	0.7800		2,431.1197
Total	2.1396	24.7162	9.8324	0.0249	7.6128	1.0196	8.6325	3.4820	0.9381	4.4200		2,411.6205	2,411.6205	0.7800		2,431.1197

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0111	0.2310	0.0772	8.1000e-004	0.0256	3.4600e-003	0.0291	7.3800e-003	3.3100e-003	0.0107		86.4964	86.4964	2.9400e-003	0.0125	90.2847
Worker	0.0601	0.0460	0.6898	1.6900e-003	0.1788	1.2300e-003	0.1801	0.0474	1.1300e-003	0.0486		170.6951	170.6951	5.0400e-003	4.3600e-003	172.1216
Total	0.0712	0.2770	0.7670	2.5000e-003	0.2045	4.6900e-003	0.2092	0.0548	4.4400e-003	0.0592		257.1916	257.1916	7.9800e-003	0.0168	262.4063

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4258	0.0000	3.4258	1.5669	0.0000	1.5669			0.0000			0.0000
Off-Road	2.1396	24.7162	9.8324	0.0249		1.0196	1.0196		0.9381	0.9381	0.0000	2,411.620 5	2,411.620 5	0.7800		2,431.119 7
Total	2.1396	24.7162	9.8324	0.0249	3.4258	1.0196	4.4454	1.5669	0.9381	2.5050	0.0000	2,411.620 5	2,411.620 5	0.7800		2,431.119 7

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0111	0.2310	0.0772	8.1000e-004	0.0256	3.4600e-003	0.0291	7.3800e-003	3.3100e-003	0.0107		86.4964	86.4964	2.9400e-003	0.0125	90.2847
Worker	0.0601	0.0460	0.6898	1.6900e-003	0.1788	1.2300e-003	0.1801	0.0474	1.1300e-003	0.0486		170.6951	170.6951	5.0400e-003	4.3600e-003	172.1216
Total	0.0712	0.2770	0.7670	2.5000e-003	0.2045	4.6900e-003	0.2092	0.0548	4.4400e-003	0.0592		257.1916	257.1916	7.9800e-003	0.0168	262.4063

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.0559	0.0000	8.0559	3.5299	0.0000	3.5299			0.0000			0.0000
Off-Road	2.3269	26.6121	12.0926	0.0280		1.1314	1.1314		1.0409	1.0409		2,712.5206	2,712.5206	0.8773		2,734.4527
Total	2.3269	26.6121	12.0926	0.0280	8.0559	1.1314	9.1873	3.5299	1.0409	4.5708		2,712.5206	2,712.5206	0.8773		2,734.4527

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0143	0.4139	0.0955	1.3900e-003	0.0379	4.8000e-003	0.0427	0.0104	4.5900e-003	0.0150		151.5267	151.5267	7.9300e-003	0.0240	158.8854
Vendor	0.0111	0.2310	0.0772	8.1000e-004	0.0256	3.4600e-003	0.0291	7.3800e-003	3.3100e-003	0.0107		86.4964	86.4964	2.9400e-003	0.0125	90.2847
Worker	0.0601	0.0460	0.6898	1.6900e-003	0.1788	1.2300e-003	0.1801	0.0474	1.1300e-003	0.0486		170.6951	170.6951	5.0400e-003	4.3600e-003	172.1216
Total	0.0855	0.6909	0.8625	3.8900e-003	0.2424	9.4900e-003	0.2519	0.0652	9.0300e-003	0.0742		408.7182	408.7182	0.0159	0.0409	421.2916

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.6252	0.0000	3.6252	1.5885	0.0000	1.5885			0.0000			0.0000
Off-Road	2.3269	26.6121	12.0926	0.0280		1.1314	1.1314		1.0409	1.0409	0.0000	2,712.520 6	2,712.520 6	0.8773		2,734.452 7
Total	2.3269	26.6121	12.0926	0.0280	3.6252	1.1314	4.7565	1.5885	1.0409	2.6293	0.0000	2,712.520 6	2,712.520 6	0.8773		2,734.452 7

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0143	0.4139	0.0955	1.3900e-003	0.0379	4.8000e-003	0.0427	0.0104	4.5900e-003	0.0150		151.5267	151.5267	7.9300e-003	0.0240	158.8854
Vendor	0.0111	0.2310	0.0772	8.1000e-004	0.0256	3.4600e-003	0.0291	7.3800e-003	3.3100e-003	0.0107		86.4964	86.4964	2.9400e-003	0.0125	90.2847
Worker	0.0601	0.0460	0.6898	1.6900e-003	0.1788	1.2300e-003	0.1801	0.0474	1.1300e-003	0.0486		170.6951	170.6951	5.0400e-003	4.3600e-003	172.1216
Total	0.0855	0.6909	0.8625	3.8900e-003	0.2424	9.4900e-003	0.2519	0.0652	9.0300e-003	0.0742		408.7182	408.7182	0.0159	0.0409	421.2916

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8449	7.5374	4.8695	9.8500e-003		0.3547	0.3547		0.3323	0.3323		914.2473	914.2473	0.2556		920.6373
Total	0.8449	7.5374	4.8695	9.8500e-003		0.3547	0.3547		0.3323	0.3323		914.2473	914.2473	0.2556		920.6373

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0111	0.2310	0.0772	8.1000e-004	0.0256	3.4600e-003	0.0291	7.3800e-003	3.3100e-003	0.0107		86.4964	86.4964	2.9400e-003	0.0125	90.2847
Worker	0.0601	0.0460	0.6898	1.6900e-003	0.1788	1.2300e-003	0.1801	0.0474	1.1300e-003	0.0486		170.6951	170.6951	5.0400e-003	4.3600e-003	172.1216
Total	0.0712	0.2770	0.7670	2.5000e-003	0.2045	4.6900e-003	0.2092	0.0548	4.4400e-003	0.0592		257.1916	257.1916	7.9800e-003	0.0168	262.4063

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8449	7.5374	4.8695	9.8500e-003		0.3547	0.3547		0.3323	0.3323	0.0000	914.2473	914.2473	0.2556		920.6373
Total	0.8449	7.5374	4.8695	9.8500e-003		0.3547	0.3547		0.3323	0.3323	0.0000	914.2473	914.2473	0.2556		920.6373

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0111	0.2310	0.0772	8.1000e-004	0.0256	3.4600e-003	0.0291	7.3800e-003	3.3100e-003	0.0107		86.4964	86.4964	2.9400e-003	0.0125	90.2847
Worker	0.0601	0.0460	0.6898	1.6900e-003	0.1788	1.2300e-003	0.1801	0.0474	1.1300e-003	0.0486		170.6951	170.6951	5.0400e-003	4.3600e-003	172.1216
Total	0.0712	0.2770	0.7670	2.5000e-003	0.2045	4.6900e-003	0.2092	0.0548	4.4400e-003	0.0592		257.1916	257.1916	7.9800e-003	0.0168	262.4063

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7633	6.7021	4.7419	9.8500e-003		0.3075	0.3075		0.2880	0.2880		914.3389	914.3389	0.2534		920.6749
Total	0.7633	6.7021	4.7419	9.8500e-003		0.3075	0.3075		0.2880	0.2880		914.3389	914.3389	0.2534		920.6749

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8700e-003	0.1959	0.0672	7.8000e-004	0.0256	1.8700e-003	0.0275	7.3800e-003	1.7900e-003	9.1600e-003		84.1846	84.1846	2.8100e-003	0.0121	87.8701
Worker	0.0554	0.0404	0.6297	1.6400e-003	0.1788	1.1400e-003	0.1800	0.0474	1.0500e-003	0.0485		165.3507	165.3507	4.5000e-003	4.0000e-003	166.6564
Total	0.0632	0.2364	0.6969	2.4200e-003	0.2045	3.0100e-003	0.2075	0.0548	2.8400e-003	0.0576		249.5354	249.5354	7.3100e-003	0.0161	254.5265

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7633	6.7021	4.7419	9.8500e-003		0.3075	0.3075		0.2880	0.2880	0.0000	914.3389	914.3389	0.2534		920.6749
Total	0.7633	6.7021	4.7419	9.8500e-003		0.3075	0.3075		0.2880	0.2880	0.0000	914.3389	914.3389	0.2534		920.6749

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8700e-003	0.1959	0.0672	7.8000e-004	0.0256	1.8700e-003	0.0275	7.3800e-003	1.7900e-003	9.1600e-003		84.1846	84.1846	2.8100e-003	0.0121	87.8701
Worker	0.0554	0.0404	0.6297	1.6400e-003	0.1788	1.1400e-003	0.1800	0.0474	1.0500e-003	0.0485		165.3507	165.3507	4.5000e-003	4.0000e-003	166.6564
Total	0.0632	0.2364	0.6969	2.4200e-003	0.2045	3.0100e-003	0.2075	0.0548	2.8400e-003	0.0576		249.5354	249.5354	7.3100e-003	0.0161	254.5265

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4304	4.1427	5.4303	8.5300e-003		0.2042	0.2042		0.1890	0.1890		807.0132	807.0132	0.2499		813.2610
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.4304	4.1427	5.4303	8.5300e-003		0.2042	0.2042		0.1890	0.1890		807.0132	807.0132	0.2499		813.2610

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8700e-003	0.1959	0.0672	7.8000e-004	0.0256	1.8700e-003	0.0275	7.3800e-003	1.7900e-003	9.1600e-003		84.1846	84.1846	2.8100e-003	0.0121	87.8701
Worker	0.0554	0.0404	0.6297	1.6400e-003	0.1788	1.1400e-003	0.1800	0.0474	1.0500e-003	0.0485		165.3507	165.3507	4.5000e-003	4.0000e-003	166.6564
Total	0.0632	0.2364	0.6969	2.4200e-003	0.2045	3.0100e-003	0.2075	0.0548	2.8400e-003	0.0576		249.5354	249.5354	7.3100e-003	0.0161	254.5265

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4304	4.1427	5.4303	8.5300e-003		0.2042	0.2042		0.1890	0.1890	0.0000	807.0132	807.0132	0.2499		813.2610
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.4304	4.1427	5.4303	8.5300e-003		0.2042	0.2042		0.1890	0.1890	0.0000	807.0132	807.0132	0.2499		813.2610

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8700e-003	0.1959	0.0672	7.8000e-004	0.0256	1.8700e-003	0.0275	7.3800e-003	1.7900e-003	9.1600e-003		84.1846	84.1846	2.8100e-003	0.0121	87.8701
Worker	0.0554	0.0404	0.6297	1.6400e-003	0.1788	1.1400e-003	0.1800	0.0474	1.0500e-003	0.0485		165.3507	165.3507	4.5000e-003	4.0000e-003	166.6564
Total	0.0632	0.2364	0.6969	2.4200e-003	0.2045	3.0100e-003	0.2075	0.0548	2.8400e-003	0.0576		249.5354	249.5354	7.3100e-003	0.0161	254.5265

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4021	3.7867	5.4228	8.5300e-003		0.1787	0.1787		0.1655	0.1655		807.3102	807.3102	0.2500		813.5603
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.4021	3.7867	5.4228	8.5300e-003		0.1787	0.1787		0.1655	0.1655		807.3102	807.3102	0.2500		813.5603

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6100e-003	0.1535	0.0595	7.4000e-004	0.0256	7.7000e-004	0.0264	7.3800e-003	7.4000e-004	8.1200e-003		80.1130	80.1130	2.6800e-003	0.0115	83.6124
Worker	0.0512	0.0357	0.5782	1.5800e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		160.0121	160.0121	4.0300e-003	3.6900e-003	161.2134
Total	0.0558	0.1892	0.6377	2.3200e-003	0.2045	1.8500e-003	0.2063	0.0548	1.7300e-003	0.0565		240.1251	240.1251	6.7100e-003	0.0152	244.8258

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4021	3.7867	5.4228	8.5300e-003		0.1787	0.1787		0.1655	0.1655	0.0000	807.3102	807.3102	0.2500		813.5603
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.4021	3.7867	5.4228	8.5300e-003		0.1787	0.1787		0.1655	0.1655	0.0000	807.3102	807.3102	0.2500		813.5603

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6100e-003	0.1535	0.0595	7.4000e-004	0.0256	7.7000e-004	0.0264	7.3800e-003	7.4000e-004	8.1200e-003		80.1130	80.1130	2.6800e-003	0.0115	83.6124
Worker	0.0512	0.0357	0.5782	1.5800e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		160.0121	160.0121	4.0300e-003	3.6900e-003	161.2134
Total	0.0558	0.1892	0.6377	2.3200e-003	0.2045	1.8500e-003	0.2063	0.0548	1.7300e-003	0.0565		240.1251	240.1251	6.7100e-003	0.0152	244.8258

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3252					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2556	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944		375.2641	375.2641	0.0225		375.8253
Total	5.5808	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944		375.2641	375.2641	0.0225		375.8253

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6100e-003	0.1535	0.0595	7.4000e-004	0.0256	7.7000e-004	0.0264	7.3800e-003	7.4000e-004	8.1200e-003		80.1130	80.1130	2.6800e-003	0.0115	83.6124
Worker	0.0512	0.0357	0.5782	1.5800e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		160.0121	160.0121	4.0300e-003	3.6900e-003	161.2134
Total	0.0558	0.1892	0.6377	2.3200e-003	0.2045	1.8500e-003	0.2063	0.0548	1.7300e-003	0.0565		240.1251	240.1251	6.7100e-003	0.0152	244.8258

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3252					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2556	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944	0.0000	375.2641	375.2641	0.0225		375.8253
Total	5.5808	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944	0.0000	375.2641	375.2641	0.0225		375.8253

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.6100e-003	0.1535	0.0595	7.4000e-004	0.0256	7.7000e-004	0.0264	7.3800e-003	7.4000e-004	8.1200e-003		80.1130	80.1130	2.6800e-003	0.0115	83.6124
Worker	0.0512	0.0357	0.5782	1.5800e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		160.0121	160.0121	4.0300e-003	3.6900e-003	161.2134
Total	0.0558	0.1892	0.6377	2.3200e-003	0.2045	1.8500e-003	0.2063	0.0548	1.7300e-003	0.0565		240.1251	240.1251	6.7100e-003	0.0152	244.8258

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0296	0.0308	0.3075	6.7000e-004	0.0686	4.8000e-004	0.0691	0.0183	4.5000e-004	0.0187		68.7367	68.7367	4.4600e-003	2.7700e-003	69.6726
Unmitigated	0.0296	0.0308	0.3075	6.7000e-004	0.0686	4.8000e-004	0.0691	0.0183	4.5000e-004	0.0187		68.7367	68.7367	4.4600e-003	2.7700e-003	69.6726

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	9.44	9.54	8.55	31,872	31,872
Total	9.44	9.54	8.55	31,872	31,872

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.544785	0.062844	0.187478	0.127235	0.023089	0.006083	0.010475	0.008012	0.000925	0.000611	0.024394	0.000698	0.003374

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655
NaturalGas Unmitigated	7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	69.8413	7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655
Total		7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day											lb/day				
Single Family Housing	0.0698413	7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655
Total		7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Mitigated	0.7887	0.1150	6.2161	0.0201		1.0012	1.0012		1.0012	1.0012	147.5410	18.1486	165.6895	0.6902	3.3000e-004	183.0432
Unmitigated	0.7887	0.1150	6.2161	0.0201		1.0012	1.0012		1.0012	1.0012	147.5410	18.1486	165.6895	0.6902	3.3000e-004	183.0432

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	8.7500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1011					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.6764	0.1141	6.1336	0.0201		1.0007	1.0007		1.0007	1.0007	147.5410	18.0000	165.5410	0.6901	3.3000e-004	182.8910
Landscaping	2.4900e-003	9.5000e-004	0.0825	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		0.1486	0.1486	1.4000e-004		0.1521
Total	0.7887	0.1150	6.2161	0.0201		1.0012	1.0012		1.0012	1.0012	147.5410	18.1486	165.6895	0.6902	3.3000e-004	183.0431

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	8.7500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1011					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.6764	0.1141	6.1336	0.0201		1.0007	1.0007		1.0007	1.0007	147.5410	18.0000	165.5410	0.6901	3.3000e-004	182.8910
Landscaping	2.4900e-003	9.5000e-004	0.0825	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		0.1486	0.1486	1.4000e-004		0.1521
Total	0.7887	0.1150	6.2161	0.0201		1.0012	1.0012		1.0012	1.0012	147.5410	18.1486	165.6895	0.6902	3.3000e-004	183.0431

7.0 Water Detail

7.1 Mitigation Measures Water

Norumbega Drive Residence Project - Los Angeles-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Norumbega Drive Residence Project
Los Angeles-South Coast County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1.00	Dwelling Unit	1.30	5,106.00	6

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The 2-story residence would be 3,758 square feet of livable space. As well, a 4-car garage on the lowest level would be an additional 1,348 square feet. The lot is 56,410 square feet (1.295 acres).

Construction Phase - Demolion - None

Site Prep - 1 week

Grading - 4 weeks

Building Construc.- 52 weeks

Paving - 13 weeks

Arch. Coating - 1 week

Off-road Equipment - Equipment defaults modified to reflect Project

Off-road Equipment - Equipment defaults modified to reflect Project

Off-road Equipment - Equipment defaults modified to reflect Project

Off-road Equipment - Equipment defaults modified to reflect Project

Off-road Equipment - Equipment defaults modified to reflect Project

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading - Grading phase assumes approx. 35 total passes over the 1.3 acre lot
 576 cubic yards of cut and 266 cubic yards of fill. Approximately 252 cubic yards of soil would be exported from the site

Trips and VMT - 16 one way worker trips per day maximum
 4 one way vendor trips per day maximum
 52 one way haul truck trips per grading phase

Land Use Change -

Woodstoves - No woodstoves or fireplaces

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	6.00
tblConstructionPhase	NumDays	200.00	314.00
tblConstructionPhase	NumDays	4.00	24.00
tblConstructionPhase	NumDays	10.00	80.00
tblConstructionPhase	NumDays	2.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	8/29/2022	1/20/2023
tblConstructionPhase	PhaseEndDate	8/1/2022	10/25/2022
tblConstructionPhase	PhaseEndDate	10/25/2021	10/24/2021
tblConstructionPhase	PhaseEndDate	8/15/2022	1/12/2023
tblConstructionPhase	PhaseEndDate	10/19/2021	9/26/2021
tblConstructionPhase	PhaseStartDate	8/16/2022	1/13/2023
tblConstructionPhase	PhaseStartDate	10/26/2021	10/25/2021
tblConstructionPhase	PhaseStartDate	10/20/2021	9/27/2021
tblConstructionPhase	PhaseStartDate	8/2/2022	10/12/2022
tblConstructionPhase	PhaseStartDate	10/16/2021	9/20/2021

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	0.05	0.00
tblGrading	AcresOfGrading	36.00	46.00
tblGrading	MaterialExported	0.00	252.00
tblLandUse	LandUseSquareFeet	1,800.00	5,106.00
tblLandUse	LotAcreage	0.32	1.30
tblLandUse	Population	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripNumber	32.00	52.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	10.00	16.00
tblTripsAndVMT	WorkerTripNumber	13.00	16.00

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblTripsAndVMT	WorkerTripNumber	0.00	16.00
tblTripsAndVMT	WorkerTripNumber	8.00	16.00
tblTripsAndVMT	WorkerTripNumber	0.00	16.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00

2.0 Emissions Summary

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.4160	27.3333	12.9020	0.0318	8.2983	1.1409	9.4392	3.5951	1.0499	4.6450	0.0000	3,112.2049	3,112.2049	0.8932	0.0412	3,146.8057
2022	1.3278	11.3421	11.4676	0.0230	0.4089	0.5177	0.9266	0.1096	0.4827	0.5923	0.0000	2,203.0017	2,203.0017	0.5181	0.0329	2,225.7428
2023	5.6402	3.9868	6.0157	0.0108	0.2045	0.1805	0.3850	0.0548	0.1673	0.2221	0.0000	1,039.1349	1,039.1349	0.2568	0.0155	1,050.1710
Maximum	5.6402	27.3333	12.9020	0.0318	8.2983	1.1409	9.4392	3.5951	1.0499	4.6450	0.0000	3,112.2049	3,112.2049	0.8932	0.0412	3,146.8057

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.4160	27.3333	12.9020	0.0318	3.8675	1.1409	5.0084	1.6537	1.0499	2.7036	0.0000	3,112.2049	3,112.2049	0.8932	0.0412	3,146.8057
2022	1.3278	11.3421	11.4676	0.0230	0.4089	0.5177	0.9266	0.1096	0.4827	0.5923	0.0000	2,203.0017	2,203.0017	0.5181	0.0329	2,225.7428
2023	5.6402	3.9868	6.0157	0.0108	0.2045	0.1805	0.3850	0.0548	0.1673	0.2221	0.0000	1,039.1349	1,039.1349	0.2568	0.0155	1,050.1710
Maximum	5.6402	27.3333	12.9020	0.0318	3.8675	1.1409	5.0084	1.6537	1.0499	2.7036	0.0000	3,112.2049	3,112.2049	0.8932	0.0412	3,146.8057

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7887	0.1150	6.2161	0.0201		1.0012	1.0012		1.0012	1.0012	147.5410	18.1486	165.6895	0.6902	3.3000e-004	183.0432
Energy	7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655
Mobile	0.0291	0.0333	0.2999	6.5000e-004	0.0686	4.8000e-004	0.0691	0.0183	4.5000e-004	0.0187		65.8043	65.8043	4.5900e-003	2.8900e-003	66.7804
Total	0.8186	0.1548	6.5187	0.0208	0.0686	1.0022	1.0708	0.0183	1.0022	1.0205	147.5410	92.1694	239.7104	0.6950	3.3700e-003	258.0890

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7887	0.1150	6.2161	0.0201		1.0012	1.0012		1.0012	1.0012	147.5410	18.1486	165.6895	0.6902	3.3000e-004	183.0432
Energy	7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655
Mobile	0.0291	0.0333	0.2999	6.5000e-004	0.0686	4.8000e-004	0.0691	0.0183	4.5000e-004	0.0187		65.8043	65.8043	4.5900e-003	2.8900e-003	66.7804
Total	0.8186	0.1548	6.5187	0.0208	0.0686	1.0022	1.0708	0.0183	1.0022	1.0205	147.5410	92.1694	239.7104	0.6950	3.3700e-003	258.0890

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/20/2021	9/26/2021	6	6	
2	Grading	Grading	9/27/2021	10/24/2021	6	24	
3	Building Construction	Building Construction	10/25/2021	10/25/2022	6	314	
4	Paving	Paving	10/12/2022	1/12/2023	6	80	
5	Architectural Coating	Architectural Coating	1/13/2023	1/20/2023	6	6	

Acres of Grading (Site Preparation Phase): 9

Acres of Grading (Grading Phase): 46

Acres of Paving: 0

Residential Indoor: 10,340; Residential Outdoor: 3,447; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	8.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Grading	Graders	2	8.00	187	0.41

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Site Preparation	Graders	2	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	7.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	4	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	16.00	4.00	52.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	3	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6128	0.0000	7.6128	3.4820	0.0000	3.4820			0.0000			0.0000
Off-Road	2.1396	24.7162	9.8324	0.0249		1.0196	1.0196		0.9381	0.9381		2,411.6205	2,411.6205	0.7800		2,431.1197
Total	2.1396	24.7162	9.8324	0.0249	7.6128	1.0196	8.6325	3.4820	0.9381	4.4200		2,411.6205	2,411.6205	0.7800		2,431.1197

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0110	0.2401	0.0797	8.1000e-004	0.0256	3.4700e-003	0.0291	7.3800e-003	3.3200e-003	0.0107		86.4987	86.4987	2.9300e-003	0.0125	90.2905
Worker	0.0641	0.0508	0.6326	1.6000e-003	0.1788	1.2300e-003	0.1801	0.0474	1.1300e-003	0.0486		161.6421	161.6421	5.0900e-003	4.6600e-003	163.1595
Total	0.0751	0.2910	0.7122	2.4100e-003	0.2045	4.7000e-003	0.2092	0.0548	4.4500e-003	0.0593		248.1408	248.1408	8.0200e-003	0.0171	253.4500

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4258	0.0000	3.4258	1.5669	0.0000	1.5669			0.0000			0.0000
Off-Road	2.1396	24.7162	9.8324	0.0249		1.0196	1.0196		0.9381	0.9381	0.0000	2,411.6205	2,411.6205	0.7800		2,431.1197
Total	2.1396	24.7162	9.8324	0.0249	3.4258	1.0196	4.4454	1.5669	0.9381	2.5050	0.0000	2,411.6205	2,411.6205	0.7800		2,431.1197

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0110	0.2401	0.0797	8.1000e-004	0.0256	3.4700e-003	0.0291	7.3800e-003	3.3200e-003	0.0107		86.4987	86.4987	2.9300e-003	0.0125	90.2905
Worker	0.0641	0.0508	0.6326	1.6000e-003	0.1788	1.2300e-003	0.1801	0.0474	1.1300e-003	0.0486		161.6421	161.6421	5.0900e-003	4.6600e-003	163.1595
Total	0.0751	0.2910	0.7122	2.4100e-003	0.2045	4.7000e-003	0.2092	0.0548	4.4500e-003	0.0593		248.1408	248.1408	8.0200e-003	0.0171	253.4500

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.0559	0.0000	8.0559	3.5299	0.0000	3.5299			0.0000			0.0000
Off-Road	2.3269	26.6121	12.0926	0.0280		1.1314	1.1314		1.0409	1.0409		2,712.5206	2,712.5206	0.8773		2,734.4527
Total	2.3269	26.6121	12.0926	0.0280	8.0559	1.1314	9.1873	3.5299	1.0409	4.5708		2,712.5206	2,712.5206	0.8773		2,734.4527

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0141	0.4303	0.0971	1.3900e-003	0.0379	4.8100e-003	0.0427	0.0104	4.6000e-003	0.0150		151.5436	151.5436	7.9200e-003	0.0240	158.9030
Vendor	0.0110	0.2401	0.0797	8.1000e-004	0.0256	3.4700e-003	0.0291	7.3800e-003	3.3200e-003	0.0107		86.4987	86.4987	2.9300e-003	0.0125	90.2905
Worker	0.0641	0.0508	0.6326	1.6000e-003	0.1788	1.2300e-003	0.1801	0.0474	1.1300e-003	0.0486		161.6421	161.6421	5.0900e-003	4.6600e-003	163.1595
Total	0.0892	0.7213	0.8093	3.8000e-003	0.2424	9.5100e-003	0.2519	0.0652	9.0500e-003	0.0743		399.6844	399.6844	0.0159	0.0412	412.3530

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.6252	0.0000	3.6252	1.5885	0.0000	1.5885			0.0000			0.0000
Off-Road	2.3269	26.6121	12.0926	0.0280		1.1314	1.1314		1.0409	1.0409	0.0000	2,712.5206	2,712.5206	0.8773		2,734.4527
Total	2.3269	26.6121	12.0926	0.0280	3.6252	1.1314	4.7565	1.5885	1.0409	2.6293	0.0000	2,712.5206	2,712.5206	0.8773		2,734.4527

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0141	0.4303	0.0971	1.3900e-003	0.0379	4.8100e-003	0.0427	0.0104	4.6000e-003	0.0150		151.5436	151.5436	7.9200e-003	0.0240	158.9030
Vendor	0.0110	0.2401	0.0797	8.1000e-004	0.0256	3.4700e-003	0.0291	7.3800e-003	3.3200e-003	0.0107		86.4987	86.4987	2.9300e-003	0.0125	90.2905
Worker	0.0641	0.0508	0.6326	1.6000e-003	0.1788	1.2300e-003	0.1801	0.0474	1.1300e-003	0.0486		161.6421	161.6421	5.0900e-003	4.6600e-003	163.1595
Total	0.0892	0.7213	0.8093	3.8000e-003	0.2424	9.5100e-003	0.2519	0.0652	9.0500e-003	0.0743		399.6844	399.6844	0.0159	0.0412	412.3530

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8449	7.5374	4.8695	9.8500e-003		0.3547	0.3547		0.3323	0.3323		914.2473	914.2473	0.2556		920.6373
Total	0.8449	7.5374	4.8695	9.8500e-003		0.3547	0.3547		0.3323	0.3323		914.2473	914.2473	0.2556		920.6373

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0110	0.2401	0.0797	8.1000e-004	0.0256	3.4700e-003	0.0291	7.3800e-003	3.3200e-003	0.0107		86.4987	86.4987	2.9300e-003	0.0125	90.2905
Worker	0.0641	0.0508	0.6326	1.6000e-003	0.1788	1.2300e-003	0.1801	0.0474	1.1300e-003	0.0486		161.6421	161.6421	5.0900e-003	4.6600e-003	163.1595
Total	0.0751	0.2910	0.7122	2.4100e-003	0.2045	4.7000e-003	0.2092	0.0548	4.4500e-003	0.0593		248.1408	248.1408	8.0200e-003	0.0171	253.4500

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8449	7.5374	4.8695	9.8500e-003		0.3547	0.3547		0.3323	0.3323	0.0000	914.2473	914.2473	0.2556		920.6373
Total	0.8449	7.5374	4.8695	9.8500e-003		0.3547	0.3547		0.3323	0.3323	0.0000	914.2473	914.2473	0.2556		920.6373

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0110	0.2401	0.0797	8.1000e-004	0.0256	3.4700e-003	0.0291	7.3800e-003	3.3200e-003	0.0107		86.4987	86.4987	2.9300e-003	0.0125	90.2905
Worker	0.0641	0.0508	0.6326	1.6000e-003	0.1788	1.2300e-003	0.1801	0.0474	1.1300e-003	0.0486		161.6421	161.6421	5.0900e-003	4.6600e-003	163.1595
Total	0.0751	0.2910	0.7122	2.4100e-003	0.2045	4.7000e-003	0.2092	0.0548	4.4500e-003	0.0593		248.1408	248.1408	8.0200e-003	0.0171	253.4500

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7633	6.7021	4.7419	9.8500e-003		0.3075	0.3075		0.2880	0.2880		914.3389	914.3389	0.2534		920.6749
Total	0.7633	6.7021	4.7419	9.8500e-003		0.3075	0.3075		0.2880	0.2880		914.3389	914.3389	0.2534		920.6749

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.7800e-003	0.2040	0.0695	7.8000e-004	0.0256	1.8700e-003	0.0275	7.3800e-003	1.7900e-003	9.1700e-003		84.2163	84.2163	2.8000e-003	0.0122	87.9061
Worker	0.0593	0.0447	0.5782	1.5500e-003	0.1788	1.1400e-003	0.1800	0.0474	1.0500e-003	0.0485		156.6085	156.6085	4.5600e-003	4.2800e-003	157.9974
Total	0.0670	0.2487	0.6477	2.3300e-003	0.2045	3.0100e-003	0.2075	0.0548	2.8400e-003	0.0577		240.8248	240.8248	7.3600e-003	0.0164	245.9035

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7633	6.7021	4.7419	9.8500e-003		0.3075	0.3075		0.2880	0.2880	0.0000	914.3389	914.3389	0.2534		920.6749
Total	0.7633	6.7021	4.7419	9.8500e-003		0.3075	0.3075		0.2880	0.2880	0.0000	914.3389	914.3389	0.2534		920.6749

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.7800e-003	0.2040	0.0695	7.8000e-004	0.0256	1.8700e-003	0.0275	7.3800e-003	1.7900e-003	9.1700e-003		84.2163	84.2163	2.8000e-003	0.0122	87.9061
Worker	0.0593	0.0447	0.5782	1.5500e-003	0.1788	1.1400e-003	0.1800	0.0474	1.0500e-003	0.0485		156.6085	156.6085	4.5600e-003	4.2800e-003	157.9974
Total	0.0670	0.2487	0.6477	2.3300e-003	0.2045	3.0100e-003	0.2075	0.0548	2.8400e-003	0.0577		240.8248	240.8248	7.3600e-003	0.0164	245.9035

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4304	4.1427	5.4303	8.5300e-003		0.2042	0.2042		0.1890	0.1890		807.0132	807.0132	0.2499		813.2610
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.4304	4.1427	5.4303	8.5300e-003		0.2042	0.2042		0.1890	0.1890		807.0132	807.0132	0.2499		813.2610

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.7800e-003	0.2040	0.0695	7.8000e-004	0.0256	1.8700e-003	0.0275	7.3800e-003	1.7900e-003	9.1700e-003		84.2163	84.2163	2.8000e-003	0.0122	87.9061
Worker	0.0593	0.0447	0.5782	1.5500e-003	0.1788	1.1400e-003	0.1800	0.0474	1.0500e-003	0.0485		156.6085	156.6085	4.5600e-003	4.2800e-003	157.9974
Total	0.0670	0.2487	0.6477	2.3300e-003	0.2045	3.0100e-003	0.2075	0.0548	2.8400e-003	0.0577		240.8248	240.8248	7.3600e-003	0.0164	245.9035

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4304	4.1427	5.4303	8.5300e-003		0.2042	0.2042		0.1890	0.1890	0.0000	807.0132	807.0132	0.2499		813.2610
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.4304	4.1427	5.4303	8.5300e-003		0.2042	0.2042		0.1890	0.1890	0.0000	807.0132	807.0132	0.2499		813.2610

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.7800e-003	0.2040	0.0695	7.8000e-004	0.0256	1.8700e-003	0.0275	7.3800e-003	1.7900e-003	9.1700e-003		84.2163	84.2163	2.8000e-003	0.0122	87.9061
Worker	0.0593	0.0447	0.5782	1.5500e-003	0.1788	1.1400e-003	0.1800	0.0474	1.0500e-003	0.0485		156.6085	156.6085	4.5600e-003	4.2800e-003	157.9974
Total	0.0670	0.2487	0.6477	2.3300e-003	0.2045	3.0100e-003	0.2075	0.0548	2.8400e-003	0.0577		240.8248	240.8248	7.3600e-003	0.0164	245.9035

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4021	3.7867	5.4228	8.5300e-003		0.1787	0.1787		0.1655	0.1655		807.3102	807.3102	0.2500		813.5603
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.4021	3.7867	5.4228	8.5300e-003		0.1787	0.1787		0.1655	0.1655		807.3102	807.3102	0.2500		813.5603

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4500e-003	0.1608	0.0614	7.5000e-004	0.0256	7.8000e-004	0.0264	7.3800e-003	7.4000e-004	8.1200e-003		80.2481	80.2481	2.6700e-003	0.0116	83.7564
Worker	0.0550	0.0394	0.5315	1.5000e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		151.5766	151.5766	4.0900e-003	3.9400e-003	152.8542
Total	0.0595	0.2002	0.5929	2.2500e-003	0.2045	1.8600e-003	0.2063	0.0548	1.7300e-003	0.0565		231.8247	231.8247	6.7600e-003	0.0155	236.6107

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4021	3.7867	5.4228	8.5300e-003		0.1787	0.1787		0.1655	0.1655	0.0000	807.3102	807.3102	0.2500		813.5603
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.4021	3.7867	5.4228	8.5300e-003		0.1787	0.1787		0.1655	0.1655	0.0000	807.3102	807.3102	0.2500		813.5603

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4500e-003	0.1608	0.0614	7.5000e-004	0.0256	7.8000e-004	0.0264	7.3800e-003	7.4000e-004	8.1200e-003		80.2481	80.2481	2.6700e-003	0.0116	83.7564
Worker	0.0550	0.0394	0.5315	1.5000e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		151.5766	151.5766	4.0900e-003	3.9400e-003	152.8542
Total	0.0595	0.2002	0.5929	2.2500e-003	0.2045	1.8600e-003	0.2063	0.0548	1.7300e-003	0.0565		231.8247	231.8247	6.7600e-003	0.0155	236.6107

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3252					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2556	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944		375.2641	375.2641	0.0225		375.8253
Total	5.5808	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944		375.2641	375.2641	0.0225		375.8253

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4500e-003	0.1608	0.0614	7.5000e-004	0.0256	7.8000e-004	0.0264	7.3800e-003	7.4000e-004	8.1200e-003		80.2481	80.2481	2.6700e-003	0.0116	83.7564
Worker	0.0550	0.0394	0.5315	1.5000e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		151.5766	151.5766	4.0900e-003	3.9400e-003	152.8542
Total	0.0595	0.2002	0.5929	2.2500e-003	0.2045	1.8600e-003	0.2063	0.0548	1.7300e-003	0.0565		231.8247	231.8247	6.7600e-003	0.0155	236.6107

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.3252					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2556	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944	0.0000	375.2641	375.2641	0.0225		375.8253
Total	5.5808	1.7373	2.4148	3.9600e-003		0.0944	0.0944		0.0944	0.0944	0.0000	375.2641	375.2641	0.0225		375.8253

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4500e-003	0.1608	0.0614	7.5000e-004	0.0256	7.8000e-004	0.0264	7.3800e-003	7.4000e-004	8.1200e-003		80.2481	80.2481	2.6700e-003	0.0116	83.7564
Worker	0.0550	0.0394	0.5315	1.5000e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		151.5766	151.5766	4.0900e-003	3.9400e-003	152.8542
Total	0.0595	0.2002	0.5929	2.2500e-003	0.2045	1.8600e-003	0.2063	0.0548	1.7300e-003	0.0565		231.8247	231.8247	6.7600e-003	0.0155	236.6107

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0291	0.0333	0.2999	6.5000e-004	0.0686	4.8000e-004	0.0691	0.0183	4.5000e-004	0.0187		65.8043	65.8043	4.5900e-003	2.8900e-003	66.7804
Unmitigated	0.0291	0.0333	0.2999	6.5000e-004	0.0686	4.8000e-004	0.0691	0.0183	4.5000e-004	0.0187		65.8043	65.8043	4.5900e-003	2.8900e-003	66.7804

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	9.44	9.54	8.55	31,872	31,872
Total	9.44	9.54	8.55	31,872	31,872

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.544785	0.062844	0.187478	0.127235	0.023089	0.006083	0.010475	0.008012	0.000925	0.000611	0.024394	0.000698	0.003374

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655
NaturalGas Unmitigated	7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	69.8413	7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655
Total		7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day											lb/day				
Single Family Housing	0.0698413	7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655
Total		7.5000e-004	6.4400e-003	2.7400e-003	4.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004		8.2166	8.2166	1.6000e-004	1.5000e-004	8.2655

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Mitigated	0.7887	0.1150	6.2161	0.0201		1.0012	1.0012		1.0012	1.0012	147.5410	18.1486	165.6895	0.6902	3.3000e-004	183.0432
Unmitigated	0.7887	0.1150	6.2161	0.0201		1.0012	1.0012		1.0012	1.0012	147.5410	18.1486	165.6895	0.6902	3.3000e-004	183.0432

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	8.7500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1011					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.6764	0.1141	6.1336	0.0201		1.0007	1.0007		1.0007	1.0007	147.5410	18.0000	165.5410	0.6901	3.3000e-004	182.8910
Landscaping	2.4900e-003	9.5000e-004	0.0825	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		0.1486	0.1486	1.4000e-004		0.1521
Total	0.7887	0.1150	6.2161	0.0201		1.0012	1.0012		1.0012	1.0012	147.5410	18.1486	165.6895	0.6902	3.3000e-004	183.0431

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	8.7500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1011					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.6764	0.1141	6.1336	0.0201		1.0007	1.0007		1.0007	1.0007	147.5410	18.0000	165.5410	0.6901	3.3000e-004	182.8910
Landscaping	2.4900e-003	9.5000e-004	0.0825	0.0000		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004		0.1486	0.1486	1.4000e-004		0.1521
Total	0.7887	0.1150	6.2161	0.0201		1.0012	1.0012		1.0012	1.0012	147.5410	18.1486	165.6895	0.6902	3.3000e-004	183.0431

7.0 Water Detail

7.1 Mitigation Measures Water

Norumbega Drive Residence Project - Los Angeles-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Norumbega Drive Residence Project - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Norumbega Drive Residence Project

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1.00	Dwelling Unit	1.30	5,106.00	6

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	9	Operational Year		2023	
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The 2-story residence would be 3,758 square feet of livable space. As well, a 4-car garage on the lowest level would be an additional 1,348 square feet. The lot is 56,410 square feet (1.295 acres).

Construction Phase - Demolion - None

Site Prep - 1 week

Grading - 4 weeks

Building Construc.- 52 weeks

Paving - 13 weeks

Arch. Coating - 1 week

Off-road Equipment - Equipment defaults modified to reflect Project

Off-road Equipment - Equipment defaults modified to reflect Project

Off-road Equipment - Equipment defaults modified to reflect Project

Off-road Equipment - Equipment defaults modified to reflect Project

Off-road Equipment - Equipment defaults modified to reflect Project

Norumbega Drive Residence Project - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading - Grading phase assumes approx. 35 total passes over the 1.3 acre lot
 576 cubic yards of cut and 266 cubic yards of fill. Approximately 252 cubic yards of soil would be exported from the site

Trips and VMT - 16 one way worker trips per day maximum
 4 one way vendor trips per day maximum
 52 one way haul truck trips per grading phase

Land Use Change -

Woodstoves - No woodstoves or fireplaces

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	6.00
tblConstructionPhase	NumDays	200.00	314.00
tblConstructionPhase	NumDays	4.00	24.00
tblConstructionPhase	NumDays	10.00	80.00
tblConstructionPhase	NumDays	2.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	8/29/2022	1/20/2023
tblConstructionPhase	PhaseEndDate	8/1/2022	10/25/2022
tblConstructionPhase	PhaseEndDate	10/25/2021	10/24/2021
tblConstructionPhase	PhaseEndDate	8/15/2022	1/12/2023
tblConstructionPhase	PhaseEndDate	10/19/2021	9/26/2021
tblConstructionPhase	PhaseStartDate	8/16/2022	1/13/2023
tblConstructionPhase	PhaseStartDate	10/26/2021	10/25/2021
tblConstructionPhase	PhaseStartDate	10/20/2021	9/27/2021
tblConstructionPhase	PhaseStartDate	8/2/2022	10/12/2022
tblConstructionPhase	PhaseStartDate	10/16/2021	9/20/2021

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	0.05	0.00
tblGrading	AcresOfGrading	36.00	46.00
tblGrading	MaterialExported	0.00	252.00
tblLandUse	LandUseSquareFeet	1,800.00	5,106.00
tblLandUse	LotAcreage	0.32	1.30
tblLandUse	Population	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripNumber	32.00	52.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	10.00	16.00
tblTripsAndVMT	WorkerTripNumber	13.00	16.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblTripsAndVMT	WorkerTripNumber	0.00	16.00
tblTripsAndVMT	WorkerTripNumber	8.00	16.00
tblTripsAndVMT	WorkerTripNumber	0.00	16.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00

2.0 Emissions Summary

Norumbega Drive Residence Project - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0626	0.6342	0.3518	8.3000e-004	0.1289	0.0274	0.1563	0.0553	0.0254	0.0807	0.0000	72.3244	72.3244	0.0189	9.6000e-004	73.0826
2022	0.1226	1.0404	0.9021	1.9400e-003	0.0326	0.0468	0.0794	8.7500e-003	0.0438	0.0526	0.0000	167.2264	167.2264	0.0383	2.4300e-003	168.9092
2023	0.0220	0.0267	0.0407	8.0000e-005	1.7000e-003	1.2400e-003	2.9400e-003	4.6000e-004	1.1700e-003	1.6300e-003	0.0000	6.6579	6.6579	1.2600e-003	1.2000e-004	6.7250
Maximum	0.1226	1.0404	0.9021	1.9400e-003	0.1289	0.0468	0.1563	0.0553	0.0438	0.0807	0.0000	167.2264	167.2264	0.0383	2.4300e-003	168.9092

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0626	0.6342	0.3518	8.3000e-004	0.0632	0.0274	0.0905	0.0263	0.0254	0.0516	0.0000	72.3243	72.3243	0.0189	9.6000e-004	73.0825
2022	0.1226	1.0404	0.9021	1.9400e-003	0.0326	0.0468	0.0794	8.7500e-003	0.0438	0.0526	0.0000	167.2262	167.2262	0.0383	2.4300e-003	168.9090
2023	0.0220	0.0267	0.0407	8.0000e-005	1.7000e-003	1.2400e-003	2.9400e-003	4.6000e-004	1.1700e-003	1.6300e-003	0.0000	6.6579	6.6579	1.2600e-003	1.2000e-004	6.7250
Maximum	0.1226	1.0404	0.9021	1.9400e-003	0.0632	0.0468	0.0905	0.0263	0.0438	0.0526	0.0000	167.2262	167.2262	0.0383	2.4300e-003	168.9090

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	40.28	0.00	27.55	45.00	0.00	21.53	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-20-2021	12-19-2021	0.6485	0.6485
2	12-20-2021	3-19-2022	0.3051	0.3051
3	3-20-2022	6-19-2022	0.3062	0.3062
4	6-20-2022	9-19-2022	0.3062	0.3062
5	9-20-2022	12-19-2022	0.2645	0.2645
6	12-20-2022	3-19-2023	0.0740	0.0740
		Highest	0.6485	0.6485

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2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0207	3.5000e-004	0.0135	1.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0669	0.2210	0.2879	3.3000e-004	0.0000	0.2973
Energy	1.4000e-004	1.1700e-003	5.0000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	2.7539	2.7539	1.4000e-004	4.0000e-005	2.7692
Mobile	5.1000e-003	6.0200e-003	0.0539	1.2000e-004	0.0120	9.0000e-005	0.0121	3.1900e-003	8.0000e-005	3.2700e-003	0.0000	10.7364	10.7364	7.4000e-004	4.7000e-004	10.8948
Waste						0.0000	0.0000		0.0000	0.0000	0.4994	0.0000	0.4994	0.0295	0.0000	1.2371
Water						0.0000	0.0000		0.0000	0.0000	0.0207	0.2314	0.2521	2.1400e-003	5.0000e-005	0.3213
Total	0.0260	7.5400e-003	0.0678	1.4000e-004	0.0120	7.5000e-004	0.0127	3.1900e-003	7.4000e-004	3.9300e-003	0.5870	13.9427	14.5297	0.0329	5.6000e-004	15.5197

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0207	3.5000e-004	0.0135	1.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0669	0.2210	0.2879	3.3000e-004	0.0000	0.2973
Energy	1.4000e-004	1.1700e-003	5.0000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	2.7539	2.7539	1.4000e-004	4.0000e-005	2.7692
Mobile	5.1000e-003	6.0200e-003	0.0539	1.2000e-004	0.0120	9.0000e-005	0.0121	3.1900e-003	8.0000e-005	3.2700e-003	0.0000	10.7364	10.7364	7.4000e-004	4.7000e-004	10.8948
Waste						0.0000	0.0000		0.0000	0.0000	0.4994	0.0000	0.4994	0.0295	0.0000	1.2371
Water						0.0000	0.0000		0.0000	0.0000	0.0207	0.2314	0.2521	2.1400e-003	5.0000e-005	0.3213
Total	0.0260	7.5400e-003	0.0678	1.4000e-004	0.0120	7.5000e-004	0.0127	3.1900e-003	7.4000e-004	3.9300e-003	0.5870	13.9427	14.5297	0.0329	5.6000e-004	15.5197

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/20/2021	9/26/2021	6	6	
2	Grading	Grading	9/27/2021	10/24/2021	6	24	
3	Building Construction	Building Construction	10/25/2021	10/25/2022	6	314	

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4	Paving	Paving	10/12/2022	1/12/2023	6	80
5	Architectural Coating	Architectural Coating	1/13/2023	1/20/2023	6	6

Acres of Grading (Site Preparation Phase): 9

Acres of Grading (Grading Phase): 46

Acres of Paving: 0

Residential Indoor: 10,340; Residential Outdoor: 3,447; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	8.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Grading	Graders	2	8.00	187	0.41
Site Preparation	Graders	2	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	7.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

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Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	4	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	16.00	4.00	52.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	3	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	16.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0228	0.0000	0.0228	0.0105	0.0000	0.0105	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4200e-003	0.0742	0.0295	7.0000e-005		3.0600e-003	3.0600e-003		2.8100e-003	2.8100e-003	0.0000	6.5634	6.5634	2.1200e-003	0.0000	6.6164
Total	6.4200e-003	0.0742	0.0295	7.0000e-005	0.0228	3.0600e-003	0.0259	0.0105	2.8100e-003	0.0133	0.0000	6.5634	6.5634	2.1200e-003	0.0000	6.6164

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3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	7.3000e-004	2.3000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2354	0.2354	1.0000e-005	3.0000e-005	0.2457
Worker	1.8000e-004	1.6000e-004	1.9500e-003	0.0000	5.3000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4465	0.4465	1.0000e-005	1.0000e-005	0.4507
Total	2.1000e-004	8.9000e-004	2.1800e-003	0.0000	6.1000e-004	1.0000e-005	6.2000e-004	1.6000e-004	1.0000e-005	1.7000e-004	0.0000	0.6819	0.6819	2.0000e-005	4.0000e-005	0.6964

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0103	0.0000	0.0103	4.7000e-003	0.0000	4.7000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4200e-003	0.0742	0.0295	7.0000e-005		3.0600e-003	3.0600e-003		2.8100e-003	2.8100e-003	0.0000	6.5634	6.5634	2.1200e-003	0.0000	6.6164
Total	6.4200e-003	0.0742	0.0295	7.0000e-005	0.0103	3.0600e-003	0.0133	4.7000e-003	2.8100e-003	7.5100e-003	0.0000	6.5634	6.5634	2.1200e-003	0.0000	6.6164

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3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	7.3000e-004	2.3000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.2354	0.2354	1.0000e-005	3.0000e-005	0.2457
Worker	1.8000e-004	1.6000e-004	1.9500e-003	0.0000	5.3000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4465	0.4465	1.0000e-005	1.0000e-005	0.4507
Total	2.1000e-004	8.9000e-004	2.1800e-003	0.0000	6.1000e-004	1.0000e-005	6.2000e-004	1.6000e-004	1.0000e-005	1.7000e-004	0.0000	0.6819	0.6819	2.0000e-005	4.0000e-005	0.6964

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0967	0.0000	0.0967	0.0424	0.0000	0.0424	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0279	0.3193	0.1451	3.4000e-004		0.0136	0.0136		0.0125	0.0125	0.0000	29.5291	29.5291	9.5500e-003	0.0000	29.7678
Total	0.0279	0.3193	0.1451	3.4000e-004	0.0967	0.0136	0.1103	0.0424	0.0125	0.0549	0.0000	29.5291	29.5291	9.5500e-003	0.0000	29.7678

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3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	5.2300e-003	1.1500e-003	2.0000e-005	4.5000e-004	6.0000e-005	5.0000e-004	1.2000e-004	6.0000e-005	1.8000e-004	0.0000	1.6496	1.6496	9.0000e-005	2.6000e-004	1.7297
Vendor	1.3000e-004	2.9100e-003	9.4000e-004	1.0000e-005	3.0000e-004	4.0000e-005	3.4000e-004	9.0000e-005	4.0000e-005	1.3000e-004	0.0000	0.9416	0.9416	3.0000e-005	1.4000e-004	0.9829
Worker	7.1000e-004	6.2000e-004	7.7900e-003	2.0000e-005	2.1000e-003	1.0000e-005	2.1200e-003	5.6000e-004	1.0000e-005	5.7000e-004	0.0000	1.7861	1.7861	6.0000e-005	5.0000e-005	1.8029
Total	1.0100e-003	8.7600e-003	9.8800e-003	5.0000e-005	2.8500e-003	1.1000e-004	2.9600e-003	7.7000e-004	1.1000e-004	8.8000e-004	0.0000	4.3774	4.3774	1.8000e-004	4.5000e-004	4.5155

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0435	0.0000	0.0435	0.0191	0.0000	0.0191	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0279	0.3193	0.1451	3.4000e-004		0.0136	0.0136		0.0125	0.0125	0.0000	29.5291	29.5291	9.5500e-003	0.0000	29.7678
Total	0.0279	0.3193	0.1451	3.4000e-004	0.0435	0.0136	0.0571	0.0191	0.0125	0.0316	0.0000	29.5291	29.5291	9.5500e-003	0.0000	29.7678

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3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	5.2300e-003	1.1500e-003	2.0000e-005	4.5000e-004	6.0000e-005	5.0000e-004	1.2000e-004	6.0000e-005	1.8000e-004	0.0000	1.6496	1.6496	9.0000e-005	2.6000e-004	1.7297
Vendor	1.3000e-004	2.9100e-003	9.4000e-004	1.0000e-005	3.0000e-004	4.0000e-005	3.4000e-004	9.0000e-005	4.0000e-005	1.3000e-004	0.0000	0.9416	0.9416	3.0000e-005	1.4000e-004	0.9829
Worker	7.1000e-004	6.2000e-004	7.7900e-003	2.0000e-005	2.1000e-003	1.0000e-005	2.1200e-003	5.6000e-004	1.0000e-005	5.7000e-004	0.0000	1.7861	1.7861	6.0000e-005	5.0000e-005	1.8029
Total	1.0100e-003	8.7600e-003	9.8800e-003	5.0000e-005	2.8500e-003	1.1000e-004	2.9600e-003	7.7000e-004	1.1000e-004	8.8000e-004	0.0000	4.3774	4.3774	1.8000e-004	4.5000e-004	4.5155

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0249	0.2224	0.1437	2.9000e-004		0.0105	0.0105		9.8000e-003	9.8000e-003	0.0000	24.4670	24.4670	6.8400e-003	0.0000	24.6381
Total	0.0249	0.2224	0.1437	2.9000e-004		0.0105	0.0105		9.8000e-003	9.8000e-003	0.0000	24.4670	24.4670	6.8400e-003	0.0000	24.6381

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3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-004	7.1600e-003	2.3100e-003	2.0000e-005	7.4000e-004	1.0000e-004	8.5000e-004	2.1000e-004	1.0000e-004	3.1000e-004	0.0000	2.3148	2.3148	8.0000e-005	3.3000e-004	2.4163
Worker	1.7500e-003	1.5300e-003	0.0192	5.0000e-005	5.1700e-003	4.0000e-005	5.2100e-003	1.3700e-003	3.0000e-005	1.4100e-003	0.0000	4.3908	4.3908	1.4000e-004	1.3000e-004	4.4320
Total	2.0800e-003	8.6900e-003	0.0215	7.0000e-005	5.9100e-003	1.4000e-004	6.0600e-003	1.5800e-003	1.3000e-004	1.7200e-003	0.0000	6.7056	6.7056	2.2000e-004	4.6000e-004	6.8483

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0249	0.2224	0.1437	2.9000e-004		0.0105	0.0105		9.8000e-003	9.8000e-003	0.0000	24.4670	24.4670	6.8400e-003	0.0000	24.6380
Total	0.0249	0.2224	0.1437	2.9000e-004		0.0105	0.0105		9.8000e-003	9.8000e-003	0.0000	24.4670	24.4670	6.8400e-003	0.0000	24.6380

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3000e-004	7.1600e-003	2.3100e-003	2.0000e-005	7.4000e-004	1.0000e-004	8.5000e-004	2.1000e-004	1.0000e-004	3.1000e-004	0.0000	2.3148	2.3148	8.0000e-005	3.3000e-004	2.4163
Worker	1.7500e-003	1.5300e-003	0.0192	5.0000e-005	5.1700e-003	4.0000e-005	5.2100e-003	1.3700e-003	3.0000e-005	1.4100e-003	0.0000	4.3908	4.3908	1.4000e-004	1.3000e-004	4.4320
Total	2.0800e-003	8.6900e-003	0.0215	7.0000e-005	5.9100e-003	1.4000e-004	6.0600e-003	1.5800e-003	1.3000e-004	1.7200e-003	0.0000	6.7056	6.7056	2.2000e-004	4.6000e-004	6.8483

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0973	0.8545	0.6046	1.2600e-003		0.0392	0.0392		0.0367	0.0367	0.0000	105.7580	105.7580	0.0293	0.0000	106.4908
Total	0.0973	0.8545	0.6046	1.2600e-003		0.0392	0.0392		0.0367	0.0367	0.0000	105.7580	105.7580	0.0293	0.0000	106.4908

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3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-003	0.0262	8.7000e-003	1.0000e-004	3.2100e-003	2.4000e-004	3.4500e-003	9.3000e-004	2.3000e-004	1.1600e-003	0.0000	9.7389	9.7389	3.3000e-004	1.4000e-003	10.1656
Worker	6.9900e-003	5.8200e-003	0.0756	2.0000e-004	0.0224	1.5000e-004	0.0225	5.9400e-003	1.3000e-004	6.0700e-003	0.0000	18.3853	18.3853	5.3000e-004	5.0000e-004	18.5483
Total	7.9900e-003	0.0321	0.0843	3.0000e-004	0.0256	3.9000e-004	0.0260	6.8700e-003	3.6000e-004	7.2300e-003	0.0000	28.1242	28.1242	8.6000e-004	1.9000e-003	28.7139

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0973	0.8545	0.6046	1.2600e-003		0.0392	0.0392		0.0367	0.0367	0.0000	105.7579	105.7579	0.0293	0.0000	106.4907
Total	0.0973	0.8545	0.6046	1.2600e-003		0.0392	0.0392		0.0367	0.0367	0.0000	105.7579	105.7579	0.0293	0.0000	106.4907

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3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-003	0.0262	8.7000e-003	1.0000e-004	3.2100e-003	2.4000e-004	3.4500e-003	9.3000e-004	2.3000e-004	1.1600e-003	0.0000	9.7389	9.7389	3.3000e-004	1.4000e-003	10.1656
Worker	6.9900e-003	5.8200e-003	0.0756	2.0000e-004	0.0224	1.5000e-004	0.0225	5.9400e-003	1.3000e-004	6.0700e-003	0.0000	18.3853	18.3853	5.3000e-004	5.0000e-004	18.5483
Total	7.9900e-003	0.0321	0.0843	3.0000e-004	0.0256	3.9000e-004	0.0260	6.8700e-003	3.6000e-004	7.2300e-003	0.0000	28.1242	28.1242	8.6000e-004	1.9000e-003	28.7139

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0151	0.1450	0.1901	3.0000e-004		7.1500e-003	7.1500e-003		6.6100e-003	6.6100e-003	0.0000	25.6239	25.6239	7.9400e-003	0.0000	25.8222
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0151	0.1450	0.1901	3.0000e-004		7.1500e-003	7.1500e-003		6.6100e-003	6.6100e-003	0.0000	25.6239	25.6239	7.9400e-003	0.0000	25.8222

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	7.2000e-003	2.3900e-003	3.0000e-005	8.8000e-004	7.0000e-005	9.5000e-004	2.5000e-004	6.0000e-005	3.2000e-004	0.0000	2.6734	2.6734	9.0000e-005	3.9000e-004	2.7906
Worker	1.9200e-003	1.6000e-003	0.0208	6.0000e-005	6.1400e-003	4.0000e-005	6.1800e-003	1.6300e-003	4.0000e-005	1.6700e-003	0.0000	5.0470	5.0470	1.4000e-004	1.4000e-004	5.0917
Total	2.1900e-003	8.8000e-003	0.0232	9.0000e-005	7.0200e-003	1.1000e-004	7.1300e-003	1.8800e-003	1.0000e-004	1.9900e-003	0.0000	7.7204	7.7204	2.3000e-004	5.3000e-004	7.8822

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0151	0.1450	0.1901	3.0000e-004		7.1500e-003	7.1500e-003		6.6100e-003	6.6100e-003	0.0000	25.6238	25.6238	7.9400e-003	0.0000	25.8222
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0151	0.1450	0.1901	3.0000e-004		7.1500e-003	7.1500e-003		6.6100e-003	6.6100e-003	0.0000	25.6238	25.6238	7.9400e-003	0.0000	25.8222

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3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7000e-004	7.2000e-003	2.3900e-003	3.0000e-005	8.8000e-004	7.0000e-005	9.5000e-004	2.5000e-004	6.0000e-005	3.2000e-004	0.0000	2.6734	2.6734	9.0000e-005	3.9000e-004	2.7906
Worker	1.9200e-003	1.6000e-003	0.0208	6.0000e-005	6.1400e-003	4.0000e-005	6.1800e-003	1.6300e-003	4.0000e-005	1.6700e-003	0.0000	5.0470	5.0470	1.4000e-004	1.4000e-004	5.0917
Total	2.1900e-003	8.8000e-003	0.0232	9.0000e-005	7.0200e-003	1.1000e-004	7.1300e-003	1.8800e-003	1.0000e-004	1.9900e-003	0.0000	7.7204	7.7204	2.3000e-004	5.3000e-004	7.8822

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0100e-003	0.0189	0.0271	4.0000e-005		8.9000e-004	8.9000e-004		8.3000e-004	8.3000e-004	0.0000	3.6619	3.6619	1.1300e-003	0.0000	3.6903
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0100e-003	0.0189	0.0271	4.0000e-005		8.9000e-004	8.9000e-004		8.3000e-004	8.3000e-004	0.0000	3.6619	3.6619	1.1300e-003	0.0000	3.6903

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	8.1000e-004	3.0000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.3636	0.3636	1.0000e-005	5.0000e-005	0.3795
Worker	2.5000e-004	2.0000e-004	2.7300e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.6978	0.6978	2.0000e-005	2.0000e-005	0.7037
Total	2.7000e-004	1.0100e-003	3.0300e-003	1.0000e-005	1.0100e-003	1.0000e-005	1.0100e-003	2.7000e-004	0.0000	2.8000e-004	0.0000	1.0614	1.0614	3.0000e-005	7.0000e-005	1.0832

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0100e-003	0.0189	0.0271	4.0000e-005		8.9000e-004	8.9000e-004		8.3000e-004	8.3000e-004	0.0000	3.6619	3.6619	1.1300e-003	0.0000	3.6902
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.0100e-003	0.0189	0.0271	4.0000e-005		8.9000e-004	8.9000e-004		8.3000e-004	8.3000e-004	0.0000	3.6619	3.6619	1.1300e-003	0.0000	3.6902

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3.5 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	8.1000e-004	3.0000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.3636	0.3636	1.0000e-005	5.0000e-005	0.3795
Worker	2.5000e-004	2.0000e-004	2.7300e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	0.0000	2.4000e-004	0.0000	0.6978	0.6978	2.0000e-005	2.0000e-005	0.7037
Total	2.7000e-004	1.0100e-003	3.0300e-003	1.0000e-005	1.0100e-003	1.0000e-005	1.0100e-003	2.7000e-004	0.0000	2.8000e-004	0.0000	1.0614	1.0614	3.0000e-005	7.0000e-005	1.0832

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0186					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.9000e-004	6.0800e-003	8.4500e-003	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	1.1915	1.1915	7.0000e-005	0.0000	1.1933
Total	0.0195	6.0800e-003	8.4500e-003	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	1.1915	1.1915	7.0000e-005	0.0000	1.1933

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3.6 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.6000e-004	2.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.2546	0.2546	1.0000e-005	4.0000e-005	0.2657
Worker	1.8000e-004	1.4000e-004	1.9100e-003	1.0000e-005	6.1000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4885	0.4885	1.0000e-005	1.0000e-005	0.4926
Total	2.0000e-004	7.0000e-004	2.1200e-003	1.0000e-005	7.0000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.7430	0.7430	2.0000e-005	5.0000e-005	0.7583

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0186					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.9000e-004	6.0800e-003	8.4500e-003	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	1.1915	1.1915	7.0000e-005	0.0000	1.1933
Total	0.0195	6.0800e-003	8.4500e-003	1.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	1.1915	1.1915	7.0000e-005	0.0000	1.1933

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3.6 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	5.6000e-004	2.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	3.0000e-005	0.0000	3.0000e-005	0.0000	0.2546	0.2546	1.0000e-005	4.0000e-005	0.2657
Worker	1.8000e-004	1.4000e-004	1.9100e-003	1.0000e-005	6.1000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.4885	0.4885	1.0000e-005	1.0000e-005	0.4926
Total	2.0000e-004	7.0000e-004	2.1200e-003	1.0000e-005	7.0000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.7430	0.7430	2.0000e-005	5.0000e-005	0.7583

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4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.1000e-003	6.0200e-003	0.0539	1.2000e-004	0.0120	9.0000e-005	0.0121	3.1900e-003	8.0000e-005	3.2700e-003	0.0000	10.7364	10.7364	7.4000e-004	4.7000e-004	10.8948
Unmitigated	5.1000e-003	6.0200e-003	0.0539	1.2000e-004	0.0120	9.0000e-005	0.0121	3.1900e-003	8.0000e-005	3.2700e-003	0.0000	10.7364	10.7364	7.4000e-004	4.7000e-004	10.8948

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	9.44	9.54	8.55	31,872	31,872
Total	9.44	9.54	8.55	31,872	31,872

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.544785	0.062844	0.187478	0.127235	0.023089	0.006083	0.010475	0.008012	0.000925	0.000611	0.024394	0.000698	0.003374

Norumbega Drive Residence Project - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.3936	1.3936	1.2000e-004	1.0000e-005	1.4008
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.3936	1.3936	1.2000e-004	1.0000e-005	1.4008
NaturalGas Mitigated	1.4000e-004	1.1700e-003	5.0000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3604	1.3604	3.0000e-005	2.0000e-005	1.3684
NaturalGas Unmitigated	1.4000e-004	1.1700e-003	5.0000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3604	1.3604	3.0000e-005	2.0000e-005	1.3684

Norumbega Drive Residence Project - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	25492.1	1.4000e-004	1.1700e-003	5.0000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3604	1.3604	3.0000e-005	2.0000e-005	1.3684
Total		1.4000e-004	1.1700e-003	5.0000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3604	1.3604	3.0000e-005	2.0000e-005	1.3684

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	25492.1	1.4000e-004	1.1700e-003	5.0000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3604	1.3604	3.0000e-005	2.0000e-005	1.3684
Total		1.4000e-004	1.1700e-003	5.0000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3604	1.3604	3.0000e-005	2.0000e-005	1.3684

Norumbega Drive Residence Project - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7857.94	1.3936	1.2000e-004	1.0000e-005	1.4008
Total		1.3936	1.2000e-004	1.0000e-005	1.4008

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7857.94	1.3936	1.2000e-004	1.0000e-005	1.4008
Total		1.3936	1.2000e-004	1.0000e-005	1.4008

6.0 Area Detail

6.1 Mitigation Measures Area

Norumbega Drive Residence Project - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0207	3.5000e-004	0.0135	1.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0669	0.2210	0.2879	3.3000e-004	0.0000	0.2973
Unmitigated	0.0207	3.5000e-004	0.0135	1.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0669	0.2210	0.2879	3.3000e-004	0.0000	0.2973

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.6000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0185					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.6000e-004	2.3000e-004	3.1400e-003	1.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004	0.0669	0.2041	0.2710	3.2000e-004	0.0000	0.2801
Landscaping	3.1000e-004	1.2000e-004	0.0103	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0169	0.0169	2.0000e-005	0.0000	0.0173
Total	0.0207	3.5000e-004	0.0135	1.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0669	0.2210	0.2879	3.4000e-004	0.0000	0.2973

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.6000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0185					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.6000e-004	2.3000e-004	3.1400e-003	1.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004	0.0669	0.2041	0.2710	3.2000e-004	0.0000	0.2801
Landscaping	3.1000e-004	1.2000e-004	0.0103	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0169	0.0169	2.0000e-005	0.0000	0.0173
Total	0.0207	3.5000e-004	0.0135	1.0000e-005		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0669	0.2210	0.2879	3.4000e-004	0.0000	0.2973

7.0 Water Detail

7.1 Mitigation Measures Water

Norumbega Drive Residence Project - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.2521	2.1400e-003	5.0000e-005	0.3213
Unmitigated	0.2521	2.1400e-003	5.0000e-005	0.3213

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.065154 / 0.0410754	0.2521	2.1400e-003	5.0000e-005	0.3213
Total		0.2521	2.1400e-003	5.0000e-005	0.3213

Norumbega Drive Residence Project - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.065154 / 0.0410754	0.2521	2.1400e-003	5.0000e-005	0.3213
Total		0.2521	2.1400e-003	5.0000e-005	0.3213

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.4994	0.0295	0.0000	1.2371
Unmitigated	0.4994	0.0295	0.0000	1.2371

Norumbega Drive Residence Project - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	2.46	0.4994	0.0295	0.0000	1.2371
Total		0.4994	0.0295	0.0000	1.2371

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	2.46	0.4994	0.0295	0.0000	1.2371
Total		0.4994	0.0295	0.0000	1.2371

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Norumbega Drive Residence Project - Los Angeles-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

APPENDIX D

Revised Biological Assessment



HAMILTON BIOLOGICAL

September 9, 2020

Mr. Miguel Uribe
ATOM Development Group
802 South Ditman Avenue
Los Angeles, CA 90023

**SUBJECT: REVISED BIOLOGICAL ASSESSMENT
APN 8523-002-045, NORUMBEGA DRIVE
CITY OF MONROVIA, LOS ANGELES COUNTY, CALIFORNIA**

Dear Mr. Uribe,

At your request, I have conducted a Biological Assessment required by the City of Monrovia (City) for a proposed single-family residential development project at APN 8523-002-045, located across the street from 558 Norumbega Drive; see Figures 1 and 2. The property covers approximately 1.3 acre, and is located in an existing residential neighborhood adjacent to the San Gabriel Mountains.

The goals of the biological assessment were: (1) to characterize the site's vegetation; (2) to identify the plant and wildlife species present, or potentially occurring, on the site, including listed and otherwise sensitive species; and (3) to evaluate the proposed actions (construction of a single-family residence) in the context of the applicable local, state, and federal planning regulations and policies. This letter report describes the study's methods, reports my observations, and specifies my recommendations and conclusions. This report has been revised to reflect information from the land owner concerning ongoing bi-monthly vegetation control on the property, an existing land use that lowers the potential for rare plant species to occur on the site.

METHODS

On January 30, 2020, I accessed Calflora (www.calflora.org) and the California Native Plant Society's Online Inventory (www.rareplants.cnps.org) and searched for sensitive plant species known from the San Gabriel Mountain foothills.

On January 30, 2020, I reviewed the California Natural Diversity Data Base (2019, 2020a, 2020b) to develop a list of a list of sensitive species recorded in the U.S. Geologic Survey's Pasadena 7.5' topographic quadrangle.



Figure 1. The property is located in Monrovia, in an existing residential neighborhood adjacent to the San Gabriel Mountains. Aerial Source: Google Earth Pro.



Figure 2. The property is located across the street from 554 Norumbega Drive. Existing homes lie to the south of the property and natural open space lies to the north. Aerial Source: Google Earth Pro.

On January 31, 2020, I conducted a field visit from 10:05 a.m. to 12:05 p.m. The temperature was 66–75° F, skies were clear, and winds were 1–3 miles per hour. I walked the entire project site and recorded all plant species observed there. I also recorded all wildlife species present on and directly adjacent to the site, including examination of the site for tracks, scat, and other sign. I mapped the plant communities present, and evaluated the potential for wildlife to move through the site.

RESULTS

Please refer to the attached species lists for the scientific names of all species recorded during the surveys. In the following discussions, scientific names are provided only for plant species, and for and wildlife species not recorded during the surveys.

Topography and Surrounding Land Uses

The property occupies a steep, southeast-facing slope in an existing hillside residential neighborhood. Elevation ranges from approximately 829 feet on the southern property boundary, at Norumbega Drive, to 978 feet at the northern property boundary. No streambeds or seasonal drainage courses occur on the project site.

Soils

Soils on the project site consist of the following:

- Trigo family, granitic substratum, 60 to 90 percent slopes.
- Urban land-Soboba complex, 0 to 5 percent slopes.

The **Trigo family** consists of very shallow or shallow, somewhat excessively drained soils that formed in material weathered from granitic, metamorphic, or sedimentary rocks. The soils are on mountainsides and ridges at elevations of 800 to 6,400 feet. Slopes range from 5 to 100 percent. Annual precipitation is 10 to 30 inches. Taxonomic Class: These soils are loamy, mixed, nonacid, thermic shallow Typic Xerorthents. Texture: Gravelly loam, sandy loam, fine sandy loam, gravelly sandy loam, or sandy clay loam.

The **Urban land-Soboba complex** consists of a disturbed soil profile derived from the Soboba series (urban land series soils are typically disturbed and do not resemble any mapped soil unit due to anthropogenic modification of the profile). The **Soboba** series consists of very deep, excessively drained soils that formed in alluvium from granitic sources. In their undisturbed state, these soils are on alluvial fans and flood plains, on shallow slopes (0 to 15 percent).

Plant Communities

The property supports oak woodland and disturbed chaparral/coastal sage scrub; see Figure 3, below.



Figure 3. Plant Communities.

Disturbed Chaparral/Coastal Sage Scrub

Approximately 1.12 acre of the property is dominated by Fountain Grass (*Pennisetum setaceum*) with scattered Castor Bean (*Ricinus communis*); these are non-native, invasive plants found in areas with a history of disturbance. The land owner reports that the site has been subject to repeated spraying for weeds, every two months, as required by the City. Many non-native annual grasses and forbs were sprouting, especially in the flatter southeastern part near Norumbega Drive; these include Shortpod Mustard (*Hirschfeldia incana*), Petty Spurge (*Euphorbia peplus*), Henbit (*Lamium amplexicaule*), Bur Chervil (*Anthriscus caucalis*). Many plants were not yet developed enough to be identifiable to species. Scattered among the non-native plants are native species characteristic of chaparral and coastal sage scrub in the local foothills. Native shrubs observed include Laurel Sumac (*Malosma laurina*), Redberry (*Rhamnus crocea*), Chamise (*Adenostoma fasciculatum*), Wishbone Bush (*Mirabilis californica*), Sweetbush (*Bebbia juncea*), and White Sage (*Salvia apiana*). Native forbs and vines observed include Wild Cucumber (*Marah macrocarpa*), Deerweed (*Acmispon glaber*), Mustard Evening-Primrose (*Eulobus californicus*), Showy Penstemon (*Penstemon spectabilis*), Common Sunflower (*Helianthus annuus*), and Redgland Spurge (*Euphorbia melanadenia*).

Oak Woodland

The southwestern part of the site supports approximately 0.17 acre of oak woodland, dominated by the native Coast Live Oak (*Quercus agrifolia*). An isolated Coast Live Oak also occurs in the middle of the property. The understory of the oak woodland includes such native species as Coffeeberry (*Frangula californica*), Two-color Rabbit-Tobacco (*Pseudognaphalium biolettii*), Douglas's Nightshade (*Solanum douglasii*), and Canyon Sunflower (*Venegasia carpesioides*); non-native species observed include Hairy Beggarticks (*Bidens pilosa*), Garden Nasturtium (*Tropaeolum majus*), and Smilo Grass (*Stipa miliacea*).

Site Photos

The following representative photos of the property were taken during the site visit.



Photo 1. View from Norumbega Drive facing northwest, showing the lower part of the property. January 31, 2010.

Robert A. Hamilton

Photo 2. Showing non-native Fountain Grass and Castor Bean in the foreground, and native Coast Live Oak and Lauren Sumac in the background. January 31, 2010.

Robert A. Hamilton





Photo 3. View facing north from the southern half of the property, showing extensive Fountain Grass and a solitary Coast Live Oak in the right foreground. The oak at the top of the hill is off the property.

January 31, 2010.

Robert A. Hamilton

Photo 4. Showing the predominance of non-native Fountain Grass and Castor Bean, indicating past and ongoing disturbance of the site.
January 31, 2010.

Robert A. Hamilton



Photo 5. View facing east from the middle of the property. The dense carpet of non-native Fountain Grass indicates a past and ongoing disturbance on the site.

January 31, 2010.

Robert A. Hamilton

Wildlife

Two lizard species, the Side-blotched Lizard and Western Fence Lizard, were observed on the site. A total of 19 bird species were observed, including the Red-tailed Hawk, Mourning Dove, Anna's Hummingbird, Allen's Hummingbird, Bewick's Wren, House Finch, Lesser Goldfinch, and Rufous-crowned Sparrow. One species of mammal was observed, the California Ground Squirrel, as well as the holes of Botta's Pocket Gopher.

Sensitive Biological Resources

Sensitive species are listed as threatened or endangered by state or federal governments, or are of current local, regional or state concern (see California Natural Diversity Database 2019, 2020a, 2020b; Allen et al. 2009). Legal protection for sensitive species varies widely, from the relatively comprehensive protection extended to listed threatened/endangered species to no legal status at present.

No listed or otherwise sensitive plant or wildlife species were observed on the site during the field visit. The following Table A includes plant and wildlife species known from chaparral, coastal sage scrub, and oak woodland habitats in the general area of the project site, as determined through review of the literature. Due to repeated spraying of the site for weed control and fuel modification, the potential for low-growing rare plant species to occur on the site is considered to be very low.

Table A uses the following abbreviations:

- **E Endangered** (listed by State or Federal governments). "Take" of the species or disturbance of occupied habitat are prohibited unless specifically authorized.
- **FP Fully Protected** by the State of California. These species may not be taken or possessed at any time, although take may be authorized for necessary scientific research.
- **T Threatened** (listed by State or Federal governments). "Take" of the species or disturbance of occupied habitat are prohibited unless specifically authorized.
- **SSC Species of Special Concern.** The California Department of Fish and Wildlife has designated certain vertebrate species as Species of Special Concern because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as Species of Special Concern is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long term viability. Not all Species of Special Concern have declined equally; some species may be just starting to decline, while others may have already reached the point where they meet the criteria for listing as a Threatened or Endangered species under the State and/or Federal Endangered Species Acts.

- **CNPS California Native Plant Society.** Table A includes plant species assigned the following ranks by CNPS:
 - **1A**, referring to species CNPS presumes to be extinct.
 - **1B.1**, referring to species CNPS considers to be rare, threatened, or endangered in California and elsewhere; seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat).
 - **1B.2**, referring to species CNPS considers to be rare, threatened, or endangered in California and elsewhere; moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat).
 - **1B.3**, referring to species CNPS considers to be rare, threatened, or endangered in California and elsewhere; not very threatened in California (less than 20% of occurrences threatened / moderate degree and immediacy of threat).
 - **2B.2**, referring to species CNPS considers to be rare, threatened, or endangered in California, but more common elsewhere; moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).
 - **4.1**, referring to species of limited distribution or infrequent throughout a broader area in California, whose status should be monitored regularly; moderately threatened in California (>80% occurrences threatened / moderate degree and immediacy of threat).
 - **4.2**, referring to species of limited distribution or infrequent throughout a broader area in California, whose status should be monitored regularly; moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).
 - **4.3**, referring to species of limited distribution or infrequent throughout a broader area in California, whose status should be monitored regularly; not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

- **NatureServe Element Rankings.** In some cases, species have not been granted special status by state or federal agencies, but they may be recognized as ecologically sensitive by the California Natural Diversity Database, which uses a ranking methodology maintained by NatureServe. Species are given a Global rank (G-rank) that applies to the taxon's entire distribution, and a State rank (S-rank) that applies to the taxon's state distribution. Taxa with rankings of G1, G2, G3, S1, S2, or S3 may be considered "sensitive" and potentially worthy of special consideration in resource planning. NatureServe Element Rankings are identified in Table A only for taxa that have no other federal or state/CNPS special status. If no rank provided, either the taxon's rank is above G3/S3 (and is thus considered "apparently secure" or "secure" at global and state levels) or the taxon is not yet ranked.

NatureServe Ranks:

- **G1, Critically Imperiled**, referring to taxa at very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- **G2, Imperiled**, referring to taxa at high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

- **G3, Vulnerable**, referring to taxa at moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- **S1, Critically Imperiled**, referring to taxa critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.
- **S2, Imperiled**, referring to taxa imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.
- **S3, Vulnerable**, referring to taxa vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state.

Table A. Sensitive Species

Latin name	Common name	Fed	State	CNPS	Local and/or Regional Status	Discussion
Plants						
<i>Asplenium vespertinum</i>	Western Splenwort	—	—	4.2	Found in rocky areas in chaparral, coastal sage scrub, oak woodland. Scattered records in the local area.	Very low potential for occurrence. Would have been visible during the field survey but was not observed.
<i>Astragalus brauntonii</i>	Braunton's Milkvetch	E	—	1B.1	Found in openings on calcareous soils. Several records from hills above Monrovia.	Very low potential for occurrence due to repeated and ongoing site disturbance.
<i>Calochortus catalinae</i>	Catalina Mariposa Lily	—	—	4.2	Widespread in region, including in project vicinity.	Very low potential for occurrence due to repeated and ongoing site disturbance.
<i>Calochortus clavatus</i> var. <i>clavatus</i>	Slender Mariposa Lily	—	—	4.3	Widespread in region. Historical records from project vicinity.	Very low potential for occurrence due to repeated and ongoing site disturbance.
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender Mariposa Lily	—	—	1B.2	Widespread in region. Historical records from project vicinity.	Very low potential for occurrence due to repeated and ongoing site disturbance.
<i>Calochortus plummerae</i>	Plummer's Mariposa Lily	—	—	4.2	Widespread in region. Several records from project vicinity.	Very low potential for occurrence due to repeated and ongoing site disturbance.
<i>Calochortus weedii</i> var. <i>intermedius</i>	Intermediate Mariposa Lily	—	—	4.2	Widespread in region. Several records from project vicinity.	Very low potential for occurrence due to repeated and ongoing site disturbance.
<i>Dudleya cymosa</i> ssp. <i>crebrifolia</i>	San Gabriel River Dudleya	—	—	1B.2	Known only from rocky habitats along the San Gabriel River.	Very low potential for occurrence. Would have been visible during the field survey but was not observed.

Latin name	Common name	Fed	State	CNPS	Local and/or Regional Status	Discussion
<i>Dudleya densiflora</i>	San Gabriel Mountains Dudleya	—	—	1B.1	Known only from rocky habitats in the San Gabriel Mountains east of the project site.	Very low potential for occurrence. Would have been visible during the field survey but was not observed.
<i>Dudleya multicaulis</i>	Many-stemmed Dudleya	—	—	1B.2	Known from rocky habitats at lower elevations, mainly south and east of the project site.	Very low potential for occurrence due to repeated and ongoing site disturbance.
<i>Galium angustifolium</i> ssp. <i>gabrielense</i>	San Antonio Canyon Bedstraw	—	—	4.3	Known from chaparral and woodlands in the San Gabriel Mountains, including in the project vicinity.	Very low potential for occurrence due to repeated and ongoing site disturbance.
<i>Galium grande</i>	San Gabriel Bedstraw	—	—	1B.2	Known from chaparral and woodlands in the San Gabriel Mountains, including in the project vicinity.	Very low potential for occurrence due to repeated and ongoing site disturbance.
<i>Heuchera caespitosa</i>	Urn-flowered Alumroot	—	—	4.3	Known from oak woodlands in the San Gabriel Mountains, mostly at higher elevation.	Very low potential for occurrence due to repeated and ongoing site disturbance.
<i>Horkelia cuneata</i> ssp. <i>puberula</i>	Mesa Horkelia	—	—	1B.1	Sandy openings in native communities. Scattered records across the region.	Very low potential for occurrence. Would have been visible during the field survey but was not observed.
<i>Imperata brevifolia</i>	California Satintail	—	—	2B.1	Found in chaparral, coastal sage scrub, oak woodland. Historical records from Project vicinity.	Very low potential for occurrence. Would have been visible during the field survey but was not observed.
<i>Juglans californica</i>	Southern California Black Walnut	—	—	4.2	Widespread in region.	Very low potential for occurrence. Would have been visible during the field survey but was not observed.
<i>Lepechinia fragrans</i>	Fragrant Pitcher Sage	—	—	4.2	Known from chaparral and woodlands in the San Gabriel Mountains, including in the project vicinity.	Very low potential for occurrence. Would have been visible during the field survey but was not observed.
<i>Pseudognaphalium leucocephalum</i>	White Rabbit-tobacco	—	—	2B.2	Occurs in openings in natural communities, including in the project vicinity.	Very low potential for occurrence due to repeated and ongoing site disturbance.
<i>Quercus durata</i> var. <i>gabrielensis</i>	San Gabriel Mtn. Leather Oak	—	—	4.2	Known from chaparral and woodlands in the San Gabriel Mountains, including in the project vicinity.	Very low potential for occurrence. Would have been visible during the field survey but was not observed.

Latin name	Common name	Fed	State	CNPS	Local and/or Regional Status	Discussion
<i>Quercus engelmannii</i>	Engelmann Oak	—	—	4.2	Known from chaparral and woodlands in the San Gabriel Mountains, including in the project vicinity.	Very low potential for occurrence. Would have been visible during the field survey but was not observed.
Invertebrates						
<i>Bombas crotchii</i>	Crotch's Bumblebee	—	S1S2	—	Historical and recent records scattered around southern California.	Low potential for occurrence due to repeated and ongoing site disturbance.
<i>Helminthoglypta tudiculata</i>	Southern California Shoulder-band Snail	—	S1S2	—	Numerous records from coastal slope of southern California.	Moderate potential on property to occur in oak woodland on site.
Reptiles						
<i>Phrynosoma blainvillii</i>	Coast Horned Lizard	—	SSC	—	Found in expansive natural areas with sandy openings and native harvester ants.	Moderate potential on property to occur due to site disturbance.
<i>Aspidoscelis tigris stejnegeri</i>	Coastal Whiptail	—	SSC	—	Widespread in the region, in various habitats.	High potential on property; tolerant of disturbance.
<i>Anniella stebbinsi</i>	So. California Legless Lizard	—	SSC	—	Local in a variety of habitats with sandy soil or deep leaf-litter.	Moderate potential on property in oak woodland.
<i>Arizona elegans occidentalis</i>	California Glossy Snake	—	SSC	—	Widespread, but uncommon, in habitats with soil loose enough for easy burrowing.	Moderate potential on property to occur due to site disturbance.
<i>Salvadora hexalepis virgulata</i>	Coast Patch-nosed Snake	—	SSC	—	Widespread in the region, in brushy and rocky habitats.	Moderate potential on property to occur due to site disturbance.
Birds						
<i>Geococcyx californianus</i>	Greater Roadrunner	—	G5	—	Widespread in expansive natural areas with shrub cover. Sensitive species in Los Angeles County (Allen et al. 2009).	High potential on property to occur due to lack of intact natural communities.
<i>Circus hudsonius</i>	Northern Harrier	—	SSC	—	Nests on the ground in expansive open space areas; more widespread during migration and winter.	Expected to occur occasionally during migration and possibly winter.
<i>Buteo regalis</i>	Ferruginous Hawk	—	G4/S3S4	—	Winters in expansive rangelands and agricultural areas in the region. Sensitive species in Los Angeles County (Allen et al. 2009).	Expected to occur occasionally during migration and possibly winter.
<i>Lanius ludovicianus</i>	Loggerhead Shrike	—	SSC	—	Winters in expansive rangelands and agricultural areas in the region.	Potentially occurs occasionally during migration and possibly winter.

Latin name	Common name	Fed	State	CNPS	Local and/or Regional Status	Discussion
<i>Sialia currucoides</i>	Mountain Bluebird	—	—	—	Winters in expansive open areas. Sensitive species in Los Angeles County (Allen et al. 2009).	Potentially occurs occasionally during migration and possibly winter.
<i>Poocetes gramineus affinis</i>	Oregon Vesper Sparrow	—	SSC	—	Winters in expansive open areas. Sensitive species in Los Angeles County (Allen et al. 2009).	Potentially occurs occasionally during migration and possibly winter.
Mammals						
<i>Antrozous pallidus</i>	Pallid Bat	—	SSC	—	Widespread in chaparral and similar habitats, foraging on the ground and in vegetation. Roosts in rock crevices and under tree bark. Maternal roosts active between March and August.	Low potential to forage on site.
<i>Eumops perotis californicus</i>	Western Mastiff Bat	—	SSC	—	Roosts in cliff crevices and in buildings.	Species may fly over the site occasionally while foraging, but suitable cliff roosting habitat absent.
<i>Chaetodipus fallax fallax</i>	NW San Diego Pocket Mouse	—	SSC	—	Scrub habitats with sandy or gravelly soils.	Low potential to occur due to site disturbance.
<i>Taxidea taxus</i>	American Badger	—	SSC		Occurs in various habitats, usually in expansive open space areas.	Low potential to occur. Suitable habitat is limited on the property.

The project site supports several Coast Live Oaks (*Quercus agrifolia*), a species of native tree that is not biologically “sensitive” but that does generally provide habitat for a variety of wildlife species. Native oaks are afforded protection under the City of Monrovia’s Oak Tree Preservation Plan (Section 17.20.040 of the Monrovia Municipal Code) when any of the following conditions are met:

- Any trees in the oak family that measure ten inches in diameter or more at two feet above the level ground.
- Oak trees located in the front yard or street facing side yard of single-family properties.
- All oak trees located in the multiple-family, commercial or industrial zones (exception are single-family developed properties where no additional development is proposed are subject to same conditions as single-family zoned properties).
- All oak trees on vacant lots.
- All oak trees indicated on an oak tree preservation plan.

The oak trees on the project site occupy a vacant lot, and thus an oak tree preservation permit will be required from the City of Monrovia.

Wildlife Movement

The project site is very steep, and lies on the edge of the urban/wildland interface. Based on its topography and position relative to existing development in the City of Monrovia, the site does not appear to play a substantial role in facilitating the movement of any terrestrial wildlife species through the local area or wider region.

Regulations Protecting Nesting Birds

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) of 1918 implemented the 1916 Convention between the U.S. and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented treaties between the U.S. and Mexico, the U.S. and Japan, and the U.S. and the Soviet Union (now Russia). At the heart of the MBTA is this language:

Establishment of a Federal prohibition, unless permitted by regulations, to “pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird.” (16 U.S.C. 703)

For many years, this language was subject to broad interpretation, which in some cases led to prosecution for violations of the MBTA that were incidental to otherwise lawful activities, such as tree trimming. On December 22, 2017, the federal government issued revised guidance on the MBTA that reached the following conclusion:

The text, history, and purpose of the MBTA demonstrate that it is a law limited in relevant part to affirmative and purposeful actions, such as hunting and poaching, that reduce migratory birds and their nests and eggs, by killing or capturing, to human control. Even assuming that the text could be subject to multiple interpretations, courts and agencies are to avoid interpreting ambiguous laws in ways that raise grave Constitutional doubts if alternative interpretations are available. Interpreting the MBTA to criminalize incidental takings raises serious due process concerns and is contrary to the fundamental principle that ambiguity in criminal statutes must be resolved in favor of defendants. Based upon the text, history, and purpose of the MBTA, and consistent with decisions in the Courts of Appeals for the Fifth, Eighth, and Ninth circuits, there is an alternative interpretation that avoids these concerns. Thus, based on the foregoing, we conclude that the MBTA’s prohibition on pursuing, hunting, taking, capturing, killing, or attempting to do the same applies only to direct and affirmative purposeful actions that reduce migratory birds, their eggs, or their nests, by killing or capturing, to human control.

Thus, at this time, the MBTA is not considered relevant to this project.

California Fish and Game Code

Section 3503 of the California Fish and Game Code states, “It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” Thus, in California, it remains a po-

tential State offense to knowingly disrupt an active nest of virtually any native bird species. The term “active nest” is not clearly defined in the Fish and Game Code, and in some circumstances may be left to the discretion of the biologist in the field. At present, wardens for the California Department of Fish & Wildlife (CDFW) typically define an active nest as one that is completed and holding at least one egg.

EVALUATION OF POTENTIAL PROJECT EFFECTS

Project Effects Considered Not Potentially Significant

The 1.3-acre project site consists mainly of highly disturbed chaparral/coastal sage scrub (1.17 acre) plus 0.13 acre of somewhat disturbed oak woodland. No wetlands, riparian habitat, or sensitive natural communities are present. The site does not represent a component of any habitat linkage/wildlife movement corridor.

The site supports several native Coast Live Oaks (*Quercus agrifolia*) that are afforded protection under Section 17.20.040 of the Monrovia Municipal Code, and thus an oak tree preservation permit will be required from the City of Monrovia.

The site’s apparent history of disturbance – as evidenced by the strong dominance of non-native Fountain Grass throughout most of the site – greatly limits the potential for most sensitive species to occur there. The property owner reports spraying the site with herbicide every two months to control weeds and to protect against fire, which greatly reduces the potential for several sensitive plant species are judged to have at least some potential to occur on the site. Therefore, while the initial biological survey on January 31, 2020, was too early in the season for many annual species to be identifiable, it is my opinion that the potential for rare plants to occur on the site is very low. For this reason, a supplemental spring survey during the main spring flowering period would be very unlikely to produce any observations of rare plants that were not visible during the January survey.

The property does not occur within a Significant Ecological Area, Natural Communities Conservation Plan (NCCP) area, or other local or regional conservation planning area, and implementation of the proposed project would not have a significant adverse effect on local or regional planning efforts.

Disruption of the nesting of any native bird species would represent a violation of Sections 3503 and 3513 of the California Fish and Game Code.

For the reasons discussed above, the biological effects of constructing a house on this parcel would be less than significant, with the following conditions:

- An oak tree preservation permit is obtained from the City of Monrovia in accordance with Section 17.20.040 of the Monrovia Municipal Code.
- Impacts to actively nesting birds are avoided.

RECOMMENDED MITIGATION/AVOIDANCE MEASURES

The landowner should work with a qualified arborist to obtain an oak tree preservation permit compliance with Section 17.20.040 of the Monrovia Municipal Code, should be obtained a certified arborist.

In order to avoid potential impacts to nesting birds, it is recommended that any necessary pruning or removal of trees be conducted outside of the typical nesting season for native birds in the region. This period is variable, but generally extends from February 1 to August 31. If pruning or removal of any trees or large shrubs must be conducted during the nesting bird season, a qualified biologist should first conduct a survey to determine whether any native birds are nesting in the area. If any active nests are found (i.e., complete nests with at least one egg), they should be avoided until after all young have fledged from the nest.

FINDINGS OF SIGNIFICANCE

With implementation of the recommended mitigation/avoidance measures, project implementation would not result in any significant impacts to biological resources.

CONCLUSION

Thank you for the opportunity to work on this interesting project. Please call me at 562-477-2181 if you have questions or wish to further discuss any matters; you may send e-mail to robb@hamiltonbiological.com.

Sincerely,



Robert A. Hamilton
President, Hamilton Biological, Inc.

LITERATURE CITED

- Allen, L. W., and Los Angeles County Sensitive Bird Species Working Group. 2009. Los Angeles County's Sensitive Bird Species. *Western Tanager* 75(3):E1–E11.
<http://planning.lacounty.gov/site/sea/wp-content/uploads/2018/08/LA-Countys-Sensitive-Bird-Species.pdf>
- California Natural Diversity Database. 2019. Special Animals List. Current list of wild-life taxa considered to be rare, threatened, endangered, or otherwise “sensitive” by the State of California. List dated August 2019.
- California Natural Diversity Database. 2020a. Special Vascular Plants, Bryophytes, and Lichens List. Current list of vegetative taxa considered to be rare, threatened, endangered, or otherwise “sensitive” by the State of California. List dated January 2020.
- California Natural Diversity Data Base. 2020b. Rarefind data accessed online on January 30, for the U.S. Geologic Survey's Pasadena 7.5' topographic quadrangle.

LIST OF VASCULAR PLANTS AND VERTEBRATE WILDLIFE DETECTED

The following list identifies plant and wildlife species detected during the current study in upland habitats within the expanded study area. Sources:

Calflora: Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria. 2014. Berkeley, California: The Calflora Database [a non-profit organization]. <http://www.calflora.org/>

* Taxon not native to the study area

VASCULAR PLANTS

SECTION: GYMNOSPERMS

Pinaceae - Pine Family

* *Pinus halepensis*, Aleppo Pine

SECTION: EUDICOTS

Anacardiaceae - Sumac Family

Malosma laurina, Laurel Sumac

Apiaceae - Carrot Family

* *Anthriscus caucalis*, Bur Chevril

Asteraceae - Sunflower Family

Artemisia dracunculus, Tarragon

Bebbia juncea, Sweetbush

Brickellia californica, California Brickellbush

Helianthus annuus, Common Sunflower

Pseudognaphalium biolettii, Two-color Rabbit-Tobacco

Venegasia carpesioides, Canyon Sunflower

Boraginaceae - Forget-me-not Family

Phacelia sp., phacelia

Brassicaceae - Mustard Family

* *Hirschfeldia incana*, Short-pod Mustard

Cactaceae - Cactus Family

* *Opuntia ficus-indica*, Indian Fig

Chenopodiaceae - Goosefoot Family

* *Atriplex semibaccata*, Australian Saltbush

Cucurbitaceae - Cucumber Family

Marah macrocarpa, Wild Cucumber

Euphorbiaceae - Spurge Family

* *Euphorbia peplus*, Petty Spurge

Euphorbia melanadenia, Red-gland Spurge

* *Ricinus communis*, Castor Bean

Fabaceae - Pea Family

Acmispon glaber, Deerweed

Lupinus hirsutissimus, Stinging Annual Lupine

Fagaceae - Oak Family

Quercus agrifolia, Coast Live Oak

Moraceae - Fig Family

* *Ficus benjamina*, Weeping Fig

Lamiaceae - Mint Family

* *Lamium amplexicaule*, Henbit

Salvia apiana, White Sage

Salvia columbariae, Chia

Nyctaginaceae - Four O'Clock Family

Mirabilis californica, Wishbone Bush

Onagraceae - Evening-Primrose Family

Eulobus californicus, Mustard Evening-Primrose

Plantaginaceae - Plantain Family

Penstemon spectabilis, Showy Penstemon

Polygonaceae - Buckwheat Family

Eriogonum fasciculatum, California Buckwheat

Rhamnaceae - Buckthorn Family

Rhamnus crocea, Redberry

Ceanothus sp., ceanothus

Frangula californica, Coffeeberry

Rosaceae - Rose Family

Adenostoma fasciculatum, Chamise

Solanaceae - Nightshade Family

Solanum douglasii, Douglas's Nightshade

Tropaeolaceae - Nasturtium Family

* *Tropaeolum majus*, Garden Nasturtium

SECTION: MONOCOTS

Asparagaceae - Asparagus Family

Hesperoyucca whipplei, Whipple's Yucca

Poaceae - Grass Family

* *Avena fatua*, Common Oat

* *Bromus diandrus*, Ripgut Brome

* *Stipa miliacea*, Smilo Grass

VERTEBRATE WILDLIFE

CLASS REPTILIA - REPTILES

Phrynosomatidae - North American Spiny Lizard Family

Uta stansburiana, Side-blotched Lizard

Sceloporus occidentalis, Western Fence Lizard

CLASS AVES - BIRDS

Columbidae - Pigeon and Dove Family

Zenaida macroura, Mourning Dove

Trochilidae - Hummingbird Family

Calypte costae, Costa's Hummingbird

Calypte anna, Anna's Hummingbird

Selasphorus sasin, Allen's Hummingbird

Accipitridae - Vultures, Hawks, and Allies

Buteo jamaicensis, Red-tailed Hawk

Picidae - Woodpecker Family

Dryobates nuttallii, Nuttall's Woodpecker

Corvidae - Jay, Magpie, Crow, and Raven Family

Aphelocoma californica, California Scrub-Jay

Corvus corax, Common Raven

Troglodytidae - Wren Family

Thryomanes bewickii, Bewick's Wren

Aegithalidae - Bushtit and Long-tailed Tit Family

Psaltriparus minimus, Bushtit

Regulidae - Kinglet Family

Regulus calendula, Ruby-crowned Kinglet

Paridae - Titmouse Family

Baeolophus inornatus, Oak Titmouse

Mimidae - Catbird, Mockingbird, and Thrasher Family

Mimus polyglottos, Northern Mockingbird

Toxostoma redivivum, California Thrasher

Fringillidae - Finch Family

Haemorhous mexicanus, House Finch

Spinus psaltria, Lesser Goldfinch

Passerellidae - New World Sparrow Family

Aimophila ruficeps, Rufous-crowned Sparrow

Melospiza crissalis, California Towhee

Parulidae - New World Warbler Family

Setophaga coronata, Yellow-rumped Warbler

CLASS MAMMALIA - MAMMALS

Geomyidae - Pocket Gopher Family

Thomomys bottae, Botta's Pocket Gopher

Sciuridae - Squirrel Family

Otospermophilus beecheyi, California Ground Squirrel

APPENDIX E

Arborist Report



REVISED - Arborist Report

NORUMBEGA DRIVE (APN: 8523-002-045)

Miguel Uribe for Margurita G. Figueroa

Hard Hat Construction

hardhatconstruction.ymail.com

groupatomdevelopment@gmail.com

June 25, 2023

PREPARED BY:

REBECCA LATTA CONSULTING
359 NORTH WESTRIDGE AVE
GLENORA CALIFORNIA 91741
(626) 272-8444

ISA Certified Arborist #WE-4264A

ISA Qualified Tree Risk Assessor

Member, American Society of Consulting Arborists

Member, California Native Plant Society

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Appendices

Appendix A - Site Plans and Figure

Appendix B - Tree Survey Data Matrix

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EXECUTIVE SUMMARY

Rebecca Latta Consulting was retained to conduct a tree survey and write a tree protection report on March 18, 2020. The applicant, Hard Hat Construction for Margurita G. Figueroa, plans to construct a new single-family residence. Our office surveyed the trees and produced a tree protection report (Original report). Then in July 2020 we were notified that oak tree #3 had died. An inspection was performed, and it was determined that the tree died from Invasive Shot Hole Borer Disease Complex (ISHB). The tree removal permit was approved and tree #3 was removed to avoid breeding more ISHB on the property.

A total of seven coast live oaks were located, three on adjacent property and four on the property. These trees are all protected by the Monrovia Tree Preservation Ordinance. The tree map shows the location of all the trees including tree #3 that was removed (marked with an X). Trees 4, 6, 7 and 8 are located well away from any construction and away from any construction related impacts. Impacts are outside the dripline of trees #OP-1 and OP-2 will need to have protective fencing installed at the dripline and inspected by the project arborist prior to the start of any work on the project. A pre-construction meeting with the contractor and project arborist is strongly recommended.

Based on the level of proposed disturbance proposed in the architectural plans **no oak trees are proposed for encroachments and no trees are recommended for removal to construct the residence.**

INTRODUCTION

This report includes the results of multiple tree surveys conducted by Rebecca Latta Consulting for a proposed single-family development on a vacant lot (Assessor's Parcel Number [APN]: 8523-002-045) adjacent to the south of 547 Norumbega Drive in the City of Monrovia in Los Angeles County California. The purpose of this report is to assess impacts to oak trees on the parcel that are protected by the City of Monrovia Oak Tree Preservation Ordinance. The scope of this report includes a description of the proposed project and survey area, methods used to survey and assess the trees, a discussion of the proposed project's impacts to protected oak trees, and recommended mitigation.

PROJECT DESCRIPTION

The proposed project includes the new construction of a two-story home on a large lot at the edge of the property near the street with a basement level garage and new driveway. Stairs are proposed just outside the dripline of Oaks OP-1 and OP-2.

MONROVIA TREE PRESERVATION ORDINANCE

According to the City of Monrovia Oak Tree Preservation Ordinance (17.20.40 of the Monrovia Municipal Code) all coast live oak (*Quercus agrifolia*) on vacant lots that are 10-inches in diameter or more when measured at 2-feet above the level ground (diameter at breast height [dbh]) are protected. An oak tree preservation permit is required from the city prior to removal, pruning of one-third of the crown or root system, or if irrigation is installed or grading takes place within the dripline of a protected oak. An oak tree location map and a report describing the condition of

the protected oaks that would be impacted by construction is required to apply for an oak tree preservation permit from the City.

LIMITS TO ASSIGNMENT

The findings in this report are based solely on a visual inspection of the site and trees conducted on March 18, 2020, and April 11, 2020, and September 14, 2022. The tree inspections were limited to ground level visual observations; no advanced testing or risk assessments were performed.

PURPOSE AND USE

This report is prepared to inventory trees on and adjacent to the site and analyze construction impacts to protected trees. Upon submission, this report will become the property of Margurita G. Figueroa and her designees, and its use will be at their discretion.

METHODS

Certified arborist Rebecca Latta conducted an oak tree survey on the southern half of the parcel on March 18, 2020, and certified arborist Matthew South conducted an oak tree survey of the northern half of the parcel on April 11, 2020. Rebecca Latta performed an additional survey of oak tree #3 on July 29, due to concerns about the health and structure of the tree. Then a third survey was performed in September of 2022 to verify current trunk diameters and canopy spread with Miguel Uribe on site.

The tree survey area is the project parcel and immediate surrounding areas within 50-feet. The survey included a basic visual assessment of each tree and was limited to ground level visual observations; root crown inspections and aerial inspections were not conducted. A basic visual assessment is a 360-degree inspection of the tree conducted from the ground that includes collection of geographical position of the trunk using a Trimble GPS, and height and diameter measurements. Trees are assessed for structure, disease or insect issues, and overall health. The influence of adjacent trees and other factors affecting the growth of a subject tree, such as wires, cables, or nesting holes, were also taken into consideration when assessing tree condition. Oaks not accessible due to steep and wet conditions or that were off the property were assessed from a safe distance using binoculars, and tree conditions and measurements were estimated.

RESULTS

A total of four (4) protected coast live oak occur on the parcel and one protected coast live oak occur on the western adjacent parcel and the dripline overhangs the project parcel. Generally, the oaks were located on steep slopes and had considerable erosion at the base of each. Oaks OP- 1 and OP-2 (see Figure 1) are located on adjacent property to the northeast have roots that were previously graded and were in poor health as a result. Oak #3 has been removed and Oak #4 is at the western property edge at the base of a steep slope but also showed signs of disturbance from erosion and grading at the base. Oaks 6, 7, and 8 are on the north facing slope of a steep drainage on the northern portion of the parcel that flows into a storm drain at the northwest corner. Again, these oaks showed signs of

erosion at the root zone and had exposed roots. The location of the oaks is shown in Figure 1 in Appendix A and the data collected for each oak is in Appendix B. Appendix C includes a photograph exhibit of the protected oaks.

No protected trees are proposed for encroachments. No protected trees either on the property or adjacent property are recommended for removal to construct the proposed project. It is recommended that the project arborist meet on site with the contractor, prior to the start of construction to verify that the protective fencing is in place and to sign an acknowledgement that they have read and understand the tree protection measures for the project.

Table 1: Summary of Tree Survey Results and Impacts

Summary Table	On-property trees	Off-property trees	Total
Protected trees (no impacts)	4	3	7
Protected trees (impacts)	0	0	0
Protected trees (removal recommended)	0	0	0
Total	4	3	7

IMPACT ANALYSIS

As shown in Figure 1, the proposed development does not impact the root zones inside the dripline of the trees. All protected oaks are to be protected using the tree protection measures in this report and are expected to remain in place in good health using the measures provided in this report.

MONROVIA REQUIRED PROTECTION MEASURES

The following protection requirements from the City of Monrovia Oak Tree Preservation Ordinance must be following during construction of the proposed project:

- a) Specified oak trees are to have a protective fence, approved by the Development Review Committee, surrounding the base out at least two-thirds of the total drip line during construction. Permanent decorative fencing may be required by the Development Review Committee as one of the conditions of approval for the project.
- b) Grading (cutting and/or filling) within the drip line of the trees shall be approved by the Development Review Committee.
- c) Trees that have been damaged by construction shall be repaired in accordance with accepted arboriculture methods by a tree specialist.
- d) Oil, gas, chemical, or other construction materials shall not be stored in the drip line of any trees.
- e) Drains shall be installed according to expert advice whenever soil fill is placed around trees.

- f) Signs, wires, or any type of obstruction shall not be attached to trees.
- g) The required landscape and irrigation plan shall be detailed per the needs of the retained tree as specified by a tree specialist. The irrigation system must be on a separate clock.
- h) Replacement trees, if any trees are damaged or removed should be the same species at a minimum of 2:1 and shall adhere to Clean Nursery Stock Protocol from the CDFW/Calfire.

CDFW REQUIRED MITIGATION MEASURES

The California Department of Fish and Wildlife (CDFW) recognizes that this property is in a wildlife corridor. They provided comments in a letter to Sheri Bermejo of the City of Monrovia documenting their concerns about the Mitigated Negative Declaration for the Norumbega Project SCH #20200202722, Los Angeles County. In response to their concerns, all impacts have been moved away from oak trees to outside the dripline.

I do not recommend pruning the oak trees for the construction project. Edison already does significant pruning for line clearance which has an impact on the trees. The small deadwood in the trees provide perches for birds and other wildlife. Removal of fill soil placed during roadbuilding activities by the neighbor is still recommended since it continues to degrade the health of the two trees by suffocating roots upslope of the trunks.

An ingress/egress plan is required by the CDFW once the plans have been approved to mitigate any potential impacts from heavy equipment during the construction project. All staging must be outside the feeder root zone (dripline plus 5 feet). All staging should occur downslope and outside the canopies of either OP-1 or OP-2.

The CDFW is asking for an infectious disease management plan to be implemented prior to initiating project activities. Therefore, it is recommended that the trees be monitored by our office for invasive diseases and insects to check for any movement of the invasive shot hole borer (ISHB). Management protocol for the insect disease complex includes quarterly inspections and removal of infected/infested parts or trees if infestation is severe. The trees also need to be inspected for gold spotted oak borer which has been found in the area.

I am incorporating by reference the GSOB and ISHB management PDFs for your reference. I recommend having our office inspect the trees upon issuance of the building permit for both insects and any related damage and then again prior to any construction activities. Small infestations can be treated with target pest management guidelines from UC IPM. If either insect/disease complex are found, any wood removed from the site must be managed according to the accepted protocols to prevent the spread of disease and insects to other trees. Chipping the wood on site to less than one inch and solarizing on-site is my recommended method.

ALL of the mitigation measures recommended by the CDFW should be added to the site plans as notes labeled "TREE PROTECTION NOTES." These requirements are in addition to the protection measures provided in this report. The project arborist will need to ensure that the protection measures are implemented. An arborist retention letter should be signed with the project arborist and provided to the

City of Monrovia for their records. Any changes or updates to the plans, including but not limited to utility locations, pipes, grading, compaction, and landscaping should be reviewed by the project arborist. The project arborist should be involved in the pre-construction meeting, protective fencing and be present for any work impacting the trees.

ADDITIONAL RECOMMENDED PROTECTION MEASURES FOR TREES TO BE RETAINED

These recommendations were developed to minimize any preventable construction related damage to the trees that will remain. It is important to preserve soil structure and fertility by physically protecting the soil from compaction and other maintenance activities that destroy fine roots.

1. Provide protective fencing at the edge of the canopy plus 5 feet. **FENCING IS RECOMMENDED TO BE ALREADY INSTALLED AND INSPECTED BY THE PROJECT ARBORIST PRIOR TO THE BEGINNING OF WORK ON-SITE.** Tree protection fencing should be a chain link fence with an access gate at least 4 feet high with 2 inch by 6-inch steel posts installed at 8 feet on center. **Post locations to be installed under observation by a qualified consulting arborist to avoid root damage.**
2. Provide a minimum 8.5 inch by 11-inch retroreflective sign spaced a maximum of every 100 feet along each fence perimeter. The signs should display the following information:
 - i. "TREE PROTECTION ZONE"
 - ii. Name and contact information of project owner or authorized representative.
2. Avoid mechanical injury and compaction to roots, root flares, trunks, and branches under the dripline of any tree to be retained. A qualified arborist is recommended to be present to observe the area with the roots exposed, prior to undertaking any root pruning or grading. Root pruning on public trees should be performed by city staff.
3. Lay steel plates across any areas near street trees or under protected trees used for access. where construction traffic must run through tree protection zones.
4. No construction staging, washout or disposal of construction materials or byproducts should be placed within the tree protection zones. Avoid storing soil or material on unprotected natural grade. Containment to be provided for concrete, paint, stucco, and other washout activities.
5. Equipment should not idle under the driplines of trees. Significant burn can occur to leaves and bark from exhaust and heat.
6. **The tree/root protection zone should be irrigated sufficiently with clean, potable water to keep the tree in good health and vigor before, during and after construction.** Trees

should be soaked so that water reaches a depth of 2-3 feet on a monthly basis, starting as soon as possible.

7. Apply mulch and compost around the trees once every 6 months during construction.
Mulch in the form of wood chips is recommended for application over the surface of the soil to 4 inches deep to preserve moisture and improve soil condition.
8. INSPECTION: Trees should be inspected on a periodic basis by a qualified tree consultant. The relative age, condition and targets under the tree should determine the inspection frequency. It is the responsibility of the property owner to establish and implement an appropriate inspection schedule based on the recommendation provided by a qualified arboricultural consultant.

Disclaimer:

Arborists are tree specialists who employ their education, knowledge, training, and experience to examine trees, recommend actions to improve the health and structure of trees, and suggest measures to reduce the risk of having activities under trees. Clients may decide to accept or disregard the recommendations of the arborist or seek additional advice.

Arborists cannot detect every condition that could possibly lead to structural failure of a tree or anticipate extreme weather events that could contribute to failure. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden inside trees and below ground. Arborists cannot guarantee that trees will be healthy or safe under all circumstances, or for a specific time period. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of the Arborists services (assignment) such as property ownership, property boundaries, site lines, neighbor's disputes, and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees.

CERTIFICATE OF PERFORMANCE

I, Rebecca Latta certify that:

- I have personally inspected the trees described in this report and have accurately stated my findings. The extent of the evaluation is stated in the attached report.
- I have no current or future interest in the vegetation or the property that is the subject of the report and no bias with respect to the parties involved.
- Analysis, opinions, evaluation, investigation, and conclusions have been prepared using accepted arboricultural practices.
- I performed the work myself and prepared the report and reviewed the report, except as specifically indicated in the report.
- That my compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party nor the results of the assignment, attainment of stipulated results or the occurrence of any subsequent events.
- I further state that I am a member in good standing with American Society of Consulting Arborists and the International Society of Arboriculture. I have been involved in the practice of arboriculture and the care and study of trees since 1990.

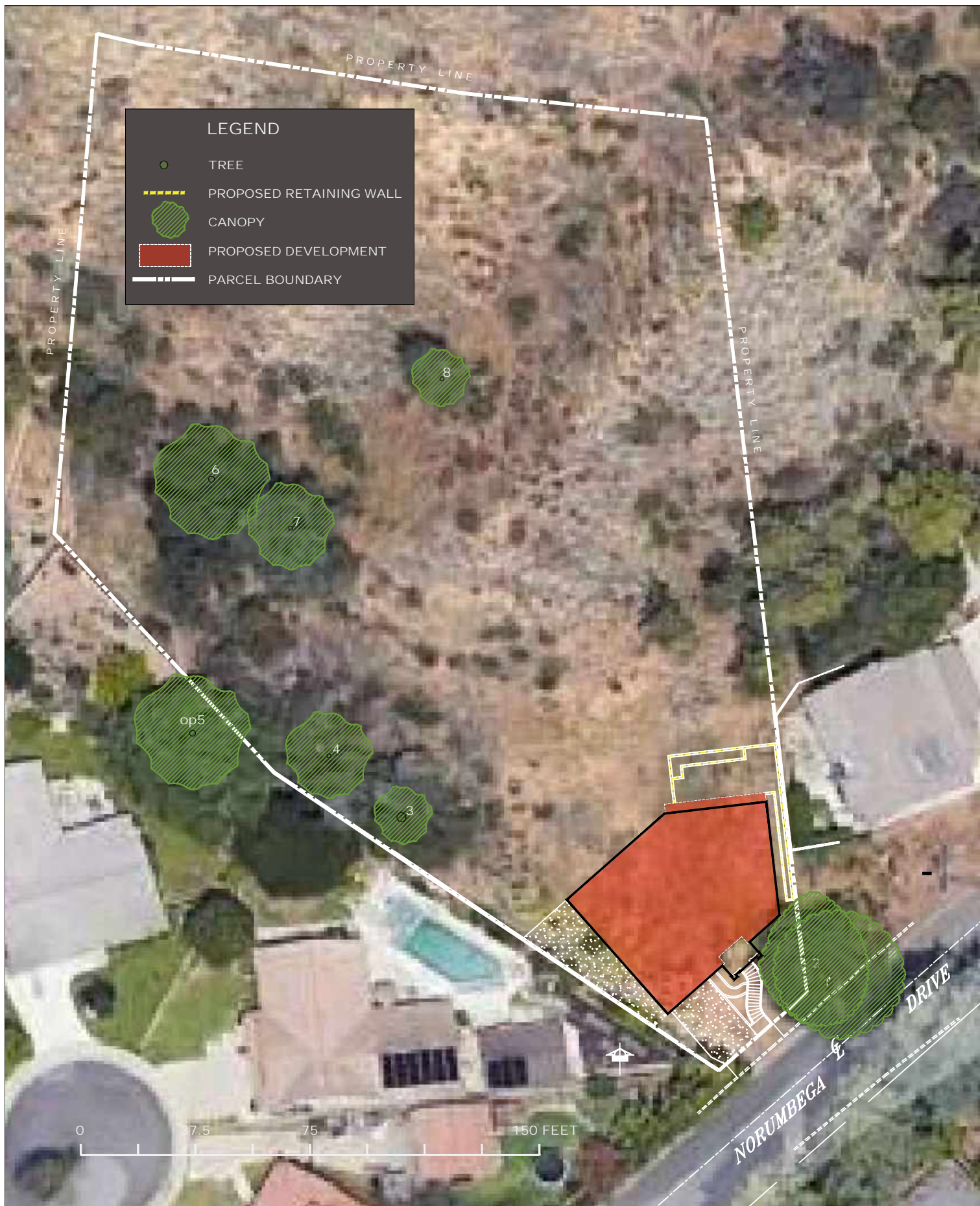
Signed: 

Date: June 25, 2023

Norumbega Drive (APN: 8523-002-045)
Protected Oak Tree Report
June 25, 2023

APPENDIX 'A'

SITE PLAN AND FIGURES





Norumbega Drive (APN: 8523-002-045)

Protected Oak Tree Report

June 25, 2023

APPENDIX 'B'

DATA MATRIX

TABLE B-1: ARBORIST ASSESSMENT

Tree #	Species	Common name	Protected (Y/N)	DBH (in)	Height (ft)	Width (ft)	Structure (1-10)	Health (A-F)	Impact	Issues Observed
OP-1	<i>Quercus agrifolia</i>	coast live oak	Y	18	30	42	7	B+	None	co-share space with oak 2, anthracnose, good new shoot growth, animal burrows at base, power lines and cables above, co-dom main branches. Pruned by Edison
OP-2	<i>Quercus agrifolia</i>	coast live oak	Y	11	25	40	7	C	None	35-40% dieback on SW, animal burrows. Pruned by Edison
3	<i>Quercus agrifolia</i>	coast live oak								REMOVED - DEAD
4	<i>Quercus agrifolia</i>	coast live oak	Y	30	30	30	7	B	None	Thinning canopy, minor fire damage on SE, good new shoot growth and leaf color
OP-5	<i>Quercus agrifolia</i>	coast live oak	Y	40	35	40	8	B	None	On adjacent property, swings and climbing ladder nailed to tree, in backyard and largely
6	<i>Quercus agrifolia</i>	coast live oak	Y	45	30	30	7	B	None	Erosion at base, roots exposed, animal burrows, on steep hill
7	<i>Quercus agrifolia</i>	coast live oak	Y	18	25	20	4	C	None	Erosion at base, leaning and unbalanced, on steep hill, 20-30% dieback
8	<i>Quercus agrifolia</i>	coast live oak	Y	12	20	20	4	C	None	30-40% dieback, heavy lean into the drainage

Norumbega Drive (APN: 8523-002-045)

Protected Oak Tree Report

June 25, 2023

APPENDIX 'C'

PHOTOGRAPH EXHIBIT



#2

#1

Story poles





#2

#1

Looking North





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FOR YOUTH

2021



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2021



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MAYOR
CLASS OF
2021

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FOR YOUTH

NO PARKING

Power line
clearance
for high
voltage lines



Dead branches on
Tree #2





Image 4. Depicts protected oak #4 and is taken from the southwestern edge of the parcel facing northwest.



Image 5. Depicts protected oak #op5 and is taken from the western edge of the parcel facing west.



Image 6. Depicts protected oak #6 in the front and #7 in the back. Taken from the west end of the drainage in the north of the parcel facing southeast.



Image 7. Depicts protected #7 and is taken from the west end of the drainage in the north of the parcel facing south.



Image 8. Depicts protected oak #8 in the back. Taken from the west end of the drainage the north of the parcel facing east.

APPENDIX F

Geotechnical Engineering Investigation Report

Cal Land Engineering, Inc.
dba Quartech Consultants
Geotechnical, Environmental and Civil Engineering

May 22, 2020

Mr. Jose Ramirez

123 San Angelo Ave,
La Puente, CA 91786

Subject: Report of Geotechnical Engineering Investigation, Proposed Residential Development, Vacant Lot (Adjacent Southwest of 547 Norumbega Drive), APN: 8523-002-045, Monrovia, California. QCI Project No.: 19-022-035GE

Reference: "Limited Geological Evaluation of Faulting and Seismic Hazards Report, Proposed Single Family Residence, APN: 8523-002-045, Vacant Lot Adjacent Southwest of 547 Norumbega Drive, City of Monrovia, California" by Cal Land Engineering, dated October 8, 2019

Dear Mr. Ramirez:

In accordance with your request, Quartech Consultants (QCI) is pleased to submit this Geotechnical Engineering Report for the subject site. The purpose of this report was to evaluate the subsurface conditions and provide recommendations for foundation designs and other relevant parameters of the proposed construction.

Based on the findings of our field exploration, laboratory testing and engineering analysis, the proposed construction of the subject site for the intended use is feasible from the geotechnical engineering viewpoints, provided that specific recommendations set forth herein are followed.

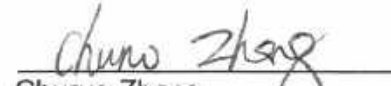
This opportunity to be of service is sincerely appreciated. If you have any questions pertaining to this report, please call the undersigned.

Respectfully submitted,

Cal Land Engineering, Inc. (CLE)
dba Quartech Consultants (QCI)

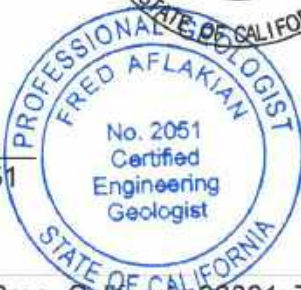

Jack C. Lee, GE 2153




Churuo Zhang
Project Engineer

Reviewed By:


Fred Aflakian, CEG 2051
Dist: (4) Addressee




Abe Kazemzadeh

**REPORT OF GEOTECHNICAL ENGINEERING
INVESTIGATION**

Proposed Residential Development

At

APN: 8523-002-045

**Vacant Lot (Adjacent Southwest of 547 Norumbega Drive)
Monrovia, California**

Prepared by

QUARTECH CONSULTANTS (QCI)

Project No.: 19-022-035

May 22, 2020

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1.0 INTRODUCTION

1.1 Purpose

This report presents a summary of our preliminary geotechnical engineering investigation for the proposed development at the subject site. The purposes of this investigation were to evaluate the subsurface conditions at the area of proposed construction and to provide recommendations pertinent to grading, foundation design and other relevant parameters of the development.

1.2 Scope of Services

Our scope of services included:

- Review of available soil and geologic data of the area.
- Subsurface exploration consisting of logging and sampling of four mini excavator dug test pits. The test pits were extended to a maximum depth of 10.0 feet below the existing ground surface. Test pit logs are presented in Appendix A.
- Laboratory testing of representative samples to establish engineering characteristics of the on-site soil. The laboratory test results are presented in Appendices A and B.
- Engineering analyses of the geotechnical data obtained from our background studies, field investigation, and laboratory testing.
- Preparation of this report presenting our findings, conclusions, and recommendations for the proposed construction.

1.3 Proposed Construction

It is anticipated that the proposed construction consists of construction of a new single family dwelling and associated retaining walls and other improvements. It is anticipated that the proposed development will be one and/or two-story in height above ground level and one level of basement. The maximum depth of basement floor will be on the order of 10-11 feet below the existing grade. Column loads are anticipated to be light to medium.

1.4 Site Location

The subject site is located on north side of Norumbega Drive at a short distance north of the intersection of Norumbega Drive and Norumbega Road in the City of Monrovia, Los Angeles, California. The approximately location of the site is presented in the attached Site Location Map (Figure 1). The property is trapezoid-shape and consists of a hilly parcel of land. The property is bordered by a residential properties to the east and west, and Norumbega Drive to the south of site. Detailed configuration of the site is presented in the attached site plan (Figure 2).

2.0 SUBSURFACE EXPLORATION AND LABORATORY TESTING

2.1 Subsurface Exploration three hand dug pits

Our subsurface investigation consisted of excavation of four mini excavator dug test pits to a maximum depth of 10.0 feet at the locations shown on the attached Site Plan, Figure 2. The test pits were supervised and logged by an engineering geologist. Relatively undisturbed and bulk samples were collected during excavation for laboratory testing. Logs of borings are presented in Appendix A.

2.2 Laboratory Testing

Representative samples were tested for the following parameters: in-situ moisture content, direct shears strength, expansion, and corrosion potential. Results of our laboratory testing along with a summary of the testing procedures are presented in Appendix B. In-situ moisture and density test results are presented on the boring logs in Appendix A.

3.0 SITE GEOLOGY

3.1 Site Underlying Materials

Description of the subsurface materials from top down is provided as follows:

3.1.1 Fill

Thin layer of fill was encountered in test pit TP-4. The encountered fill depth is about 6 feet. The fill is comprised of silty sand (SM), grayish brown, slightly moist, medium dense, with rock fragments up to 6' inches in size. Fill materials are not suitable for the structural support.

3.1.2 Colluvium (Map Symbol-Qc)

Layer of colluvium was encountered in all test pits except test pit TP-4. The encountered colluvium depth varied from 6 to 10 feet and more. The colluvium is comprised of silty sand (SM) with rock fragments, brown to reddish brown, dry to slightly moist, loose to medium dense, slightly porous. These materials are not suitable for structural support. The residential building should be supported by the foundation founded on competent bedrock as discussed below.

3.1.3 Bedrock of Quartz Diorite (qd):

Underlying the fill and colluvium is bedrock of Quartz Diorite. Bedrock is coarse grained, dark gray, slightly moist, weathered, moderate hard, massive

3.2 Groundwater

Groundwater was not encountered during our field exploration. In our opinion, groundwater will not be a problem during construction.

3.3 Site Geological Setting

The subject property is situated at the base of the San Gabriel Mountains within the Transverse Ranges Geomorphic Province. The Transverse Ranges which are an east-west trending series of steep mountain ranges and valleys resulting from north-south tectonic compression extends from the San Bernardino Mountains in the east to the offshore Channel Islands to the west.

Based on USGS Professional Paper 1339, the materials underlying the site consist of Holocene soils and plutonic rocks. The report describes the bedrock as light to dark gray medium to coarse grained Wilson Diorite and Quartz Monzonite. Detailed configuration are shown in Figure 3.

The closest known potentially active faults to site are the Raymond Fault and the Sierra Madre Fault Zone where they merge together. The closest mapped fault trace trends in an east-west direction, south of the site.

3.4 Faulting and Seismic Condition

The project site is located in the highly seismic Southern California region within the influence of several fault systems that are considered to be active or potentially active. An active fault is defined by the State of California as a “sufficiently active and well defined fault” that has exhibited surface displacement within the Holocene time (about the last 11,000 years). A potentially active fault is defined by the State as a fault with a history of movement within Pleistocene time (between 11,000 and 1.6 million years ago). These active and potentially active faults are capable of producing potentially damaging seismic shaking and ground rupture.

The project site is situated within a designated Alquist-Priolo fault zone. Site seismicity and faulting was addressed under a separate cover (Calland 2019). Based on the referenced report, it is our conclusion that the construction of the proposed development is feasible from an engineering geologic view point, and the postulated active fault is situated at least 80 (Sierra Madre Fault Zone) to 290 (Raymond Fault) feet from the nearest property corner.

4.0 SEISMICITY

4.1 Faulting

Based on our study, there are no known active faults crossing the property. The nearest known active regional fault is the Raymond zones located approximate 0.04 miles from the site.

4.2 Seismicity

The subject site is located in southern California, which is a tectonically active area. The type and magnitude of seismic hazards affecting the site depend on the distance to causative faults, the intensity, and the magnitude of the seismic event. Table 1 indicates the distance of the fault zones and the associated maximum magnitude earthquake that can be produced by nearby seismic events. As indicated in Table 1, the Raymond fault zones are considered to have the most significant effect to the site from a design standpoint.

TABLE 1
Characteristics and Estimated Earthquakes for Regional Faults

Fault Name	Approximate Distance to Site (mile)	Maximum Magnitude Earthquake (Mmax)
Raymond	0.04	6.8
Sierra Madre Connected	0.1	7.3
Clamshell-Sawpit	1.1	6.7
Elysian Park (Upper)	9.1	6.7
Verdugo	9.7	6.9
San Jose	10.7	6.7
Elsinore;W+GI+T+J+CM	12.1	7.8
Hollywood	14.1	6.7
Cucamonga	15.2	6.7
Puente Hills (LA)	15.5	7.0
Puente Hills (Santa Fe Springs)	16.1	6.7
Chino, alt 2	16.6	6.8
Chino, alt 1	16.7	6.7
Santa Monica Connected alt 2	17.3	7.4
Puente Hills (Coyote Hills)	18.9	6.9
Sierra Madre (San Fernando)	19.2	6.7
San Gabriel	19.8	7.3

Reference: 2008 National Seismic Hazard Maps-Source Parameters

4.3 Estimated Earthquake Ground Motions

In order to estimate the seismic ground motions at the subject site, QCI has utilized the seismic hazard map published by California Geological Survey. According to this report, the peak ground

alluvium acceleration at the subject site for a 10% probability of exceedance in 50 years is about 0.607g (2008 USGS Interactive Deaggregation). Site Modified Peak ground acceleration (PGAM), corresponding to USGS Design Map Summary Report, ASCE 7-16 Standard is 0.978g.

5.0 SLOPE STABILITY

5.1 Slope Stability

Based on our review of the regional topographic map, the existing slope shows approximate ratio of 1½ to 1 (horizontal to vertical) to 2 to 1 (horizontal to vertical). It is estimated that this slope reaches a maximum height of approximate 95 feet.

Our slope stability analysis indicated that the factor of safety of the existing slope is greater than the minimum code requirements for both gross and surficial slope stability. It is our opinion that the existing slope should be stable under the design conditions provided they are properly maintained.

5.2 Surficial Slope Stability and Landscaping

All slopes will be subject to surficial erosion. Therefore, slopes should be protected from surface runoff by means of top-of-slope compacted earth berms or concrete interceptor drains. All slopes should be landscaped with a suitable plant material requiring minimal cultivation and irrigation water in order to thrive. An irrigation system should be installed. Overwatering and subsequent saturation of slope surfaces should be avoided.

At all times avoid saturation or desiccation of the slope materials since these conditions tend to deteriorate the slope. Irrigation facilities should be turned off during the rainy season. Maintenance includes correction of defective drainage terraces on slope, elimination of burrowing rodents, corrections of defective irrigation facilities, and controlled slope vegetation growth. Irrigation programs for all landscaped slopes should be well controlled and minimized. Seasonal adjustments should be made to prevent excess moisture in the slope soils. Overwatering, especially prior to winter storms, may generate surficial slope distress.

6.0 CONCLUSIONS

Based on the results of our subsurface investigation and engineering analyses, it is our opinion that the proposed construction is feasible from a geotechnical standpoint, provided the recommendations contained herein are incorporated in the design and construction.

6.1 Seismicity and Seismic Induced Hazard

The project site is located in the highly seismic Southern California region within the influence of several fault systems that are considered to be active or potentially active. An active fault is defined by the State of California as a “sufficiently active and well defined fault” that has exhibited surface displacement within the Holocene time (about the last 11,000 years). A potentially active fault is defined by the State as a fault with a history of movement within Pleistocene time (between 11,000 and 1.6 million years ago). Based on our research and evaluation, it is concluded that the construction of the proposed development is feasible from an engineering geologic view point, and the postulated active fault is situated at least 80 (Sierra Madre Fault Zone) to 290 (Raymond Fault) feet from the nearest property corner. Details are presented in the Limited Fault Report by Cal Land Engineering, Inc. dated October 8, 2019.

6.2 Excavatability

Based on our subsurface investigation, excavation of the subsurface materials should be able to be accomplished with conventional earthwork equipment.

6.3 Surficial Soil Removal

Based on our field investigation and laboratory testing program, it is concluded that the existing near surface materials are disturbed/ weathered and is varied in density within the job site. These soils are not suitable for support of fills and structures and will require remedial grading as discussed herein.

6.4 Residential Foundation

The site is underlain by the previously placed fill, colluvium and bedrock. In order to provide a uniform support for the proposed residence. It is recommended that the residential structures be supported by the shallow and caissons and grade beam foundation system. All foundation should be founded on the competent bedrock. Foundation design and construction recommendations are presented in the following sections.

6.4 Groundwater

Groundwater was not encountered during our field exploration. In our opinion, groundwater will not be a problem during construction.

7.0 RECOMMENDATIONS

Based on the subsurface conditions exposed during field investigation and laboratory testing program, it is recommended that the following recommendations be incorporated in the design and construction phases of the project.

7.1 Grading

7.1.1 Site Preparation

Prior to initiating grading operations, any demolished structures and associate footings, utility lines, existing vegetation, organic soil, trash, debris, over-sized materials (greater than 8 inches), and other deleterious materials within fill areas should be removed from the site.

7.1.2 Excavation/Surficial Soil Removals

In areas to receive fill and improvements such as driveway and planned concrete flatworks, previously placed fill and colluvium should be removed to a depth of 3 feet below the existing grade as directed by the project geotechnical engineer and/or engineering geologist. Some relatively deeper removals should be anticipated in localized areas. Locally deeper removals may be necessary to expose competent natural ground. The actual removal depths should be determined in the field as conditions are exposed. Visual inspection and/or testing may be used to define removal requirements.

The proposed cut area within the proposed building pad should be cut to grade. All excavations should be observed by a representative of this office to verify the subgrade soil conditions and determine if additional removals or other mitigative measures are needed.

7.1.3 Treatment of Removal Bottoms

Soils exposed within areas approved for fill placement should be scarified to a depth of 6 inches, conditioned to near optimum moisture content, then compacted in-place to 90 percent relative compaction based on laboratory standard ASTM D-1557-12.

7.1.4 Structural Backfill

The onsite soils may be used as compacted fill provided they are free of organic materials and debris. Fills should be placed in relatively thin lifts; brought to near optimum moisture content, then compacted to obtain at least 90 percent relative compaction based on laboratory standard ASTM D-1557-12.

7.2 Temporary Excavation

The required excavation for the proposed basement will extend to a maximum of approximately 10-11 feet below the existing ground surface. The criteria for sloped excavations and/or shoring method for the alignments required vertical cuts, depends on many factors, which include depth of excavation, soil conditions, types of shoring, distance to the existing structures or public improvement, consequences of potential ground movement, and construction procedures.

7.2.1 Sloping Excavation

Should the space be available at the site, the required excavation may be made with sloping banks. Based on materials encountered in the test borings, it is our opinion that sloped excavations may be made no steeper than 3/4 to 1 (horizontal to vertical) for the underlying native soils. Flatter slope cuts may be required if loose soils are encountered during excavation. No heavy construction vehicles, equipment, nor surcharge loading should be permitted at the top of the slope. A representative of this office should inspect the temporary excavation to make any necessary modifications or recommendations.

7.2.2 Shoring

Shoring will be required for temporary excavation made vertically or near vertically of more than 5 feet. An active earth pressure of 20 pound per cubic foot may be used for the temporary cantilever shoring system. Any surcharge loads resulting from adjacent buildings or traffic should be considered as an added load to the design. Soldier piles or beams should be spaced at the specification by the project structural/shoring engineer. Lagging may be required to span between soldier piles to support the lateral earth pressure. The shoring and bracing should be designed and constructed in accordance with current requirements of CAL/OSHA and all other public agencies having jurisdiction. Careful examination of the soil excavation and inspection of on-site installation of the shoring system by a representative of this office is recommended to verify the conditions or to make recommendations as are pertinent if different conditions are disclosed during excavation.

7.2.3 Slot Cut

Should the slot cut method be used for the onsite vertical excavation of more than 5 feet in height, the following presents the slot cut recommendations. The slot cut stability analysis is presented in the attached plate.

1. Excavate to the design elevation at the side slopes no steeper than 1:1, horizontal to vertical.
2. Excavate in alternative slots with each slot no wider than the design width (i.e. 8 feet)
3. Excavate the footings at each slot, pour the footings and construct the walls per project standard. The depth of vertical cut should be limited to no more than 10 feet.
4. After completion of the slope construction, excavate the adjacent slots and repeated the above procedures to complete the adjacent slope.
5. All excavations should be made under the inspection and testing of the project geotechnical consultant.
6. Care should be taken to prevent surcharge loads above un-shored slots within a horizontal distance from the top of cut equal to depth of excavation.
7. Provisions for drainage should be implemented to prevent saturation of un-shored excavations.

7.3 Foundation Design

7.3.1 Shallow Foundation Design

Conventional continuous footings may be used for the residential foundation support on the rear cut portion of the building pad and should be a minimum of 18 inches into competent bedrock. An allowable bearing value of 3000 pounds per square foot (psf) may be used for design of continuous footings with a minimum of 12 inches in width. This value may be increased by one third (1/3) when considering short duration seismic or wind loads.

7.3.2 Caisson Foundation

Caissons may be used in combination with conventional footings to support the portions of the residential building where the area is underlain by the fill and/or colluvium. Caissons should be a minimum of 5 feet into the competent rock. All caissons should be at least 24 inches in diameter to facilitate cleanout. Caissons may be designed for an allowable end bearing pressure of 4000 pounds per square feet. The excavations of the caisson should be cleaned of all loose and/or disturbed soils. Caissons may be assumed fixed at 2 feet into rock.

7.3.3 Building Setback

Residential building should be setback from the adjacent slope face per current City's building code.

7.3.4 Settlement

Settlement of the footings placed as recommended and subject to no more than allowable loads is not expected to exceed 3/4 inch. Differential settlement between adjacent columns is not anticipated to exceed 1/2 inch.

7.3.5 Lateral Pressure

The active earth pressure to be utilized for cantilever retaining wall designs may be computed as an equivalent fluid having a density of 30 pounds per cubic foot when the slope of the backfill behind the wall is level. Restrained retaining wall may be design with an equivalent fluid pressure of 60 pcf. These values assume free-draining condition.

Passive earth pressure for the residential foundation design may be computed as an equivalent fluid pressure of 300 pounds per cubic foot, with a maximum earth pressure of 3500 pounds per square foot. An allowable coefficient of friction between soil and concrete of 0.30 may be used with the dead load forces. When combining passive pressure and frictional resistance, the passive pressure component should be reduced by one-third.

7.3.6 Wall Seismic Loading

Earthquake earth pressure distribution on retaining walls retaining more than 6 feet of soils when the slope of the backfill behind the wall is level may be computed as an inverted right triangle with 30H psf at the base. Resultant seismic earth force may be applied at approximately 0.6xH from the top of the footing. H should be measured from top of footing to the top of wall. The earthquake-induced pressure should be added to the static earth pressure. Design of walls less than 6 feet in height may neglect the additional seismic pressure.

7.3.7 Retaining Wall Backfill and Wall Drainage

Walls may be backfilled with onsite soils. A free-drainage, selected backfill (SE of 30 or greater), should be used against the retaining wall to the top of the wall. The upper 18 inches of backfill should consist of native soils. All backfill should be compacted to at least 90 percent of the laboratory maximum dry density (ASTM D-1557-12).

Any proposed retaining walls at the site should be provided with backdrains to reduce the potential for the buildup of hydrostatic pressure. Backdrains should consist of 4-inch (minimum) diameter perforated PVC pipe surrounded by a minimum of 1 cubic foot per lineal foot of clean coarse gravel wrapped in filter fabric (Mirafi 140 or the equivalent) placed at the base of the wall.

The drain should be covered by no less than 18 inches (vertical) of compacted wall backfill soils. The backdrain should outlet through non-perforated PVC pipe or weepholes. Alternatively, commercially available drainage fabric (i.e., J-drain) could be used. The fabric manufacturer's recommendations should be followed in the installation of the drainage fabric backdrain.

If there is not enough room for placing the above mentioned drainage systems, an alternative system such as pre-fabricated drainage system AQUADRAIN 100 BD with a 3-inch drain pipe set in gravel behind the wall, to prevent the buildup of hydrostatic pressure. This drainpipe may be connected to a 3-inch drain collector pipe connected to a sump pump.

7.4 Foundation Construction

7.4.1 Conventional Foundation

It is anticipated that the entire structure will be underlain by onsite soils of very low expansion potential. All conventional footings should be a minimum of 18 inches deep and founded at least 18 inches into competent bedrock materials. All continuous footings should have at least two No. 4 reinforcing bar placed both at the top and two No. 4 reinforcing bar placed at the bottom of the footings.

7.4.2 Caissons and Grade Beam Foundation

It is anticipated that the portion of the structure will be supported by caissons and grade foundation system. The reinforcement of the caissons and grade beam should be designed by the project structural engineer. All caissons should be at least 24 inches in diameter to facilitate cleanout. The excavations of the caisson should be cleaned of all loose and/or disturbed soils. All caisson excavations should be inspected by the project geotechnical consultant prior to the placing the reinforcement steel. The base of all caissons excavations should be cleaned of all loose materials.

7.5 Concrete Slabs

Floor slabs should be designed as raised wood floors or structural slabs deriving support from the foundation system. Should the raised floors be used, adequate ventilation should be provided for crawl spaces below flooring to release accumulated moisture.

If the structural slab-on-grade be used for the residential slabs, the 2019 CalGreen Section 4.505.2.1 should be complied for the moisture sensitive concrete slabs. It is recommended that a

minimum of 4-inch thick base of ½ inches or larger clean aggregate be provided with a vapor barrier in direct contact with concrete. A 10-mil Polyethylene vapor retarder, with joints lapped not less than 6 inches, should be placed above the aggregate and in direct contact with the concrete slabs. As an alternate method, 2 inch of sand then 10-mil polyethylene membrane and another 2 inches of sand over the membrane and under the concrete may be used, provided this request for an alternative method is approved by County Building Officials.

7.6 Temporary Excavation and Backfill

All trench excavations should conform to CAL-OSHA and local safety codes. All utilities trench backfill should be brought to near optimum moisture content and then compacted to obtain a minimum relative compaction of 90 percent of ASTM D-1557-12. All temporary excavations should be observed by a field engineer of this office so as to evaluate the suitability of the excavation to the exposed soil conditions.

8.0 INSPECTION

As a necessary requisite to the use of this report, the following inspection is recommended:

- Temporary excavations.
- Removal of surficial and unsuitable soils.
- Backfill placement and compaction.
- Utility trench backfill.

The geotechnical engineer should be notified at least 1 day in advance of the start of construction. A joint meeting between the client, the contractor, and the geotechnical engineer is recommended prior to the start of construction to discuss specific procedures and scheduling.

9.0 CORROSION POTENTIAL

Chemical laboratory tests were conducted on the existing onsite near surface materials sampled during QCI's field investigation to aid in evaluation of soil corrosion potential and the attack on concrete by sulfate soils. The testing results are presented in Appendix B .According to 2019 CBC and ACI 318-14, a "negligible" exposure to sulfate can be expected for concrete placed in contact with the onsite soils. Therefore, Type II cement or its equivalent may be used for this project. Based on the resistivity test results, it is estimated that the subsurface soils are moderately corrosive to buried metal pipe. It is recommended that any underground steel utilities be blasted and given protective coating. Should additional protective measures be warranted, a corrosion specialist should be consulted.

10.0 SEISMIC DESIGN

Based on our studies on seismicity, there are no known active faults crossing the property. However, the subject site is located in southern California, which is a tectonically active area. Based on ASCE 7-16 Standard, the following seismic related values may be used:

Seismic Parameters (Latitude:34.1634863, Longitude:-117.9903595)	Site Class "C"
Mapped 0.2 Sec Period Spectral Acceleration S_s	1.874g
Mapped 1.0 Sec Period Spectral Acceleration S₁	0.712g
Site Coefficient for Site Class "D", F_a	1.2
Site Coefficient for Site Class "D", F_v	1.4
Maximum Considered Earthquake Spectral Response Acceleration Parameter at 0.2 Second, S_{M_s}	2.249g
Maximum Considered Earthquake Spectral Response Acceleration Parameter at 1.0 Second, S_{M₁}	0.996g
Design Spectral Response Acceleration Parameters for 0.2 sec, S_{D_s}	1.5g
Design Spectral Response Acceleration Parameters for 1.0 Sec, S_{D₁}	0.664g

The Project Structural Engineer should be aware of the information provided above to determine if any additional structural strengthening is warranted.

11.0 INSPECTION

As a necessary requisite to the use of this report, the following inspection is recommended:

- Temporary excavations.
- Removal of surficial and unsuitable soils.
- Backfill placement and compaction, and
- Utility trench backfill.

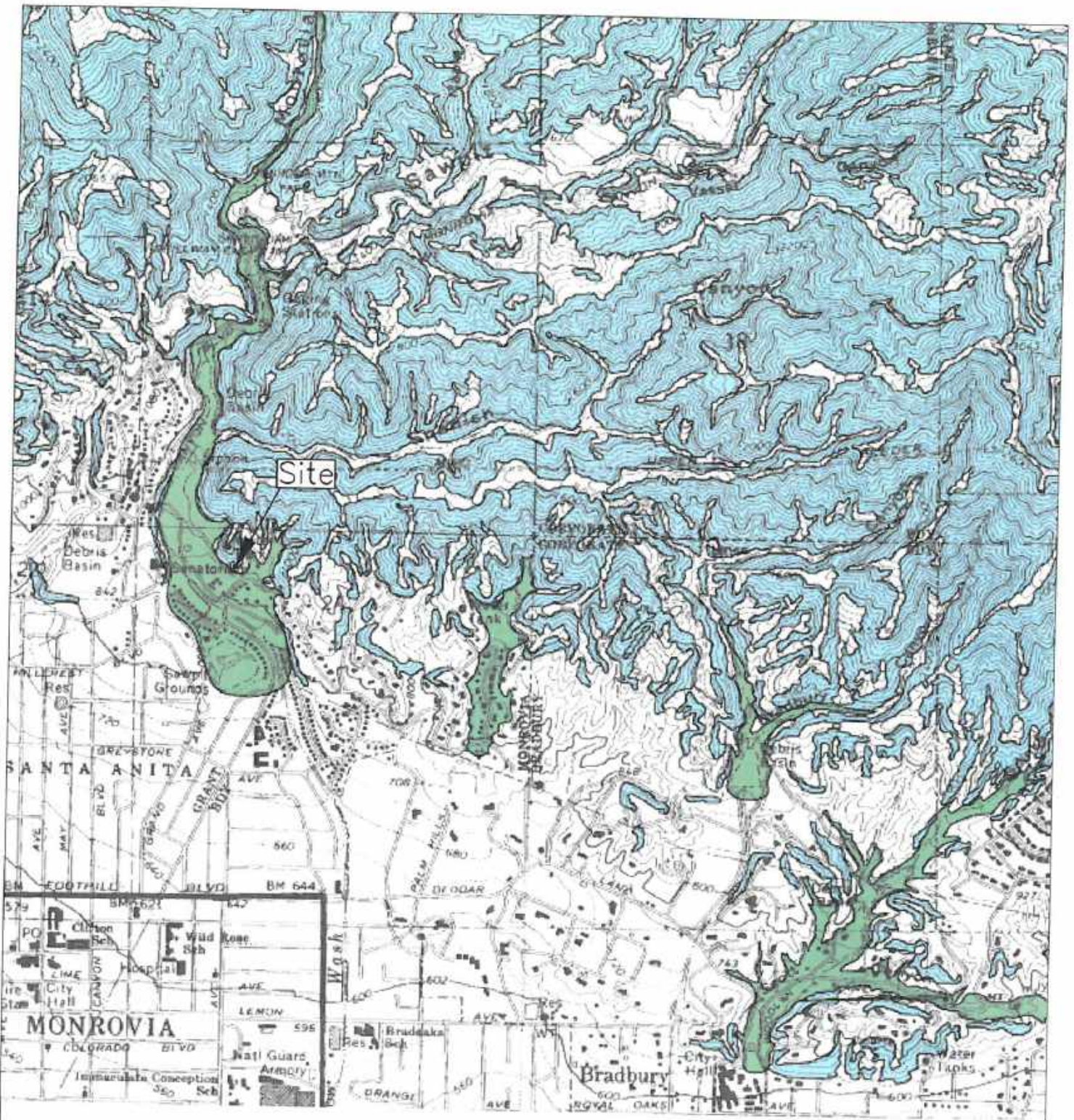
The geotechnical engineer should be notified at least 1 day in advance of the start of construction. A joint meeting between the client, the contractor, and the geotechnical engineer is recommended prior to the start of construction to discuss specific procedures and scheduling.

12.0 REMARKS

The conclusions and recommendations contained herein are based on the findings and observations at the exploratory locations. However, soil materials may vary in characteristics between locations of the exploratory locations. If conditions are encountered during construction

which appear to be different from those disclosed by the exploratory work, this office shall be notified so as to recommend the need for modifications.

This report has been prepared in accordance with generally accepted professional engineering principles and practice. No warranty is expressed or implied. This report is subject to review by controlling public agencies having jurisdiction.



SCALE 1" = 2000'

LEGEND

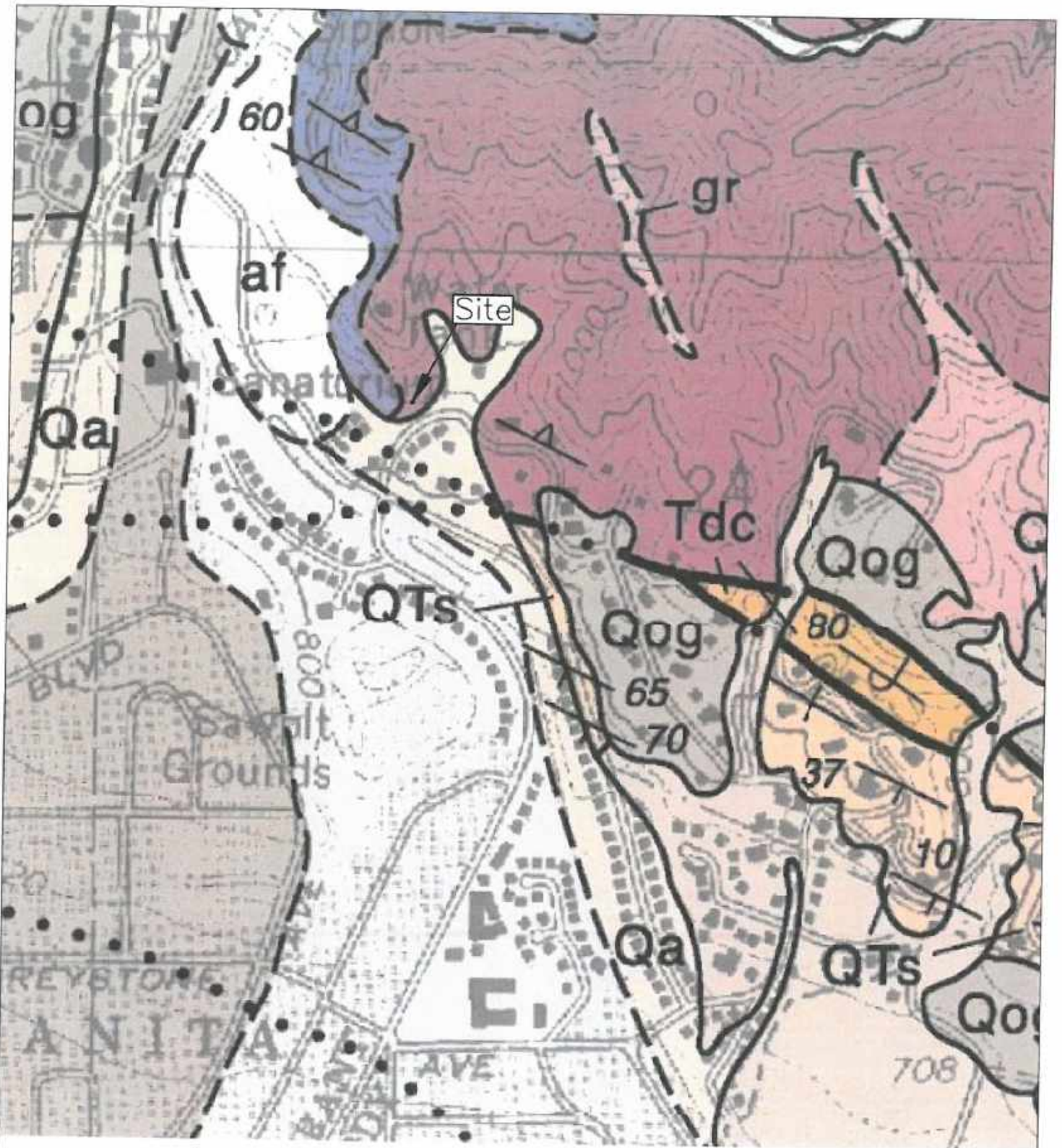
Maps modified from "Seismic Hazard Zones, Azusa Quadrangle" by CDMG

Calland Engineering, Inc.
dba Quartech Consultants

Geotechnical, Environmental & Civil
Engineering Services

Project Address:
APN: 8523-002-045
Vacant Lot Adjacent
Southwest of 547
Norumbega Dr.
Monrovia, California

Site Location Map



NOT TO SCALE
LEGEND

Maps modified from "Geological Map of the Azusa Quadrangles"
Los Angeles County, CA
by Thomas W. Dibblee, Jr., 2001

Quartz Diorite
qd - Gray quartz diorite, medium grained, somewhat incoherent where weathered, composed of plagioclase feldspar, biotite mica, potassic feldspar, quartz, and hornblende, in that order of descending abundance; rock massive to gneissoid and includes small lenses of gneiss; in many places rock complexly intruded by dikes, sills and pods of leucogranitic rocks (gr) of which larger masses are shown

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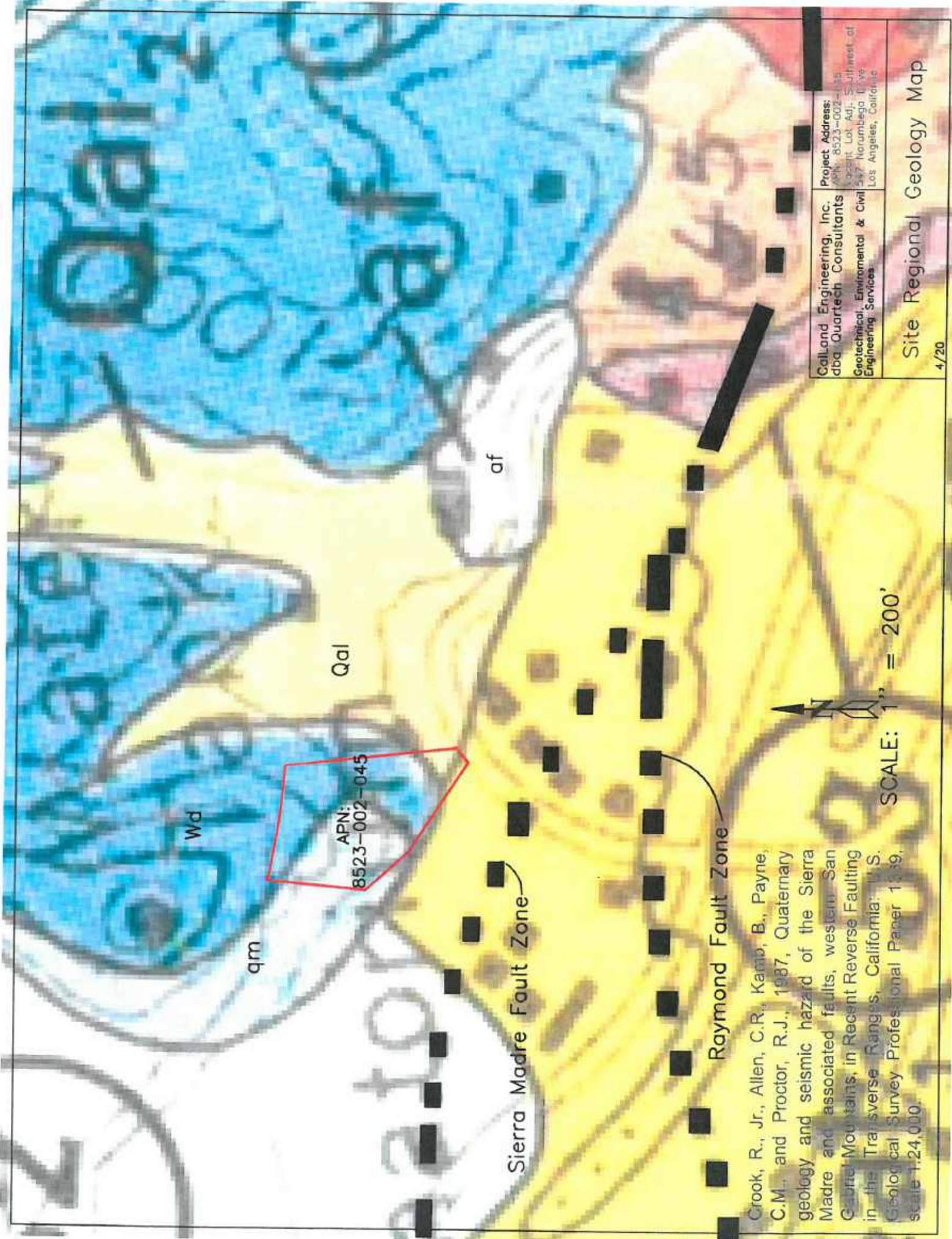
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APN: 8523-002-045
Vacant Lot Adjacent
Southwest of 547
Norumbega Dr.
Monrovia, California

Regional Geologic Map

4/20

FIGURE 1a



Wd

qm

Qal

APN:
8523-002-045

af

Sierra Madre Fault Zone

Raymond Fault Zone

Crook, R., Jr., Allen, C.R., Kamp, B., Payne, C.M., and Proctor, R.J., 1987, Quaternary geology and seismic hazard of the Sierra Madre and associated faults, western San Gabriel Mountains, in Recent Reverse Faulting in the Transverse Ranges, California: U.S. Geological Survey Professional Paper 1339, scale 1:24,000.

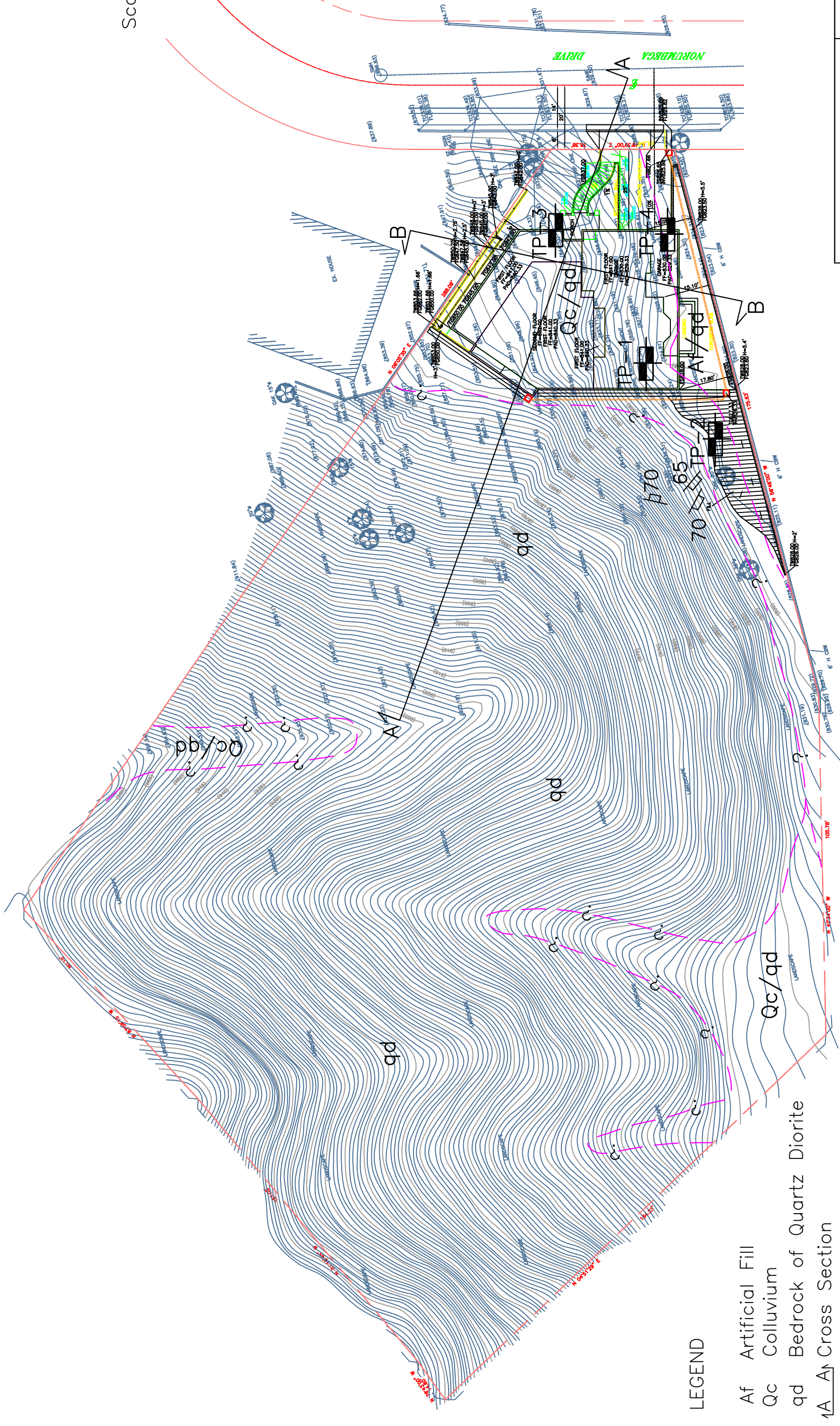
SCALE: 1" = 200'

Project Address:
APN: 8523-002-045
Client: Lot. Adj. Subdivision of
Geotechnical, Environmental & Civil
Engineering Services
Los Angeles, California

Site Regional Geology Map



Scale: 1' = 30''



LEGEND

- Af Artificial Fill
- Qc Colluvium
- qd Bedrock of Quartz Diorite
- 1A A Cross Section
- ?-? Approximate Location of Geologic Contact
- TP-1 Approximate testpit location
- 70°/65° Joint Attitude

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Monrovia, California

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Engineering Services

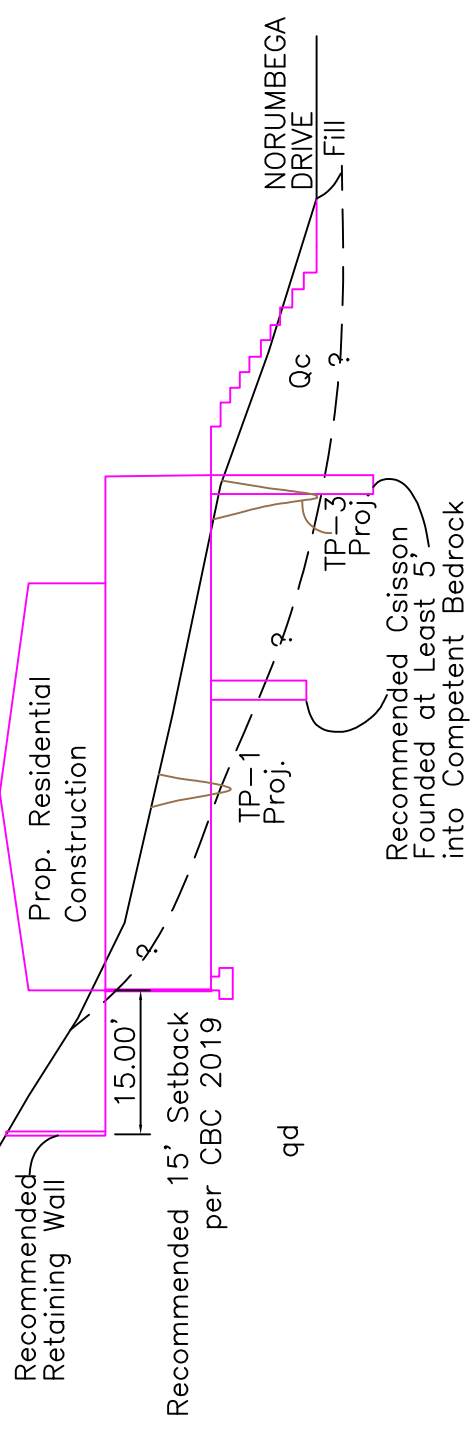
BORING LOCATION

930
925
920
915
910
905
900
895
890
885
880
875
870
865
860
855
850
845
840
835
830
825
820
815
810
805

P/L

Geologic Contact

qd



Scale: 1' = 20"

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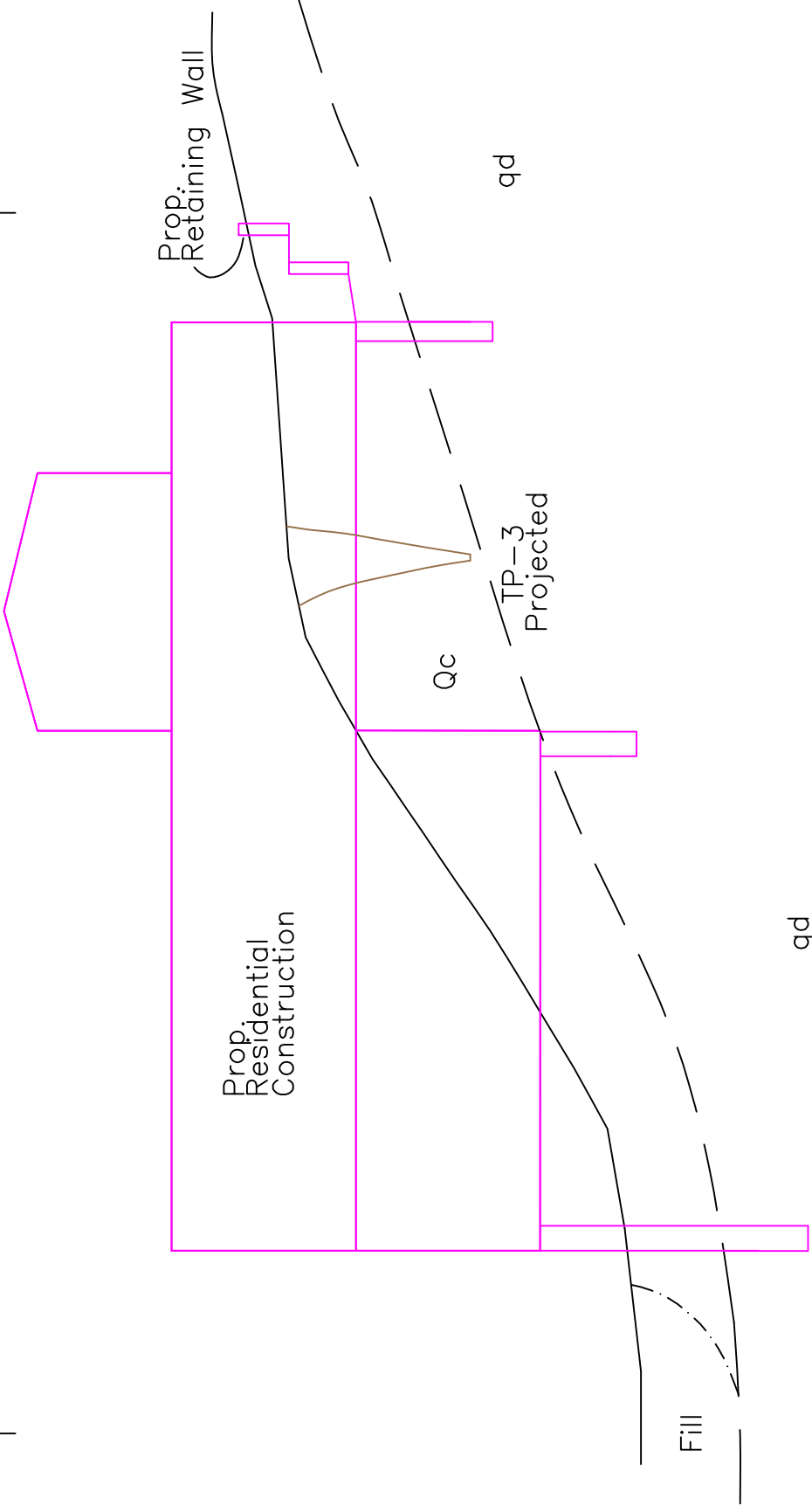
Project Address:
APN: 8523-002-045
Vacant Lot Adjacent
Southwest of 547
Norumbega Dr.
Monrovia, California

CROSS SECTION A-A

870
865
860
855
850
845
840
835
830
825
820
815

P/L

P/L



Scale: 1' = 10''

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CROSS SECTION B-B

APPENDIX A

FIELD INVESTIGATION

Subsurface conditions were explored by excavation of four mini excavator test pits to a maximum depth of 10.0 feet at approximate locations shown on the enclosed Site Plan, Figure 2.

The excavation of the test pits were supervised by an engineering geologist, who continuously logged the trenches and visually classified the soils in accordance with the Unified Soil Classification System. Ring samples were taken at frequent intervals. These samples were obtained by driving a ring sampler with successive blows of 32-pound hammer dropping from a height of 48 inches.

Representative undisturbed samples of the subsurface soils were retained in a series of brass rings, each having an inside diameter of 2.42 inches and a height of 1.00 inch. All ring samples were transported to our laboratory. Bulk surface soil samples were also collected for additional classification and testing.

TEST PIT LOG TP-1

PROJECT LOCATION: Vacant Lot Adj. to 547 Norumbega Dr., Monrovia, CA
PROJECT NO.: 19-022-035

DATE DRILLED: 9/21/2019
SAMPLE METHOD: Mini Excavator
ELEVATION: N/A
LOGGED BY: FA

Depth (ft)	Sample			USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	Description of Material
	Bulk	Undisturbed	Blows/12"				
							B: Bulk Bag S: Standard Penetration Test R: Ring Sample
5	B	R		SM SM	118.2	5.8 6.1	Colluvium: Silty sand with rock fragments, grayish brown, dry, loose to medium dense 4' ~7': coarse grained, orange brown, slightly moist, dense, some rock fragments Silty sand, coarse grained, orange brown, slightly moist, dense
7							
10		R			114.3	6.6	Bedrock of Quartz Diorite (qd): Bedrock of Quartz Diorite, coarse grained, dark gray, slightly moist, moderate hard, massive
15							Total Depth: 8.0 feet No Groundwater Hole Backfilled
20							
25							
30							
35							

TEST PIT LOG TP-2

PROJECT LOCATION: Vacant Lot Adj. to 547 Norumbega Dr., Monrovia, CA
PROJECT NO.: 19-022-035

DATE DRILLED: 9/21/2019
SAMPLE METHOD: Mini Excavator
ELEVATION: N/A
LOGGED BY: FA

Depth (ft)	Sample			USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	Description of Material
	Bulk	Undisturbed	Blows/12"				
0							Colluvium: Silty sand with abundant rock fragments, grayish brown to brown, dry to slightly moist, medium dense, dry to slightly moist, rooted
5							
7		R			115.2	6.1	Bedrock of Quartz Diorite (qd): Light gray granitic rock, slightly moist, fractured, weathered, moderate hard
10							
15							Total Depth: 8.0 feet No Groundwater Hole Backfilled
20							
25							
30							
35							

TEST PIT LOG TP-3

PROJECT LOCATION: Vacant Lot Adj. to 547 Norumbega Dr., Monrovia, CA
PROJECT NO.: 19-022-035

DATE DRILLED: 9/21/2019
SAMPLE METHOD: Mini Excavator
ELEVATION: N/A
LOGGED BY: FA

Depth (ft)	Sample			USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	Description of Material
	Bulk	Undisturbed	Blows/12"				
5		R		SM	120.1	7.0	Colluvium: Silty sand with rock fragments, brown to reddish brown, dry to slightly moist, loose to medium dense, slightly porous
10							Total Depth: 10.0 feet No Groundwater Hole Backfilled
15							
20							
25							
30							
35							

TEST PIT LOG TP-4

PROJECT LOCATION: Vacant Lot Adj. to 547 Norumbega Dr., Monrovia, CA
PROJECT NO.: 19-022-035

DATE DRILLED: 9/21/2019
SAMPLE METHOD: Mini Excavator
ELEVATION: N/A
LOGGED BY: FA

Depth (ft)	Sample			USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	Description of Material
	Bulk	Undisturbed	Blows/12"				
0							B: Bulk Bag S: Standard Penetration Test R: Ring Sample
5							Fill: Silty sand with rock fragments, grayish brown, dry to slightly moist, medium dense @3' to grayish silty sand, grayish brown, slightly moist, medium dense, with rock fragments up to 6" in size
8							Bedrock of Quartz Diorite (qd): Light gray granitic rock, slightly moist, fractured, weathered, moderate hard
10							Total Depth: 8.0 feet No Groundwater Hole Backfilled
15							
20							
25							
30							
35							

APPENDIX B
LABORATORY TESTING

During the subsurface exploration, QCI personnel collected relatively undisturbed ring samples and bulk samples. The following tests were performed on selected soil samples:

Moisture-Density

The moisture content and dry unit weight were determined for each relatively undisturbed soil sample obtained in the test borings in accordance with ASTM D2937 standard. The results of these tests are shown on the boring logs in Appendix A.

Shear Tests

Shear tests were performed in a direct shear machine of strain-control type in accordance with ASTM D3080 standard. The rate of deformation was 0.005 inch per minute. Selected samples were sheared under varying confining loads in order to determine the Coulomb shear strength parameters: internal friction angle and cohesion. The shear test results are presented in the attached plates.

Corrosion Potential

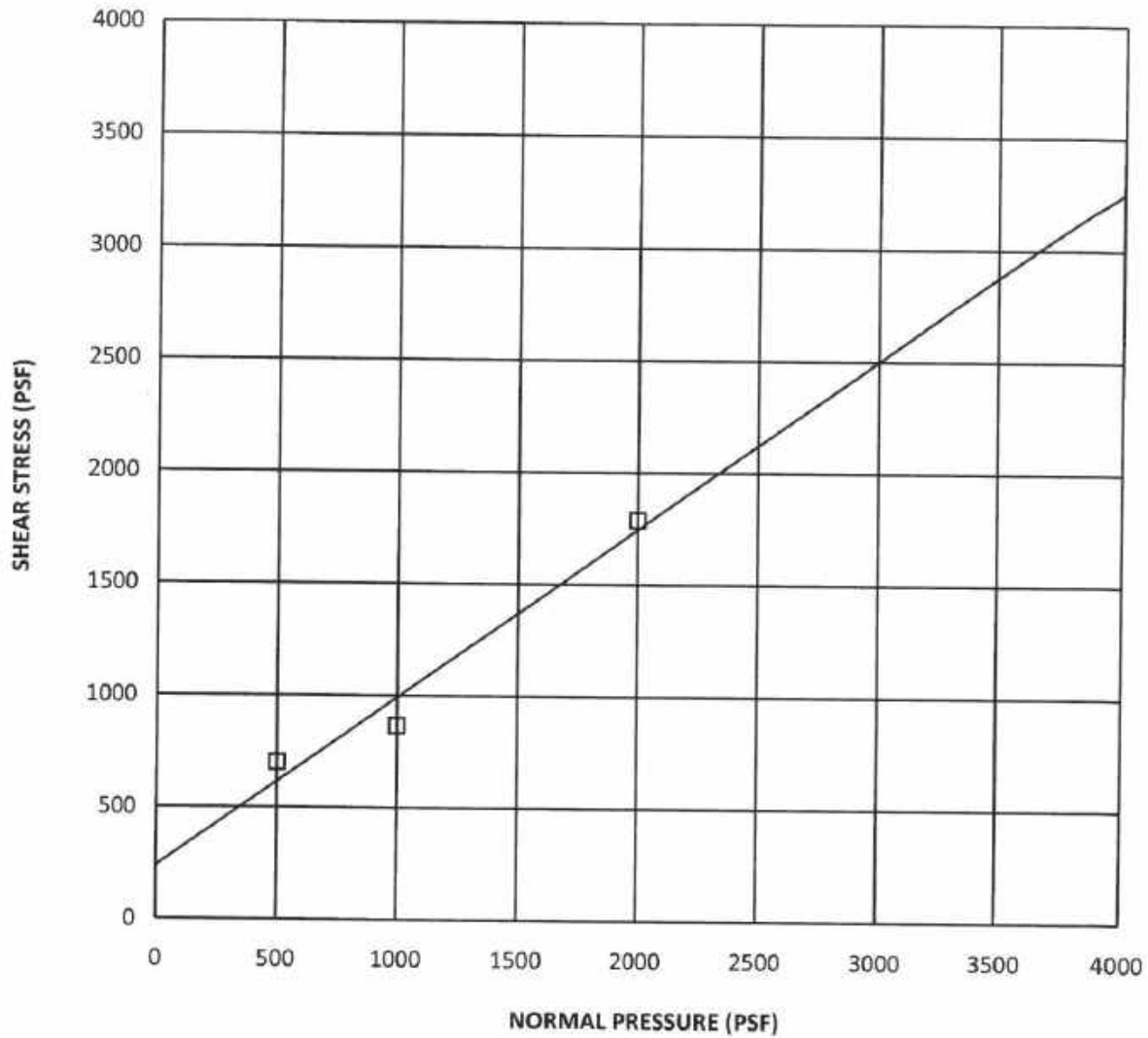
Chemical laboratory tests were conducted on the existing onsite near surface materials sampled during QCI's field investigation to aid in evaluation of soil corrosion potential and the attack on concrete by sulfate soils. These tests are performed in accordance with California Test Method 417, 422, 532, and 643. The testing results are presented below:

Sample Location	pH	Chloride (ppm)	Sulfate (% by weight)	Min. Resistivity (ohm-cm)
TP-1 @ 3.0'	8.00	180	0.0040	5,200

Expansion Index

Expansion Index test was conducted on the existing onsite near surface materials sampled during QCI's field investigation. The test is performed in accordance with ASTM D-4829. The testing results are presented below:

Sample	Expansion Index	Expansion Potential
TP1 @ 0-4'	5	Very Low



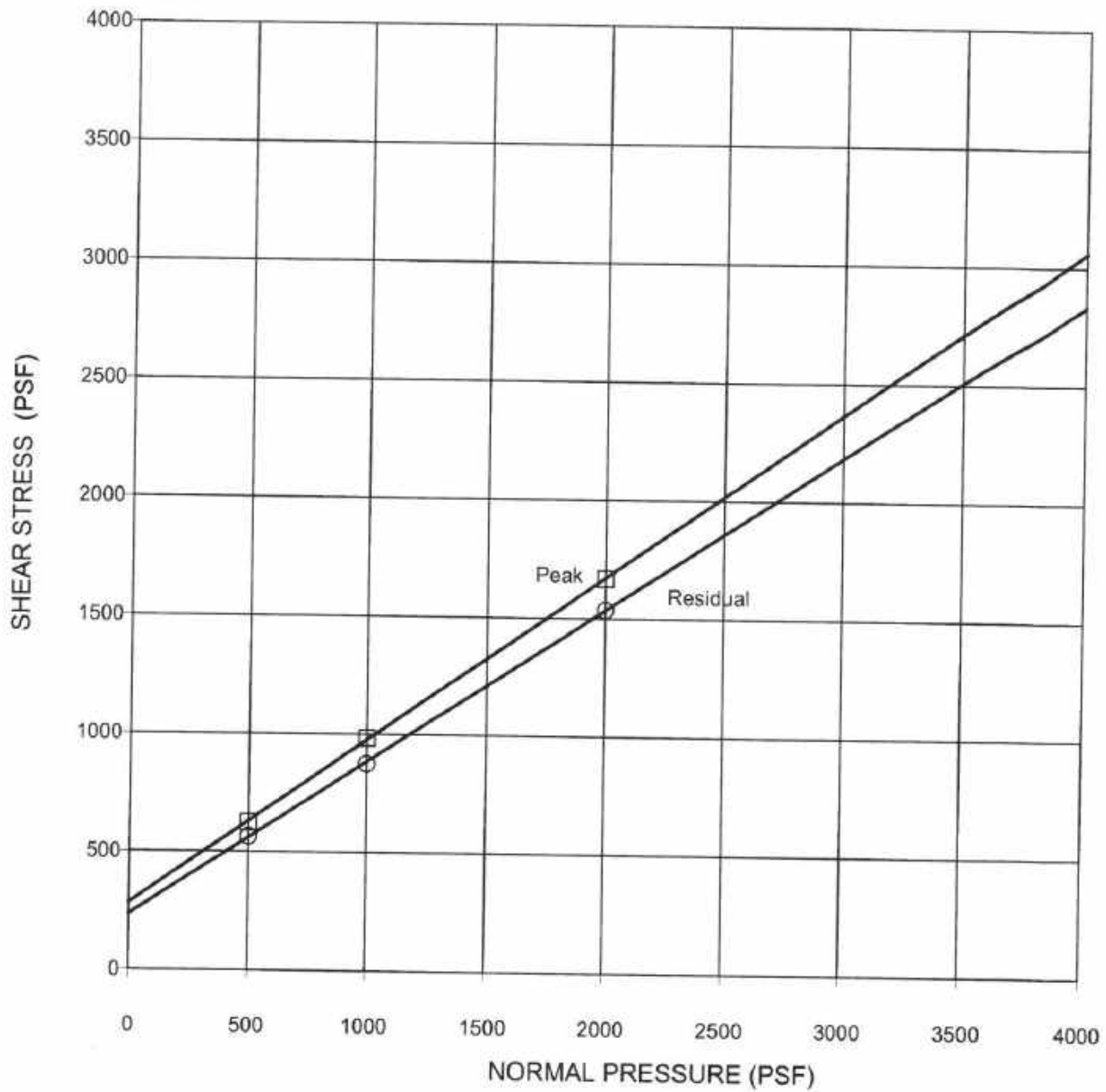
SYMBOL	BORING NO.	SAMPLE NO.	DEPTH (FT)	SAMPLE TYPE	SOIL TYPE	COHESION (PSF)	FRICTION ANGLE (DEG)
□	TP-3	N/A	4'	RING	SM	238	37

Vertical Loads (PSF)	Moisture Content Before Test (%)	Moisture Content After Test (%)
500	7.0	14.9
1000	7.0	14.6
2000	7.0	14.5

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 Engineering Services

Project Address:
 APN: 8523-002-045
 Vacant Lot Adj. to 547 Norumbega Dr.
 Monrovia, California

DIRECT SHEAR
 (ASTM D3080)



SYMBOL	BOREHOLE NUMBER	SAMPLE NUMBER	DEPTH (FT)	SAMPLE TYPE	SOIL TYPE	COHESION (PSF)	FRICTION ANGLE (DEG)
□	TP-1	N/A	7.0	RING	Bedrock	280	35
○						230	33

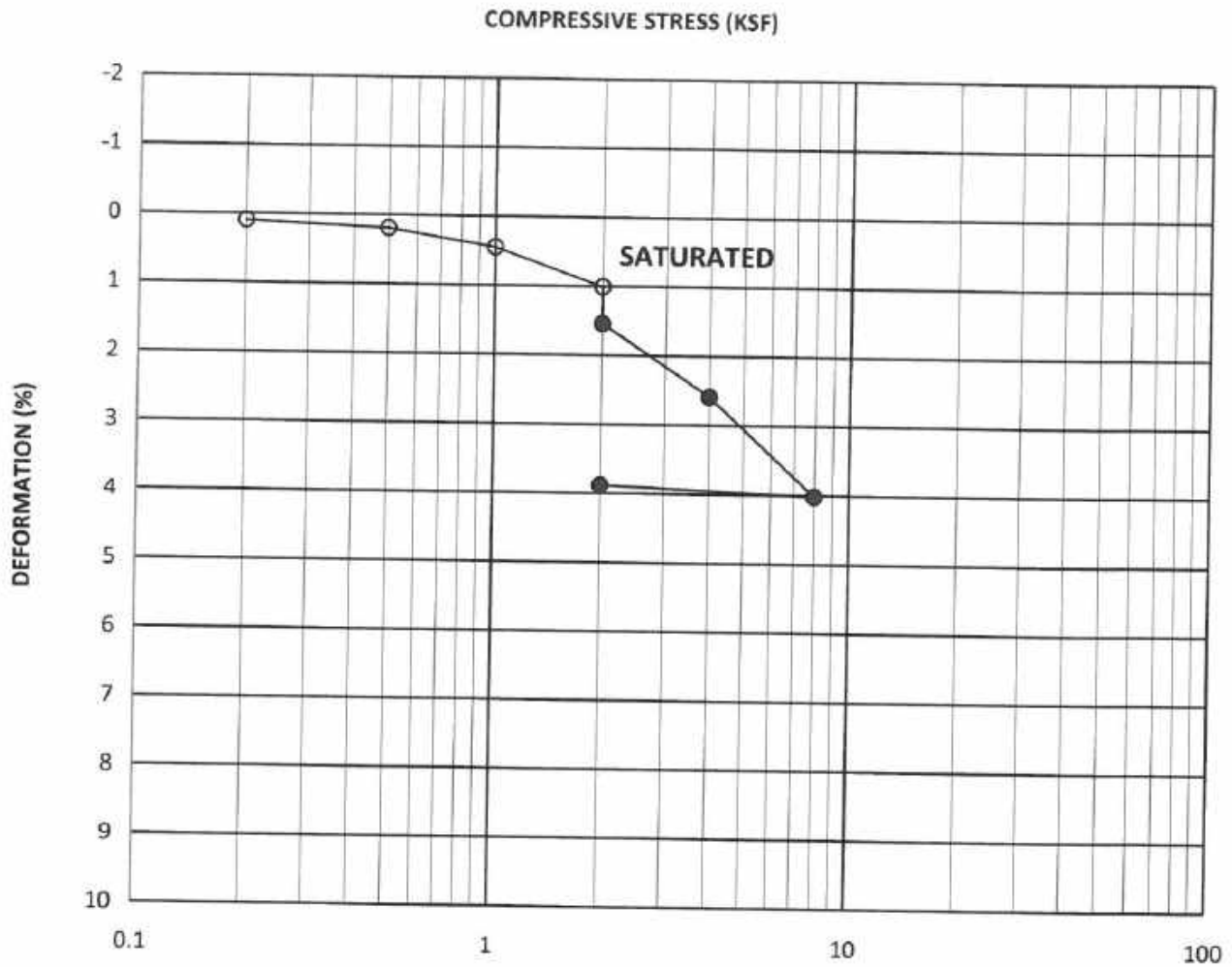
Vertical Loads (PSF)	Moisture Content Before Test (%)	Moisture Content After test (%)
500	6.6	17.2
1000	6.6	16.8
2000	6.6	16.5

Cal Land Engineering, Inc.
dba Quartech Consultants
 Geotechnical, Environmental & Civil
 Engineering Services

Project Address:

APN: 8523-002-045
 Site W. of 547 Norumbega Dr.
 Monrovia, California

DIRECT SHEAR
 (ASTM D3080)



SYMBOL	BORING NO.	SAMPLE NO.	DEPTH (FT)	SOIL TYPE	INIT. MOISTURE CONTENT (%)	INIT. DRY DENSITY (PCF)	INIT. VOID RATIO
○	TP-1	N/A	5	SM	6.1	118.2	0.425

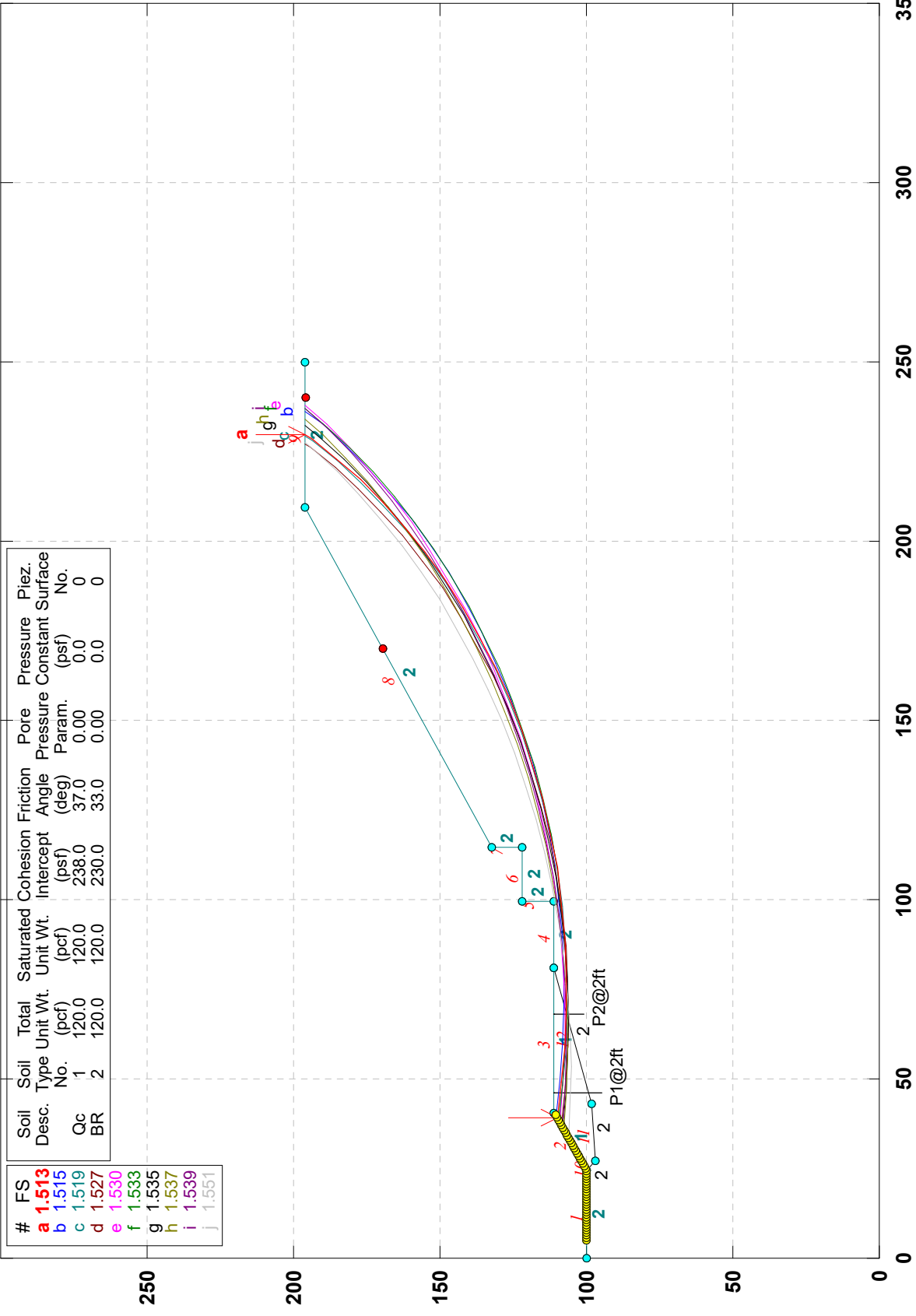
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Project Address:
 APN: 8523-002-045
 Lot Adj. to 547 Norumbega Dr.
 Monrovia, California

CONSOLIDATION
 (ASTM D2435)

Slope Stability_547 Norumbega Drive Static

y:\soil reports\reports 19\monrovia\vacant lot adjacent to 547 norumbega d\soil report\slope stability\slope stability.p12 Run By: Username 6/4/2020 03:24PM



GSTABL7 v.2 FSmin=1.513
Safety Factors Are Calculated By The Modified Bishop Method

*** GSTABL7 ***

** GSTABL7 by Dr. Garry H. Gregory, Ph.D.,P.E.,D.GE **

** Original Version 1.0, January 1996; Current Ver. 2.005.3, Feb. 2013 **

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SLOPE STABILITY ANALYSIS SYSTEM

Modified Bishop, Simplified Janbu, or GLE Method of Slices.
 (Includes Spencer & Morgenstern-Price Type Analysis)
 Including Pier/Pile, Reinforcement, Soil Nail, Tieback,
 Nonlinear Undrained Shear Strength, Curved Phi Envelope,
 Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water
 Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.

Analysis Run Date: 6/4/2020
 Time of Run: 03:24PM
 Run By: Username
 Input Data Filename: Y:\SOIL REPORTS\REPORTS 19\Monrovia\Vacant Lot Adjacent to 547
 Norumbega Dr\Soil Report\Slope Stability\Slope Stability.in
 Output Filename: Y:\SOIL REPORTS\REPORTS 19\Monrovia\Vacant Lot Adjacent to 547
 Norumbega Dr\Soil Report\Slope Stability\Slope Stability.OUT
 Unit System: English
 Plotted Output Filename: Y:\SOIL REPORTS\REPORTS 19\Monrovia\Vacant Lot Adjacent to 547
 Norumbega Dr\Soil Report\Slope Stability\Slope Stability.PLT
 PROBLEM DESCRIPTION: Slope Stability_547 Norumbega Drive
 Static

BOUNDARY COORDINATES

9 Top Boundaries
 12 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	100.00	24.65	100.00	2
2	24.65	100.00	40.69	111.00	1
3	40.69	111.00	80.99	111.00	1
4	80.99	111.00	99.42	111.00	2
5	99.42	111.00	99.42	122.00	2
6	99.42	122.00	114.54	122.00	2
7	114.54	122.00	114.54	132.33	2
8	114.54	132.33	209.29	195.87	2
9	209.29	195.87	250.00	195.87	2
10	24.69	100.00	27.00	97.12	2
11	27.00	97.12	43.22	98.45	2
12	43.22	98.45	80.99	111.00	2

Default Y-Origin = 0.00(ft)
 Default X-Plus Value = 0.00(ft)
 Default Y-Plus Value = 0.00(ft)

ISOTROPIC SOIL PARAMETERS

2 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param. (psf)	Piez. Pressure Constant (psf)
1	120.0	120.0	238.0	37.0	0.00	0.0
2	120.0	120.0	230.0	33.0	0.00	0.0

Specified Peak Ground Acceleration Coefficient (A) = 0.500(g)
 Specified Horizontal Earthquake Coefficient (kh) = 0.150(g)
 Specified Vertical Earthquake Coefficient (kv) = 0.000(g)
 Specified Seismic Pore-Pressure Factor = 0.000

EARTHQUAKE DATA HAS BEEN SUPPRESSED

PIER/PILE LOAD(S)

2 Pier/Pile Load(s) Specified

Pier/Pile No.	X-Pos (ft)	Y-Pos (ft)	Load (lbs)	Spacing (ft)	Inclination (deg)	Length (ft)
1	46.00	111.00	2000.0	2.0	90.00	16.0
2	68.00	111.00	2000.0	2.0	90.00	10.0

NOTE - An Equivalent Line Load Is Calculated For Each Row Of Piers/Piles
 Assuming A Uniform Distribution Of Load Horizontally Between
 Individual Piers/Piles.

A Critical Failure Surface Searching Method, Using A Random

Technique For Generating Circular Surfaces, Has Been Specified.
 1000 Trial Surfaces Have Been Generated.

20 Surface(s) Initiate(s) From Each Of 50 Points Equally Spaced
 Along The Ground Surface Between X = 5.00(ft)
 and X = 40.00(ft)

Each Surface Terminates Between X = 170.00(ft)
 and X = 240.00(ft)

Unless Further Limitations Were Imposed, The Minimum Elevation
 At Which A Surface Extends Is Y = 0.00(ft)

10.00(ft) Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial
 Failure Surfaces Evaluated. They Are
 Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Total Number of Trial Surfaces Attempted = 1000

Number of Trial Surfaces With Valid FS = 1000

Statistical Data On All Valid FS Values:

FS Max = 2.810 FS Min = 1.513 FS Ave = 2.019

Standard Deviation = 0.260 Coefficient of Variation = 12.89 %

Failure Surface Specified By 24 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	39.286	110.037
2	49.149	108.387
3	59.088	107.287
4	69.073	106.738
5	79.073	106.744
6	89.057	107.304
7	98.995	108.417
8	108.856	110.078
9	118.610	112.283
10	128.227	115.026
11	137.677	118.297
12	146.931	122.086
13	155.961	126.383
14	164.739	131.173
15	173.238	136.442
16	181.432	142.174
17	189.296	148.352
18	196.805	154.955
19	203.937	161.965
20	210.670	169.359
21	216.982	177.114
22	222.856	185.208
23	228.271	193.615
24	229.553	195.870

Circle Center At X = 73.983 ; Y = 286.924 ; and Radius = 180.258

Factor of Safety

*** 1.513 ***

Individual data on the 29 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force		Tie Force		Earthquake Force Surcharge		
			Top (lbs)	Bot (lbs)	Norm (lbs)	Tan (lbs)	Hor (lbs)	Ver (lbs)	Load (lbs)
1	1.4	100.9	0.0	0.0	0.	0.	0.0	0.0	0.0
2	8.5	1934.0	0.0	0.0	0.	0.	0.0	0.0	0.0
3	9.9	3772.6	0.0	0.0	0.	0.	0.0	0.0	0.0
4	9.2	4381.1	0.0	0.0	0.	0.	0.0	0.0	0.0
5	0.8	396.6	0.0	0.0	0.	0.	0.0	0.0	0.0
6	10.0	5110.3	0.0	0.0	0.	0.	0.0	0.0	0.0
7	1.9	966.6	0.0	0.0	0.	0.	0.0	0.0	0.0
8	8.1	3796.6	0.0	0.0	0.	0.	0.0	0.0	0.0
9	9.9	3743.9	0.0	0.0	0.	0.	0.0	0.0	0.0
10	0.4	129.9	0.0	0.0	0.	0.	0.0	0.0	0.0
11	9.4	14399.7	0.0	0.0	0.	0.	0.0	0.0	0.0
12	5.7	7693.2	0.0	0.0	0.	0.	0.0	0.0	0.0
13	4.1	10682.0	0.0	0.0	0.	0.	0.0	0.0	0.0

14	9.6	28422.3	0.0	0.0	0.	0.	0.0	0.0	0.0
15	9.4	31769.8	0.0	0.0	0.	0.	0.0	0.0	0.0
16	9.3	34155.8	0.0	0.0	0.	0.	0.0	0.0	0.0
17	9.0	35590.6	0.0	0.0	0.	0.	0.0	0.0	0.0
18	8.8	36101.5	0.0	0.0	0.	0.	0.0	0.0	0.0
19	8.5	35732.9	0.0	0.0	0.	0.	0.0	0.0	0.0
20	8.2	34545.3	0.0	0.0	0.	0.	0.0	0.0	0.0
21	7.9	32614.8	0.0	0.0	0.	0.	0.0	0.0	0.0
22	7.5	30031.5	0.0	0.0	0.	0.	0.0	0.0	0.0
23	7.1	26898.3	0.0	0.0	0.	0.	0.0	0.0	0.0
24	5.4	18737.6	0.0	0.0	0.	0.	0.0	0.0	0.0
25	1.4	4515.3	0.0	0.0	0.	0.	0.0	0.0	0.0
26	6.3	17145.1	0.0	0.0	0.	0.	0.0	0.0	0.0
27	5.9	10366.4	0.0	0.0	0.	0.	0.0	0.0	0.0
28	5.4	4197.4	0.0	0.0	0.	0.	0.0	0.0	0.0
29	1.3	173.5	0.0	0.0	0.	0.	0.0	0.0	0.0

Failure Surface Specified By 24 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	40.000	110.527
2	49.887	109.027
3	59.838	108.039
4	69.827	107.567
5	79.827	107.612
6	89.811	108.174
7	99.753	109.251
8	109.626	110.841
9	119.403	112.938
10	129.059	115.538
11	138.568	118.634
12	147.904	122.216
13	157.043	126.277
14	165.959	130.804
15	174.630	135.786
16	183.031	141.210
17	191.141	147.060
18	198.938	153.322
19	206.401	159.978
20	213.510	167.011
21	220.246	174.402
22	226.591	182.131
23	232.528	190.178
24	236.289	195.870

Circle Center At X = 73.974 ; Y = 300.791 ; and Radius = 193.274

Factor of Safety
 *** 1.515 ***

Failure Surface Specified By 24 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	38.571	109.547
2	48.448	107.978
3	58.395	106.952
4	68.383	106.472
5	78.383	106.538
6	88.364	107.152
7	98.297	108.311
8	108.151	110.011
9	117.898	112.248
10	127.508	115.014
11	136.952	118.302
12	146.202	122.102
13	155.230	126.402
14	164.009	131.190
15	172.514	136.450
16	180.718	142.168
17	188.597	148.326
18	196.127	154.906

19 203.286 161.888
 20 210.052 169.252
 21 216.406 176.974
 22 222.327 185.032
 23 227.799 193.402
 24 229.226 195.870

Circle Center At X = 72.185 ; Y = 289.011 ; and Radius = 182.585

Factor of Safety
 *** 1.519 ***

Failure Surface Specified By 24 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	37.143	108.567
2	47.049	107.201
3	57.014	106.367
4	67.010	106.069
5	77.007	106.306
6	86.977	107.079
7	96.891	108.385
8	106.722	110.220
9	116.439	112.579
10	126.017	115.456
11	135.426	118.842
12	144.641	122.727
13	153.634	127.100
14	162.379	131.948
15	170.853	137.259
16	179.030	143.015
17	186.886	149.202
18	194.400	155.801
19	201.550	162.793
20	208.314	170.157
21	214.674	177.874
22	220.612	185.921
23	226.110	194.274
24	227.042	195.870

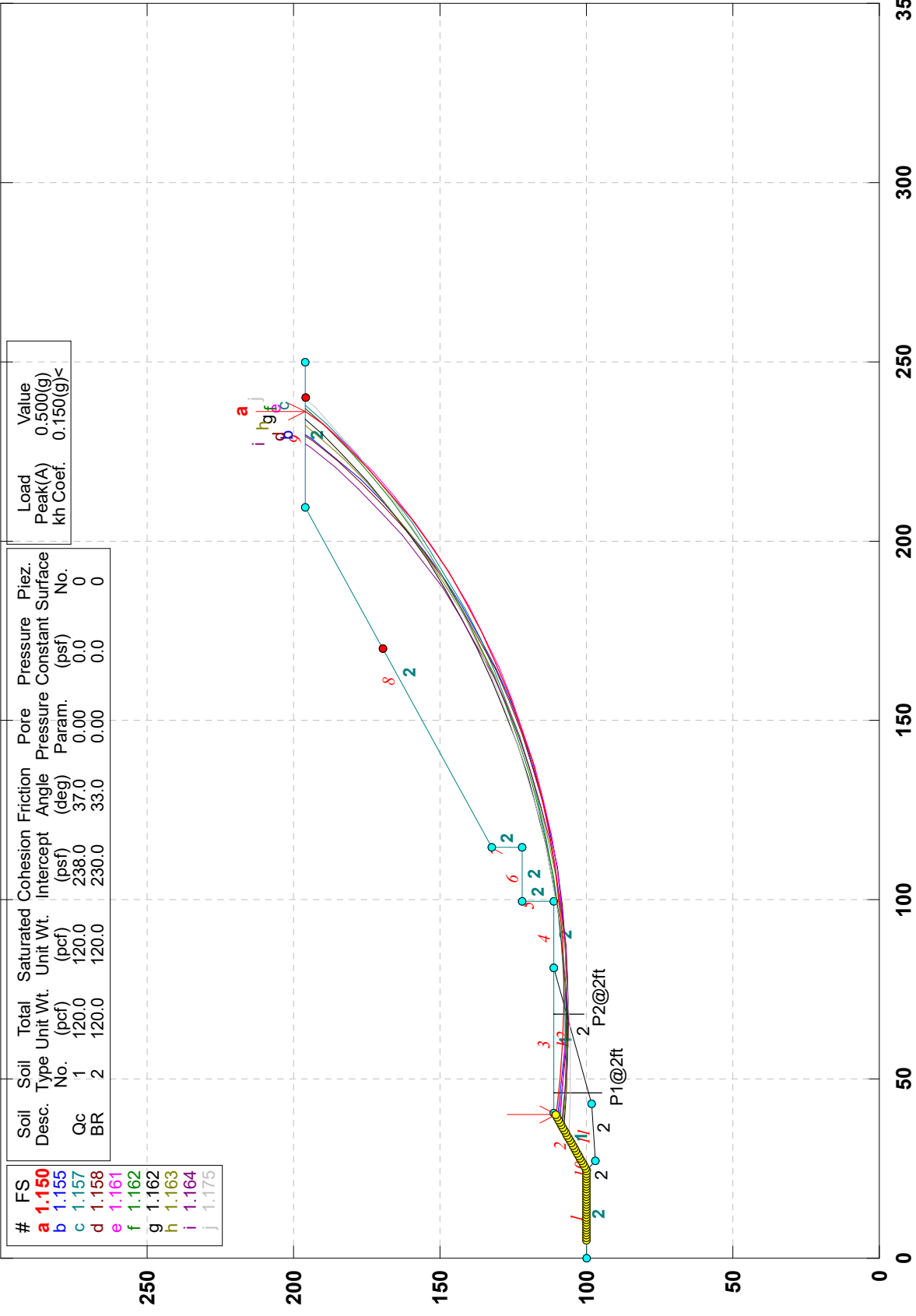
Circle Center At X = 67.596 ; Y = 292.510 ; and Radius = 186.447

Factor of Safety
 *** 1.527 ***

**** END OF GSTABL7 OUTPUT ****

Slope Stability_547 Norumbega Drive Seismic a=0.15

y:\soil reports\reports 19\monrovia\vacant lot adjacent to 547 norumbega d\soil report\slope stability\slope stability.p12 Run By: Username 6/4/2020 03:26PM



GSTABL7 v.2 FSmin=1.150
Safety Factors Are Calculated By The Modified Bishop Method

*** GSTABL7 ***

** GSTABL7 by Dr. Garry H. Gregory, Ph.D., P.E., D.GE **

** Original Version 1.0, January 1996; Current Ver. 2.005.3, Feb. 2013 **

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SLOPE STABILITY ANALYSIS SYSTEM

Modified Bishop, Simplified Janbu, or GLE Method of Slices.

(Includes Spencer & Morgenstern-Price Type Analysis)

Including Pier/Pile, Reinforcement, Soil Nail, Tieback,

Nonlinear Undrained Shear Strength, Curved Phi Envelope,

Anisotropic Soil, Fiber-Reinforced Soil, Boundary Loads, Water

Surfaces, Pseudo-Static & Newmark Earthquake, and Applied Forces.

Analysis Run Date: 6/4/2020

Time of Run: 03:26PM

Run By: Username

Input Data Filename: Y:\SOIL REPORTS\REPORTS 19\Monrovia\Vacant Lot Adjacent to 547 Norumbega Dr\Soil Report\Slope Stability\Slope Stability.in

Output Filename: Y:\SOIL REPORTS\REPORTS 19\Monrovia\Vacant Lot Adjacent to 547 Norumbega Dr\Soil Report\Slope Stability\Slope Stability.OUT

Unit System: English

Plotted Output Filename: Y:\SOIL REPORTS\REPORTS 19\Monrovia\Vacant Lot Adjacent to 547 Norumbega Dr\Soil Report\Slope Stability\Slope Stability.PLT

PROBLEM DESCRIPTION: Slope Stability_547 Norumbega Drive

Seismic a=0.15

BOUNDARY COORDINATES

9 Top Boundaries

12 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	100.00	24.65	100.00	2
2	24.65	100.00	40.69	111.00	1
3	40.69	111.00	80.99	111.00	1
4	80.99	111.00	99.42	111.00	2
5	99.42	111.00	99.42	122.00	2
6	99.42	122.00	114.54	122.00	2
7	114.54	122.00	114.54	132.33	2
8	114.54	132.33	209.29	195.87	2
9	209.29	195.87	250.00	195.87	2
10	24.69	100.00	27.00	97.12	2
11	27.00	97.12	43.22	98.45	2
12	43.22	98.45	80.99	111.00	2

Default Y-Origin = 0.00(ft)

Default X-Plus Value = 0.00(ft)

Default Y-Plus Value = 0.00(ft)

ISOTROPIC SOIL PARAMETERS

2 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param. (psf)	Piez. Pressure Constant (psf)
1	120.0	120.0	238.0	37.0	0.00	0.0
2	120.0	120.0	230.0	33.0	0.00	0.0

Specified Peak Ground Acceleration Coefficient (A) = 0.500(g)

Specified Horizontal Earthquake Coefficient (kh) = 0.150(g)

Specified Vertical Earthquake Coefficient (kv) = 0.000(g)

Specified Seismic Pore-Pressure Factor = 0.000

PIER/PILE LOAD(S)

2 Pier/Pile Load(s) Specified

Pier/Pile No.	X-Pos (ft)	Y-Pos (ft)	Load (lbs)	Spacing (ft)	Inclination (deg)	Length (ft)
1	46.00	111.00	2000.0	2.0	90.00	16.0
2	68.00	111.00	2000.0	2.0	90.00	10.0

NOTE - An Equivalent Line Load Is Calculated For Each Row Of Piers/Piles Assuming A Uniform Distribution Of Load Horizontally Between Individual Piers/Piles.

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

1000 Trial Surfaces Have Been Generated.

20 Surface(s) Initiate(s) From Each Of 50 Points Equally Spaced
 Along The Ground Surface Between X = 5.00(ft)
 and X = 40.00(ft)

Each Surface Terminates Between X = 170.00(ft)
 and X = 240.00(ft)

Unless Further Limitations Were Imposed, The Minimum Elevation
 At Which A Surface Extends Is Y = 0.00(ft)
 10.00(ft) Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial
 Failure Surfaces Evaluated. They Are
 Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Total Number of Trial Surfaces Attempted = 1000

Number of Trial Surfaces With Valid FS = 1000

Statistical Data On All Valid FS Values:

FS Max = 2.028 FS Min = 1.150 FS Ave = 1.519

Standard Deviation = 0.195 Coefficient of Variation = 12.84 %

Failure Surface Specified By 24 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	40.000	110.527
2	49.887	109.027
3	59.838	108.039
4	69.827	107.567
5	79.827	107.612
6	89.811	108.174
7	99.753	109.251
8	109.626	110.841
9	119.403	112.938
10	129.059	115.538
11	138.568	118.634
12	147.904	122.216
13	157.043	126.277
14	165.959	130.804
15	174.630	135.786
16	183.031	141.210
17	191.141	147.060
18	198.938	153.322
19	206.401	159.978
20	213.510	167.011
21	220.246	174.402
22	226.591	182.131
23	232.528	190.178
24	236.289	195.870

Circle Center At X = 73.974 ; Y = 300.791 ; and Radius = 193.274

Factor of Safety

*** 1.150 ***

Individual data on the 29 slices

Slice No.	Width (ft)	Weight (lbs)	Water Force		Tie Force		Earthquake Force		
			Top (lbs)	Bot (lbs)	Norm (lbs)	Tan (lbs)	Hor (lbs)	Ver (lbs)	Surcharge Load (lbs)
1	0.7	23.9	0.0	0.0	0.	0.	3.6	0.0	0.0
2	9.2	1407.9	0.0	0.0	0.	0.	211.2	0.0	0.0
3	10.0	2946.1	0.0	0.0	0.	0.	441.9	0.0	0.0
4	10.0	3831.8	0.0	0.0	0.	0.	574.8	0.0	0.0
5	0.8	347.4	0.0	0.0	0.	0.	52.1	0.0	0.0
6	9.2	3744.6	0.0	0.0	0.	0.	561.7	0.0	0.0
7	1.2	468.3	0.0	0.0	0.	0.	70.2	0.0	0.0
8	8.8	3253.8	0.0	0.0	0.	0.	488.1	0.0	0.0
9	9.6	2658.2	0.0	0.0	0.	0.	398.7	0.0	0.0
10	0.3	509.8	0.0	0.0	0.	0.	76.5	0.0	0.0
11	9.9	14162.5	0.0	0.0	0.	0.	2124.4	0.0	0.0
12	4.9	6270.1	0.0	0.0	0.	0.	940.5	0.0	0.0
13	4.9	12572.8	0.0	0.0	0.	0.	1885.9	0.0	0.0
14	9.7	28494.3	0.0	0.0	0.	0.	4274.2	0.0	0.0

15	9.5	32142.9	0.0	0.0	0.	0.	4821.4	0.0	0.0
16	9.3	34897.4	0.0	0.0	0.	0.	5234.6	0.0	0.0
17	9.1	36760.9	0.0	0.0	0.	0.	5514.1	0.0	0.0
18	8.9	37750.9	0.0	0.0	0.	0.	5662.6	0.0	0.0
19	8.7	37898.4	0.0	0.0	0.	0.	5684.8	0.0	0.0
20	8.4	37248.2	0.0	0.0	0.	0.	5587.2	0.0	0.0
21	8.1	35858.0	0.0	0.0	0.	0.	5378.7	0.0	0.0
22	7.8	33797.3	0.0	0.0	0.	0.	5069.6	0.0	0.0
23	7.5	31147.3	0.0	0.0	0.	0.	4672.1	0.0	0.0
24	2.9	11611.3	0.0	0.0	0.	0.	1741.7	0.0	0.0
25	4.2	15671.2	0.0	0.0	0.	0.	2350.7	0.0	0.0
26	6.7	20339.7	0.0	0.0	0.	0.	3051.0	0.0	0.0
27	6.3	13402.9	0.0	0.0	0.	0.	2010.4	0.0	0.0
28	5.9	6921.5	0.0	0.0	0.	0.	1038.2	0.0	0.0
29	3.8	1284.5	0.0	0.0	0.	0.	192.7	0.0	0.0

Failure Surface Specified By 24 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	39.286	110.037
2	49.149	108.387
3	59.088	107.287
4	69.073	106.738
5	79.073	106.744
6	89.057	107.304
7	98.995	108.417
8	108.856	110.078
9	118.610	112.283
10	128.227	115.026
11	137.677	118.297
12	146.931	122.086
13	155.961	126.383
14	164.739	131.173
15	173.238	136.442
16	181.432	142.174
17	189.296	148.352
18	196.805	154.955
19	203.937	161.965
20	210.670	169.359
21	216.982	177.114
22	222.856	185.208
23	228.271	193.615
24	229.553	195.870

Circle Center At X = 73.983 ; Y = 286.924 ; and Radius = 180.258

Factor of Safety

*** 1.155 ***

Failure Surface Specified By 19 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	37.857	109.057
2	47.800	107.988
3	57.782	107.388
4	67.781	107.260
5	77.775	107.603
6	87.742	108.418
7	97.659	109.701
8	107.505	111.451
9	117.257	113.663
10	126.894	116.332
11	136.395	119.453
12	145.738	123.018
13	154.902	127.020
14	163.867	131.450
15	172.614	136.297
16	181.122	141.552
17	189.373	147.202
18	197.348	153.235
19	205.030	159.637

20 212.402 166.394
 21 219.447 173.491
 22 226.149 180.913
 23 232.494 188.642
 24 237.877 195.870

Circle Center At X = 65.508 ; Y = 319.182 ; and Radius = 211.936

Factor of Safety

*** 1.157 ***

Failure Surface Specified By 24 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	38.571	109.547
2	48.448	107.978
3	58.395	106.952
4	68.383	106.472
5	78.383	106.538
6	88.364	107.152
7	98.297	108.311
8	108.151	110.011
9	117.898	112.248
10	127.508	115.014
11	136.952	118.302
12	146.202	122.102
13	155.230	126.402
14	164.009	131.190
15	172.514	136.450
16	180.718	142.168
17	188.597	148.326
18	196.127	154.906
19	203.286	161.888
20	210.052	169.252
21	216.406	176.974
22	222.327	185.032
23	227.799	193.402
24	229.226	195.870

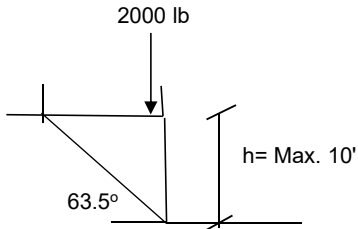
Circle Center At X = 72.185 ; Y = 289.011 ; and Radius = 182.585

Factor of Safety

*** 1.158 ***

**** END OF GSTABL7 OUTPUT ****

SLOT CUT CALCULATIONS
Proposed Residential Development
Monrovia, California



Surcharge =	2000	lb	
α (Failure Surface inclination) =	63.5	deg	
γ m =	120.0	pcf	
ϕ =	37	deg	
C =	238	psf	
K_o =	$1 - \sin(\phi)$	0.40	
H (Height) =	10	ft	
d (Slot Width) =	8	ft	
b =	$\text{Height} / \tan(\alpha)$	5.0	ft
A (Side Area) =	$1/2(H)(b)$	24.9	ft ²
ΔF = Side Shear =	$A(1/2 * \gamma_m * H * K_o * \tan(\phi) + C)$	10421.2	lb
W (weight of soil + surcharge) =	$A * \gamma_m + \text{Surcharge}$	4991.5	lb
F.S. =	$\frac{d * [W * \cos^2 \alpha \tan(\phi) + Cb] + 2 \Delta f}{d * (W \sin \alpha \cos \alpha)}$	=	2.3

LATERAL PRESSURE CALCULATIONS

r: Unit Weight of Soil

C : Cohesion of Soil

Φ : Friction Angle of Soil

For Colluvium: r: 120 pcf

C : 238 psf

Φ : 37°

For Cantilever Retaining Wall

Long Term: Say F.S. = 1.5

$$C' = C/1.5 = 158.7 \text{ pcf} \quad \phi' = \tan^{-1}(\tan 37/1.5) = 26.67^\circ$$

$$K_a = \tan^2(45 - \phi'/2) = 0.38 \quad F = rHK_a - 2C'K_a^{1/2} = 305.9 \text{ lbs}$$

$$P_a = F/H = 305.9/11 = 27.8 \text{ pcf, Say 30 pcf}$$

Short Term: Say F.S. = 1.25

$$C' = C/1.25 = 190.4 \text{ pcf} \quad \phi' = \tan^{-1}(\tan 37/1.25) = 31.08^\circ$$

$$K_a = \tan^2(45 - \phi'/2) = 0.32 \quad F = rHK_a - 2C'K_a^{1/2} = 207 \text{ lbs}$$

$$P_a = F/H = 207/11 = 18.8 \text{ pcf, Say 20 pcf}$$

Surcharge at 11 feet: $q = 120 \times 11 = 1320 \text{ psf}$

Strength at the depth of 11 feet: $238 + 120 \times 11 \times \tan(37^\circ) = 1233 \text{ psf}$

Equivalent Friction Angle: $\Phi'' = \tan^{-1}(1233/1320) = 43^\circ$

For F.S. = 1.5, $\phi' = \tan^{-1}(\tan 43/1.5) = 31.9^\circ$, **Say 31°**

For Restrained Retaining Wall At Rest Earth Pressure

$$P_a = r \times K_o \quad K_o = 1 - \sin(\phi') = 0.48 \quad P_a = 120 \times 0.48 = 57.6 \text{ pcf, say 60 pcf}$$

Seismic Lateral Pressure

$$P_E = 3/4 \times r \times k_h \quad PGA_M = 0.978g \quad k_h = 1/2 \times 2/3 \times PGA_M = 0.326g$$

$$P_E \text{ (EFP)} = 29.34 \text{ pcf Use 30 pcf}$$

Passive Earth Pressure at

$$P_p = r \times K_p \quad K_p = \tan^2(45 + \phi'/2) = 3.12$$

$$P_p = 120 \times 3.12 = 374.4 > 300 \text{ pcf}$$

$$\text{Friction } u = 0.67 \times \tan(\phi') = 0.402 > 0.3, \text{ OK}$$

Reference: (1) "Geotechnical Engineering Analysis and Evaluation", Roy Hunt, McGraw Hill Book Company, 1986

(2) Retaining Wall Design, City of Los Angeles Document No. P/BC 2020-083

(3) "Principles of Foundation Engineering", by B.M. Das, PWS Publishers, 1984

APPENDIX G

Response to Comments on February 2022 Draft Initial Study/Mitigated Negative Declaration

APPENDIX G. RESPONSE TO COMMENTS

This appendix to the Norumbega Drive Residence Project revised Draft Initial Study/Mitigated Negative Declaration (IS/MND) presents responses to comment letters that were received on the February 2022 Draft IS/MND. These comment letters were received from several entities, including state and local agencies and members of the public. The letters of comment are in chronological order with the responses following the individual letters. Letters of comment are reproduced in total, and numerical annotation has been added to delineate and reference the responses to those comments.

The following entities have submitted comments on the February 2022 Draft IS/MND.

Table G-1. Comments

Comment Letter Ref. No.	Commenter	Code	Contact Information	Page
1	State of California – Natural Resources Agency, Department of Fish and Wildlife Letter dated: March 14, 2022	CDFW	3883 Ruffin Road San Diego, CA 92123 Contact: Felicia Silva, Environmental Scientist, South Coast Region	G-2
2	Los Angeles County Sanitation Districts Letter dated: March 15, 2022	LASAN	1955 Workman Mill Road Whittier, CA 90601 Contact: Mandy Huffman, Environmental Planner, Facilities Planning Department	G-31
3	George and Carol Hills Email received: March 16, 2022	G&CH	georgeHills1@hotmail.com	G-34
4	Ron Pelham Email received: March 17, 2022	RP	rpsrbugman@verizon.net	G-37
5	Daniel Hagerty Email received: March 21, 2022	DH	536 Valmont Drive Monrovia, CA 91016 dhagerty@gmail.com	G-39
6	Curt Brown Email received: March 21, 2022	CB	Liu, Brown & Firoozmand, P.C. cbrown@lbflawfirm.com	G-43
7	Michael W. and Sheila S. Young Letter dated: March 21, 2022	M&SY	547 Norumbega Drive Monrovia, CA 91016	G-49



Norumbega Drive Residence Project
Revised Draft Initial Study/Mitigated Negative Declaration

COMMENT LETTER #1

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



March 14, 2022

Sheri Bermejo
City of Monrovia
415 South Ivy Ave
Monrovia, CA 91016
SBermejo@ci.monrovia.ca.us

Subject: Comments on the Mitigated Negative Declaration for Norumbega Drive Residence Project, SCH #2022020722, Los Angeles County

Dear Ms. Bermejo:

The California Department of Fish and Wildlife (CDFW) has reviewed the Mitigated Negative Declaration (MND) for the Norumbega Drive Residence Project (Project) from the City of Monrovia (City). Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW's Role

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

CDFW is also submitting comments as a Responsible Agency under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code, including lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 *et seq.*). Likewise, to the extent implementation of the Project as proposed may result in "take", as defined by State law, of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 *et seq.*), or CESA-listed rare plant pursuant to the Native Plant Protection Act (NPPA; Fish & G. Code, §1900 *et seq.*), CDFW recommends the Project proponent obtain appropriate authorization under the Fish and Game Code.

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Project Description and Summary

Objective: The Project would construct a two-story, single-family residence on the 1.3-acre vacant lot. The residence would be 3,758 square feet in size. The development also includes the construction of a four-car garage, totaling 1,348 square feet. The site would be landscaped and utility improvements would be installed to serve the proposed residence.

Location: The Norumbega Drive Residence Project site is located on Norumbega Drive, approximately across the street from 554 Norumbega Drive, Monrovia, California (Assessor's Parcel Number 8523-002-045). Regionally, the site is located approximately 1.9 miles north of Interstate (I-) 210 and approximately 2.7 miles northwest of the junction with I-605. Locally, the site is located on the north side of the street, approximately 530 feet northeast of the intersection with Norumbega Road.

Comments and Recommendations

CDFW offers the comments and recommendations below to assist the City in adequately identifying, avoiding, and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions are also included to improve the environmental document. CDFW recommends the measures or revisions below be included in a science-based monitoring program that contains adaptive management strategies as part of the Project's CEQA mitigation, monitoring and reporting program (Pub. Resources Code, § 21081.6; CEQA Guidelines, § 15097).

Specific Comments

Comment #1: Mountain Lion (*Puma concolor*)

Issue: The Project site occurs within the range of mountain lion habitat.

Specific impacts: The Project as proposed may impact the southern California mountain lion population by temporarily and permanently increasing human presence, traffic, and noise.

Why impacts would occur: According to [iNaturalist](#) (2020 & 2021) there are two occurrences of mountain lion in the Project vicinity. However, mountain lions were not addressed at all in the MND or the general biological survey conducted on site. Mountain lions may occur within the Project footprint or in the immediate proximity to the Project. The Project may temporarily increase human presence (e.g., new development), traffic, and noise as well as potential artificial lighting during Project construction and over the life of the Project. Most factors affecting the ability of the southern California mountain lion populations to survive and reproduce are caused by humans (Yap et al. 2019). As California has continued to grow in human population and communities expand into wildland areas, there has been a commensurate increase in direct and indirect interaction between mountain lions and people (CDFW 2013). As a result, the need to relocate or humanely euthanize mountain lions (depredation kills) may increase for public safety. Mountain lions are exceptionally vulnerable to human disturbance (Lucas 2020). Areas of high human activity have lower occupancy of rare carnivores. Mountain lions tend to avoid roads and trails by the mere presence of those features, regardless of how much they are used (Lucas 2020). Increased traffic could cause

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vehicle strikes. As human population density increases, the probability of persistence of mountain lions decreases (Woodroffe 2000).

Evidence impact would be significant: The mountain lion is a specially protected mammal in the State (Fish and G. Code, § 4800). In addition, on April 21, 2020, the California Fish and Game Commission accepted a petition to list an evolutionarily significant unit (ESU) of mountain lion in southern and central coastal California as threatened under CESA (CDFW 2020). As a CESA candidate species, the mountain lion in southern California is granted full protection of a threatened species under CESA. The Project may have significant impacts because no mitigation has been proposed for any unavoidable direct and indirect, permanent or temporal losses, of habitat for mountain lion.

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Recommended Potentially Feasible Mitigation Measure(s):

Recommendation: CDFW recommends the City evaluate the mountain lion territory size and use of habitat within and surrounding the Project vicinity. The City should analyze the temporary increase in human presence and area of anthropogenic influence that will now be permanently in mountain lion habitat and how it may impact mountain lion behavior, reproductive viability, and overall survival success. Based on these known anthropogenic impacts on mountain lions, CDFW also recommends the City provide compensatory mitigation for impacts to mountain lion. The CEQA document should justify how the proposed compensatory mitigation would reduce the impacts of the Project to less than significant. Finally, CDFW also recommends the City recirculate the document with these analyses included.

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CDFW-3

Mitigation Measure #1: Due to potential habitat in the Project vicinity, within one year prior to Project implementation that includes site preparation, equipment staging, and mobilization, a CDFW-approved biologist knowledgeable of mountain lion species ecology should survey areas that may provide habitat for mountain lion to determine presence/absence and potential for natal dens within a half mile of the Project area. Caves and other natural cavities, and thickets in brush and timber provide cover and are used for denning. Females may be in estrus at any time of the year, but in California, most births probably occur in spring. Surveys should be conducted when the species is most likely to be detected, during crepuscular periods at dawn and dusk (Pierce and Bleich 2003). Survey results including negative findings should be submitted to CDFW prior to initiation of Project activities. The survey report should include a map of potential denning sites. The survey report should include measures to avoid impacts mountain lions that may be in the area as well as dens and cubs, if necessary.

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Mitigation Measure #2: If potential habitat for natal dens are identified, CDFW recommends fully avoiding potential impacts to mountain lions, especially during spring, to protect vulnerable cubs. Two weeks prior to Project implementation, and once a week during construction activities, a CDFW-approved biologist should conduct a survey for mountain lion natal dens. The survey area should include the construction footprint and the area within 2,000 feet (or the limits of the property line) of the Project disturbance boundaries. CDFW should be notified within 24 hours upon location of a natal den. If an active natal den is located, during construction activities, all work should cease. No work should occur within a 2,000-foot buffer from a natal den. A qualified biologist should notify CDFW to determine the appropriate course of action. CDFW should also be consulted to determine an appropriate setback from the natal den that would not adversely affect the successful rearing of the cubs. No construction activities or human intrusion should occur within the established setback until mountain lion cubs have been

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successfully reared; the mountain lions have left the area; or as determined in consultation with CDFW.

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Mitigation Measure #3: If "take" or adverse impacts to mountain lion cannot be avoided either during Project construction and over the life of the Project, the City should consult CDFW and must acquire a CESA Incidental Take Permit (pursuant to Fish & Game Code, § 2080 *et seq.*).

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Comment #2: Impacts to Species of Special Concern

Issue: According to the MND, five reptile species (coast [Blainville's] horned lizard [*Phrynosoma blainvillii*], coastal whiptail [*Aspidoscelis tigris stejnegeri*], Southern California legless lizard [*Anniella stebbinsi*], California glossy snake [*Arizona elegans occidentalis*], and coast patchnosed snake [*Salvadora hexalepis virgulata*]) designated as California Species of Special Concern (SSC) have a moderate to high potential to be found on the Project site. Mitigation measure BIO-1 as presented may be insufficient for impacts to SSC.

Specific impact: Direct impacts to SSC could result from Project construction and activities (e.g., equipment staging, mobilization, and grading); ground disturbance; vegetation clearing; and trampling or crushing from construction equipment, vehicles, and foot traffic. Indirect impacts could result from temporary or permanent loss of suitable habitat.

Why impacts would occur: Grading activities and the removal of vegetation for the residence may potentially result in the loss or disturbance of foraging and nesting habitat for SSC. One general biological survey was conducted for the MND. In addition, BIO-1 of the MND states, "No more than 30 days prior to initial vegetation clearance, grubbing, or ground disturbing activities, a wildlife biologist shall conduct a pre-construction survey to identify whether any special-status terrestrial wildlife are present at the project site. In the event of the discovery of any special-status reptiles, the biologist shall recover and relocate the animal(s) to adjacent suitable habitat within the project site at least 200 feet from the limits of grading." As written, there are no focused, species-specific surveys to be conducted for SSC reptile species. The general preconstruction survey may be insufficient for detecting SSC due to its unfocused nature. Without focused surveys, there is little chance for detection, leading to potential false negative results. The MND does not provide any other avoidance, minimization, or mitigation measures for potential impacts to the SSC. Without measures to avoid, minimize, or mitigate for potential impacts to the SSC, individuals not detected on site may be crushed, trampled, or killed and occupied habitat will be lost by construction activities.

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Evidence impacts would be significant: Project construction and activities, directly or through habitat modification, may result in direct mortality, reduced reproductive capacity, population declines, or local extirpation of SSC. CEQA provides protection not only for State and federally listed species, but for any species including but not limited to California SSC, which can be shown to meet the criteria for State listing. These SSC meet the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines, § 15063, 15065 and 15380). Therefore, impacts to SSC could require a mandatory finding of significance by the City (CEQA Guidelines, § 15065).



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Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #1: The Project may require capture, handling, and relocation of wildlife. Pursuant to the [California Code of Regulations, title 14, section 650](#), the City/qualified biologist must obtain appropriate handling permits to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with Project construction and activities. Please visit CDFW's [Scientific Collection Permits](#) webpage for information (CDFWa 2022).

CDFW-8

CDFW has the authority to issue permits for the take or possession of wildlife, including mammals, birds, nests, and eggs; reptiles, amphibians, fish, plants; and invertebrates (Fish & G. Code, §§ 1002, 1002.5, 1003). Effective October 1, 2018, a Scientific Collecting Permit is required to monitor project impacts on wildlife resources, as required by environmental documents, permits, or other legal authorizations; and, to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with otherwise lawful activities (Cal. Code Regs., tit. 14, § 650).

Mitigation Measure #2-Species surveys: The City should retain a qualified biologist with experience surveying for coast [Blainville's] horned lizard, coastal whiptail, Southern California legless lizard, California glossy snake, and coast patchnosed snake. Prior to commencing any Project-related ground-disturbing activities, the qualified biologist should conduct focused surveys for SSC and suitable habitat no more than one month from the start of any ground-disturbing activities or vegetation removal where there may be impacts to SSC. Project related activities include construction, equipment and vehicle access, parking, and staging. In addition, the qualified biologist should conduct daily biological monitoring during any activities involving vegetation clearing or modification of natural habitat. Positive detections of SSC and suitable habitat at the detection location should be mapped and photographed. The qualified biologist should provide a summary report of SSC surveys to the City prior to implementing any Project-related ground-disturbing activities and vegetation removal. Depending on the survey results, a qualified biologist should develop species-specific mitigation measures for implementation during the Project.

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Mitigation Measure #3-Protection Plan: Wildlife should be protected or allowed to move away on its own (non-invasive, passive relocation) to adjacent appropriate habitat within the open space on site or in suitable habitat adjacent to the Project area (either way, at least 200 feet from the grading limits). Special status wildlife should be captured by only by a qualified biologist with proper handling permits (see Mitigation Measure #1). The qualified biologist should prepare a species-specific list (or plan) of proper handling and passive relocation protocols. The list (or plan) of protocols should be implemented during Project construction and activities/biological construction monitoring.

CDFW-10

Mitigation Measure #4-Injured or Dead Wildlife: If any SSC are harmed during relocation or a dead or injured animal is found, work in the immediate area should stop immediately, the qualified biologist should be notified, and dead or injured wildlife documented. A formal report should be sent to CDFW and the City within three calendar days of the incident or finding. Work in the immediate area may only resume once the proper notifications have been made and additional mitigation measures have been identified to prevent additional injury or death.

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Comment #3: Impacts to Bat Species

Issue: According to the California Natural Diversity Database (CNDDB), a record of Townsend's big eared bat (*Corynorhinus townsendii*), a designated SSC, was recorded within approximately two miles northwest of the Project site. The Project includes activities such as grading, vegetation removal, and tree and root pruning that may result in the removal of foraging and disturbance of potential roosting habitat for bats.

Specific impacts: Project activities include tree encroachment and pruning that may disturb or remove areas that provide foraging or roosting habitat and therefore has the potential for the direct loss of bats. Indirect impacts to bats and roosts could result from increased noise disturbances, human activity, dust, vegetation clearing, ground-disturbing activities (e.g., staging, mobilizing, and grading), and vibrations caused by heavy equipment.

Why impacts would occur: The removal of vegetation may potentially result in the loss or disturbance of foraging and roosting habitat for bats. Construction activities will temporarily increase the disturbance levels as well as human activity in the Project area. Moreover, the Project may permanently remove potential foraging habitat for bats. Lastly, the general biological reconnaissance survey for the Project was conducted during daytime hours. Since bat species are most active at night between dusk and dawn, surveys conducted during the daytime would miss detection. Therefore, there is potential bats present on site that would be undetected. This may cause the Project to impact individuals not previously known to reside in or around the Project area. Bats would require more species-specific and specific time-of-day surveys.

Evidence impacts would be significant: Bats are considered non-game mammals and are afforded protection by state law from take and/or harassment, (Fish & G. Code, § 4150; Cal. Code of Regs. § 251.1). There are many bat species that can be found year-round in urban areas throughout the south coast region of California (Miner & Stokes, 2005). Several bat species are considered SSC and meet the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines, § 15065). Take of California Species of Special Concern could require a mandatory finding of significance by the City (CEQA Guidelines, § 15065).

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #1: Prior to construction activities, CDFW recommends a qualified bat specialist conduct bat surveys within Project are (plus a 100-foot buffer as access allows) in order to identify potential habitat that could provide daytime and/or nighttime roost sites, and any maternity roosts. CDFW recommends the use of acoustic recognition technology to maximize detection of bat species to minimize impacts to sensitive bat species. A discussion of survey results, including negative findings should be provided to the City. Depending on the survey results, a qualified bat specialist should discuss potentially significant effects of the Project on bats and include species specific mitigation measures to reduce impacts to below a level of significance (CEQA Guidelines, § 15125). Surveys, reporting, and preparation of robust mitigation measures by a qualified bat specialist should be completed and submitted to the City prior to any Project-related ground-disturbing activities or vegetation removal at or near locations of roosting habitat for bats.

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Mitigation Measure #2: If bats are not detected, but the bat specialist determines that roosting bats may be present at any time of year and could roost in trees at a given location, during tree pruning, trees should be pushed using heavy machinery prior to using a chainsaw for any limbing or trimming. To ensure the optimum warning for any roosting bats that may still be present, trees should be pushed lightly two or three times, with a pause of approximately 30 seconds between each nudge to allow bats to become active. A period of at least 24 hours, and preferable 48 hours, should elapse prior to such operations to allow bats to escape.

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Mitigation Measure #3: If maternity roosts are found, work should be scheduled between October 1 and February 28, outside of the maternity roosting season when young bats are present but are yet ready to fly out of the roost (March 1 to September 30).

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Comment #4: Impacts to Oak Trees and Tree Replacement

Issue: The Project proposes to encroach upon and prune the canopy and roots of two coast live oak (*Quercus agrifolia*) trees. The Project's proposed mitigation measure BIO-3 for impacts to oak trees may be insufficient to mitigate for impacts to oak trees.

Specific impact: Tree #1, as identified in Figure 4-1 on the MND, may have up to 20 percent of the root system and 10 percent of the canopy removed during Project construction. Tree #2 may have up to 40 percent of the root system and 10 percent of the canopy removed during construction. Project activities that result in the removal of canopy or roots of trees may cause temporary or permanent impacts to wildlife that utilize the tree as habitat. In addition, Project activities that involve removal of trees or parts of trees have the potential to result in the spread of tree insect pests and disease into areas not currently exposed to these stressors.

Why impacts would occur: Mitigation measure BIO-3 would provide minimal mitigation for oak trees. However, the measure, as currently proposed, may be insufficient for mitigating impacts to protected trees and provides no mitigation for potential mortality as a result of Project impacts. The proposed mitigation measures in the MND may result in an ultimate total net loss of oak trees associated with the Project activities. These trees provide habitat for nesting birds and small mammals. Encroachment and pruning of trees on site may temporarily or permanently impact available habitat for wildlife in the area. The temporary impacts should be included in the mitigation efforts.

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Trees #1 and #2 may be impacted by heavy vehicles and equipment and other Project activities. The placement of fill dirt and ingress and egress routes of heavy construction vehicles can continually compact the root zone and roots may not be able to acquire nutrients, water, and oxygen, causing the tree to die (Hostetler and Drake 2009). Debris can be toxic or can change soil pH due to leaching of chemicals into the ground which could affect trees (Hostetler and Drake 2009).

Lastly, there is no proposed investigation and plan for managing tree pests or pathogens at the time of removal. This may result in the introduction of pests, pathogens, or diseases to areas where they previously have not been found.

Evidence impacts would be significant: Coast live oak and old-growth oak trees (native oak tree that is greater than 15 inches in diameter) are of importance due to increased biological values and increased temporal loss. Oak trees have been known to provide nesting and

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perching habitat for approximately 170 species of birds (Griffin and Muick 1990). The loss of occupied habitat or reductions in the number of sensitive or special status bird species, either directly or indirectly through nest abandonment or reproductive suppression, would constitute a significant impact absent appropriate mitigation.

Lastly, without a proper investigation and management plan, the Project may also result in an adverse effect, either directly or through habitat modifications, by exposing other habitats to insect and/or disease pathogens. Exposure to insect and/or disease pathogens may have a substantial adverse effect on any sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or United States Fish and Wildlife Service (USFWS).

Recommended Potentially Feasible Mitigation Measure(s):

Mitigation Measure #1: An infectious tree disease management plan should be developed and implemented prior to initiating Project activities. All trees scheduled for pruning should be inspected prior to start of those activities for contagious tree diseases including but not limited to: thousand canker fungus (*Geosmithia morbida*), Polyphagous Shot Hole Borer (*Euvallancea spp.*), and goldspotted oak borer (*Agrius auroguttatus*) (TCD 2020; UCANR 2020; UCIPM 2013). To avoid the spread of infectious tree diseases, diseased trees, or any parts thereof, should not be transported from the Project site without first being treated using best available management practices relevant for each tree disease observed.

Mitigation Measure #2: CDFW recommends modifying BIO-3 to include underlined language and remove language with strikethrough.

"d. The project shall avoid mechanical injury and compaction to roots, root flares, trunks, and branches under the dripline of any tree to be retained. A certified arborist shall be present to observe the area with the roots exposed, prior to undertaking any root pruning or grading. The exposed tap root, main roots and any surface-feeding roots exceeding one inch in diameter shall be wrapped in protective moistened burlap during the excavation of existing pavement and buildings and during the re-grading phase and installation of the new parking lot. The roots zone (under dripline) and 5 feet from the drip line shall be excavated with hand tools, using a probe (metal rod or stick) to locate and unearth roots, leaving them in their natural orientation. Work will be done as quickly as possible to expose the roots for as little time as possible and the roots will be reburied with clean fill as soon as is feasible (no longer than a day or so, if possible). The burlap will be kept moist. Efforts will be made to avoid cutting roots. If roots need to be cut, they will be cut with sharpened, clean, disinfected tools (10% bleach solution) with every effort to avoid tearing the root and to avoid tearing the root surface. A minimum distance of eight feet should be maintained of the root (distance from the root crown to terminal end of root), where possible. If the current elevation of the two tree's existing root collars differs by more than one foot from the grade of the new parking lot grade then a 10-foot radius of soil at the root collar grade shall be placed around each tree. If a certified arborist or and/or qualified restoration professional determines work is being performed improperly, that individual(s) shall stop work and determine the best course of action to avoid any tree damage or mortality before restarting work.
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h. During project construction, mulch and compost shall be applied around the trees once every 6 months. Wood chip mulch shall be applied over the soil surface soil to 4 inches deep to preserve moisture and improve soil condition. If a certified arborist or and/or qualified restoration professional determines work is being performed improperly, that individual(s) shall stop work and determine the best course of action to avoid any tree damage or mortality before restarting work.

i. Protected trees damaged by construction shall be repaired in accordance with accepted arboriculture methods by a tree specialist. The project arborist shall determine when repair is required. These procedures may have a potential to cause decreased health (greater than 25% signs of visible stress) or mortality of any oak trees designated to be preserved. If any root disturbing activities are determined to have caused irreversible impacts that may eventually lead to decreased health or mortality of any oak tree, those activities and potential impacts shall be documented immediately. All documentation shall be summarized in a report provided to the City of Monrovia. Preserved oak trees that may succumb to impacts shall be replaced with oak trees that are of the same species and variety.

j. In the event that oak trees succumb to impacts, the City and landscape architect shall work with a certified arborist and/or qualified restoration professional to select the most appropriate location for replacement coast live oak trees. Coast live oak trees shall not be planted in specific location(s) that will be subject to future ground disturbance work that may impact replacement trees. Locations shall have appropriate biological or physical factors required by coast live oak trees to grow and persist where possible.

The City and landscape architect shall work with a certified arborist and/or qualified restoration professional to acquire appropriately sized, locally sourced coast live oak trees from a local native plant nursery that implements *Phytophthora*/Clean Nursery Stock protocols. This may reduce the probability of introducing coast live oak trees contaminated with pests, diseases, and pathogens that could spread and infect native oak trees or habitats. A certified arborist and/or qualified restoration professional shall inspect and potentially quarantine nursery stock before bringing them into the Project site and supervise the installation/transplanting of the coast live oak trees.

The City shall protect and monitor the survivorship of planted coast live oak trees until the trees begin to produce seeds. The City shall consult with the certified arborist and/or qualified restoration professional on a long-term maintenance plan to provide protective caging, shading, and irrigation. Oak trees shall be protected from trampling, damage, or climbing. The City shall also consult with the certified arborist and/or qualified restoration professional if coast live oak trees show symptoms of stress and determine the appropriate response to prevent mortality."

Recommendation #1: In the event that replacement trees are necessary, CDFW recommends a minimum mitigation ratio of 2:1 for impacts to coast live oak trees. Coast live oak trees may be difficult to establish from seed or sapling, especially under drought conditions. A higher mitigation ratio would account for mortality and attrition of replacement coast live oak trees, and potential mortality of any oak trees marked for preservation. If all replacement trees survive and reach reproductive maturity, this will have a net benefit for birds.



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Recommendation #2: CDFW recommends the following sources for additional information about Clean Nursery Stock protocols and soilborne pathogens in the genus *Phytophthora* as discussed in Mitigation Measure #2.

- [Best Management Practices for Producing Clean Nursery Stock](#) provided by Phytosphere Research.
- [Understanding and Managing Sudden Oak Death in California](#) provided by Phytosphere Research.
- [A Reference Manual for Managing Sudden Oak Death](#) in California provided by the United States Department of Agriculture.

CDFW-22

Additional Comments and Recommendations

Human-Wildlife Interface. Due to the location of the Project site at the foothills of the San Gabriel mountains, CDFW recommends black bear (*Ursus americanus*) and mountain lion (*Puma concolor*) spotted in residential, suburban, or urban areas be reported to the South Coast Regional Office (858) 467-4201 or AskRS@wildlife.ca.gov during normal business hours. After-hours or weekend sightings should be reported first to local police or sheriff officers, who often can respond and secure a scene quickly and then contact CDFW as needed.

Human interactions are one of the main drivers of mortality and increasing development and human presence in this area could increase the need for public safety removal and/or vehicle strikes of mountain lions. Therefore, any new development project should analyze the potential for mountain lion that are known to occur in the San Gabriel Mountains and their foothills and may be impacted by development and human activity in the Project area (see Comment #1).

Entrapment. The Project may result in the use of open pipes used as fence posts, property line stakes, signs, etc. CDFW recommends that all hollow posts and pipes be capped to prevent wildlife entrapment and mortality because these structures mimic the natural cavities preferred by various bird species and other wildlife for shelter, nesting, and roosting. Raptor's talons can become entrapped within the bolt holes of metal fence stakes resulting in mortality. Metal fence stakes used on the Project site should be plugged with bolts or other plugging materials to avoid this hazard.

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Landscaping. The MND states the site will be landscaped. CDFW recommends the MND provide the Project's landscaping plant palette and tree species list. CDFW also recommends using native, locally appropriate plant species for landscaping on the Project site. CDFW recommends invasive/exotic plants, including pepper trees (*Schinus* genus) and fountain grasses (*Pennisetum* genus), be restricted from use in landscape plans for this Project. A list of invasive/exotic plants that should be avoided as well as suggestions for better landscape plants can be found at [California Invasive Plant Species Council](#) website (Cal-IPC, 2022).

Rodenticides. CDFW recommends preventing the use of second-generation anticoagulant rodenticides on site and over the life of the Project.

Nesting Birds. CDFW recommends avoiding any construction activity during nesting season. If not feasible, CDFW recommends modifying BIO-2 by expanding the time period for bird and



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raptor nesting from February 1 through September 15 to January 1 through September 15. If the Project occurs between January 1 through September 15, a nesting bird and raptor survey should be conducted as stated in BIO-2 prior to any ground-disturbing activities (e.g., staging, mobilization, grading) as well as prior to any vegetation removal within the Project site.

It should be noted that the temporary halt of Project activities within nesting buffers during nesting season does not constitute effective mitigation for the purposes of offsetting Project impacts associated with habitat loss. Additional mitigation would be necessary to compensate for the removal of nesting habitat within the Project site based on acreage of impact and vegetation composition. CDFW shall be consulted to determine proper mitigation for impacts to occupied habitat depending on the status of the bird species. Mitigation ratios would increase with the occurrence a California Species of Special Concern and would further increase with the occurrence of a CESA-listed species.

Data. CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special status species detected by completing and submitting [CNDDB Field Survey Forms](#) (CDFW 2022b). This includes all documented occurrences of mountain lion, San Diego desert woodrat, and potential occurrences of Crotch's bumble bee, and other special status species. The City should ensure the data has been properly submitted, with all data fields applicable filled out, prior to Project ground-disturbing activities. The data entry should also list pending development as a threat and then update this occurrence after impacts have occurred. The City should provide CDFW with confirmation of data submittal.

Mitigation and Monitoring Reporting Plan. Per Public Resources Code section 21081.6(a)(1), CDFW has provided the City with a summary of our suggested mitigation measures and recommendations in the form of an attached Draft Mitigation and Monitoring Reporting Plan (MMRP; Attachment A). A final MMRP shall reflect results following additional plant and wildlife surveys and the Project's final on and/or off-site mitigation plans.

Filing Fees

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

Conclusion

We appreciate the opportunity to comment on the Project to assist the City of Monrovia in adequately analyzing and minimizing/mitigating impacts to biological resources. CDFW requests an opportunity to review and comment on any response that the City of Monrovia has to our comments and to receive notification of any forthcoming hearing date(s) for the Project [CEQA Guidelines, § 15073(e)]. If you have any questions or comments regarding this letter, please contact Felicia Silva, Environmental Scientist, at Felicia.Silva@wildlife.ca.gov or (562) 292-8105.

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Sincerely,

DocuSigned by:

5091E19EF8094C3

Victoria Tang signing for

Erinn Wilson-Olgin
Environmental Program Manager I
South Coast Region

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(cont'd)

cc: CDFW

- Erinn Wilson-Olgin, Los Alamitos – Erinn.Wilson-Olgin@wildlife.ca.gov
- Victoria Tang, Los Alamitos – Victoria.Tang@wildlife.ca.gov
- Ruby Kwan-Davis, Los Alamitos – Ruby.Kwan-Davis@wildlife.ca.gov
- Felicia Silva, Los Alamitos – Felicia.Silva@wildlife.ca.gov
- Julisa Portugal, Los Alamitos – Julisa.Portugal@wildlife.ca.gov
- Cindy Hailey, San Diego – Cindy.Hailey@wildlife.ca.gov
- CEQA Program Coordinator, Sacramento – CEQACommentLetters@wildlife.ca.gov
- State Clearinghouse, Office of Planning and Research – State.Clearinghouse@opr.ca.gov

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Norumbega Drive Residence Project
Revised Draft Initial Study/Mitigated Negative Declaration

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State of California – Natural Resources Agency
 DEPARTMENT OF FISH AND WILDLIFE
 South Coast Region
 3883 Ruffin Road
 San Diego, CA 92123
 (858) 467-4201
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
 CHARLTON H. BONHAM, Director



Attachment A: Draft Mitigation and Monitoring Reporting Plan

CDFW recommends the following language to be incorporated into a future environmental document for the Project. A final MMRP shall reflect results following additional plant and wildlife surveys and the Project’s final on and/or off-site mitigation plans.

Biological Resources (BIO)			
Mitigation Measure (MM) or Recommendation (REC)		Timing	Responsible Party
REC-1- Impacts to Mountain lion surveys	The City should evaluate the mountain lion territory size and use of habitat within and surrounding the Project vicinity. The City should analyze the change (i.e. increase) in human presence and area of anthropogenic influence that will now be in mountain lion habitat and how it may impact mountain lion behavior, reproductive viability, and overall survival success. Based on these known anthropogenic impacts on mountain lions, CDFW also recommends the City provide compensatory mitigation for impacts to mountain lion. The CEQA document should justify how the proposed compensatory mitigation would reduce the impacts of the Project to less than significant. Finally, CDFW also recommends the City recirculate the document with these analyses included.	Prior to Project construction and activities	City/Project Applicant
MM-BIO-1- Impacts to Mountain lion - surveys	Due to potential habitat within the Project footprint, within one year prior to Project implementation that includes site preparation, equipment staging, and mobilization, a CDFW-approved biologist knowledgeable of mountain lion species ecology shall survey areas that may provide habitat for mountain lion to determine presence/absence and potential for natal dens. Caves and other natural cavities, and thickets in brush and timber provide cover and are used for denning. Females may be in estrus at any time of the	Prior to Project construction and activities	City/Project Applicant

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	<p>year, but in California, most births probably occur in spring. Surveys shall be conducted when the species is most likely to be detected, during crepuscular periods at dawn and dusk (Pierce and Bleich 2003). Survey results including negative findings shall be submitted to CDFW prior to initiation of Project activities. The survey report shall include a map of potential denning sites. The survey report shall include measures to avoid impacts mountain lions that may be in the area as well as dens and cubs, if necessary</p>		
MM-BIO-2- Impacts to Mountain lion – avoiding natal dens	<p>If potential habitat for natal dens are identified impacts to mountain lions shall be fully avoided, especially during spring, to protect vulnerable cubs. Two weeks prior to Project implementation, and once a week during construction activities, a CDFW-approved biologist shall conduct a survey for mountain lion natal dens. The survey area shall include the construction footprint and the area within 2,000 feet (or the limits of the property line) of the Project disturbance boundaries. CDFW shall be notified within 24 hours upon location of a natal den. If an active natal den is located, during construction activities, all work shall cease. No work shall occur within a 2,000-foot buffer from a natal den. A qualified biologist shall notify CDFW to determine the appropriate course of action. CDFW shall also be consulted to determine an appropriate setback from the natal den that would not adversely affect the successful rearing of the cubs. No construction activities or human intrusion shall occur within the established setback until mountain lion cubs have been successfully reared; the mountain lions have left the area; or as determined in consultation with CDFW.</p>	Prior to Project construction and activities	City/Project Applicant
MM-BIO-3- Impacts to Mountain lion take permit	<p>If “take” or adverse impacts to mountain lion cannot be avoided either during Project construction or over the life of the Project, the City will consult CDFW to determine if a CESA ITP is required.</p>	Prior to Project construction and activities	City/Project Applicant
MM-BIO-4- Scientific	<p>The Project may require capture, handling, and relocation of wildlife. Pursuant to the California Code of Regulations, title 14, section 650, the City/qualified biologist must obtain appropriate</p>	Prior to Project	City/Project Applicant

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<p>Collection Permits</p>	<p>handling permits to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with Project construction and activities. Please visit CDFW's Scientific Collection Permits webpage for information (CDFWa 2022).</p> <p>CDFW has the authority to issue permits for the take or possession of wildlife, including mammals; birds, nests, and eggs; reptiles, amphibians, fish, plants; and invertebrates (Fish & G. Code, §§ 1002, 1002.5, 1003). Effective October 1, 2018, a Scientific Collecting Permit is required to monitor project impacts on wildlife resources, as required by environmental documents, permits, or other legal authorizations; and, to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with otherwise lawful activities (Cal. Code Regs., tit. 14, § 650).</p>	<p>construction and activities</p>	
<p>MM-BIO-5- Species surveys</p>	<p>The City shall retain a qualified biologist with experience surveying for coast [Blainville's] horned lizard, coastal whiptail, Southern California legless lizard, California glossy snake, and coast patchnosed snake. Prior to commencing any Project-related ground-disturbing activities, the qualified biologist shall conduct focused surveys for SSC and suitable habitat no more than one month from the start of any ground-disturbing activities or vegetation removal where there may be impacts to SSC. Project related activities include construction, equipment and vehicle access, parking, and staging. In addition, the qualified biologist shall conduct daily biological monitoring during any activities involving vegetation clearing or modification of natural habitat. Positive detections of SSC and suitable habitat at the detection location shall be mapped and photographed. The qualified biologist shall provide a summary report of SSC surveys to the City prior to implementing any Project-related ground-disturbing activities and vegetation removal. Depending on the survey results, a qualified biologist shall develop species-specific mitigation measures for implementation during the Project.</p>	<p>Prior to Project construction and activities</p>	<p>City/Project Applicant</p>



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<p>MM-BIO-6- Protection Plan</p>	<p>Wildlife shall be protected or allowed to move away on its own (non-invasive, passive relocation) to adjacent appropriate habitat within the open space on site or in suitable habitat adjacent to the Project area (either way, at least 200 feet from the grading limits). Special status wildlife shall be captured by only by a qualified biologist with proper handling permits (see Mitigation Measure #1). The qualified biologist shall prepare a species-specific list (or plan) of proper handling and passive relocation protocols. The list (or plan) of protocols shall be implemented during Project construction and activities/biological construction monitoring.</p>	<p>Prior to Project construction and activities</p>	<p>City/Project Applicant</p>
<p>MM-BIO-7- Injured or Dead Wildlife</p>	<p>If any SSC are harmed during relocation or a dead or injured animal is found, work in the immediate area shall stop immediately, the qualified biologist shall be notified, and dead or injured wildlife documented. A formal report shall be sent to CDFW and the City within three calendar days of the incident or finding. Work in the immediate area may only resume once the proper notifications have been made and additional mitigation measures have been identified to prevent additional injury or death.</p>	<p>Prior to Project construction and activities</p>	<p>City/Project Applicant</p>
<p>MM-BIO-8- Impacts to bat species</p>	<p>Prior to construction activities, a qualified bat specialist shall conduct bat surveys within these areas (plus a 100-foot buffer as access allows) in order to identify potential habitat that could provide daytime and/or nighttime roost sites, and any maternity roosts. Acoustic recognition technology shall be utilized to maximize detection of bat species to minimize impacts to sensitive bat species. A discussion of survey results, including negative findings shall be provided to the City. Depending on the survey results, a qualified bat specialist shall discuss potentially significant effects of the Project on bats and include species specific mitigation measures to reduce impacts to below a level of significance (CEQA Guidelines, § 15125). Surveys, reporting, and preparation of robust mitigation measures by a qualified bat specialist shall be completed and submitted to the City prior to any Project-related ground-disturbing activities or vegetation removal at or near locations of roosting habitat for bats.</p>	<p>Prior to Construction and/or ground disturbing activities</p>	<p>City/Project Applicant</p>



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MM-BIO-9- Impacts to bat species	<p>If bats are not detected, but the bat specialist determines that roosting bats may be present at any time of year and could roost in trees at a given location, during tree trimming, trees shall be pushed using heavy machinery prior to using a chainsaw to remove branches. To ensure the optimum warning for any roosting bats that may still be present, trees shall be pushed lightly two or three times, with a pause of approximately 30 seconds between each nudge to allow bats to become active. A period of at least 24 hours, and preferable 48 hours, shall elapse prior to such operations to allow bats to escape.</p>	<p>Prior to Construction and/or ground disturbing activities</p>	<p>City/Project Applicant</p>
MM-BIO-10- Impacts to bat species	<p>If maternity roosts are found, work shall be scheduled between October 1 and February 28, outside of the maternity roosting season when young bats are present but are yet ready to fly out of the roost (March 1 to September 30).</p>	<p>Prior to Construction and/or ground disturbing activities</p>	<p>City/Project Applicant</p>
MM-BIO-11- Impacts to Trees	<p>An infectious tree disease management plan shall be developed and implemented prior to initiating Project activities. All trees scheduled for removal shall be identified and counted to provide total numbers and species type. In addition, trees scheduled for removal resulting from the Project shall be inspected for contagious tree diseases including but not limited to: thousand canker fungus (<i>Geosmithia morbida</i>), Polyphagous Shot Hole Borer (<i>Euwallacea spp.</i>), and goldspotted oak borer (<i>Agrilus auroguttatus</i>) (TCD 2020; UCANR 2020; UCIPM 2013). To avoid the spread of infectious tree diseases, diseased trees shall not be transported from the Project site without first being treated using best available management practices relevant for each tree disease observed.</p>	<p>Prior to Project construction and activities</p>	<p>City/Project Applicant</p>
MM-BIO-12- Impacts to Oak Trees and Tree Replacement	<p>CDFW recommends modifying BIO-3 to include <u>underlined</u> language and remove language with strikethrough.</p> <p>"d. The project shall avoid mechanical injury and compaction to roots, root flares, trunks, and branches under the dripline of any</p>	<p>Prior to Project construction and activities</p>	<p>City/Project Applicant</p>




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	<p>tree to be retained. A certified arborist shall be present to observe the area with the roots exposed, prior to undertaking any root pruning or grading. <u>The exposed tap root, main roots and any surface-feeding roots exceeding one inch in diameter shall be wrapped in protective moistened burlap during the excavation of existing pavement and buildings and during the re-grading phase and installation of the new parking lot. The roots zone (under dripline) and 5 feet from the drip line shall be excavated with hand tools, using a probe (metal rod or stick) to locate and unearth roots, leaving them in their natural orientation. Work will be done as quickly as possible to expose the roots for as little time as possible and the roots will be reburied with clean fill as soon as is feasible (no longer than a day or so, if possible). The burlap will be kept moist. Efforts will be made to avoid cutting roots. If roots need to be cut, they will be cut with sharpened, clean, disinfected tools (10% bleach solution) with every effort to avoid tearing the root and to avoid tearing the root surface. A minimum distance of eight feet should be maintained of the root (distance from the root crown to terminal end of root), where possible. If the current elevation of the two tree's existing root collars differs by more than one foot from the grade of the new parking lot grade then a 10-foot radius of soil at the root collar grade shall be placed around each tree. If a certified arborist or and/or qualified restoration professional determines work is being performed improperly, that individual(s) shall stop work and determine the best course of action to avoid any tree damage or mortality before restarting work.</u></p> <p>[...]</p> <p>h. During project construction, mulch and compost shall be applied around the trees once every 6 months. Wood chip mulch shall be applied over the soil surface soil to 4 inches deep to preserve moisture and improve soil condition. <u>If a certified arborist or and/or qualified restoration professional determines work is being performed improperly, that individual(s) shall stop work and determine the best course of action to avoid any tree damage or mortality before restarting work.</u></p>		
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	<p>i. Protected trees damaged by construction shall be repaired in accordance with accepted arboriculture methods by a tree specialist. The project arborist shall determine when repair is required. <u>These procedures may have a potential to cause decreased health (greater than 25% signs of visible stress) or mortality of any oak trees designated to be preserved. If any root disturbing activities are determined to have caused irreversible impacts that may eventually lead to decreased health or mortality of any oak tree, those activities and potential impacts shall be documented immediately. All documentation shall be summarized in a report provided to the City of Monrovia. Preserved oak trees that may succumb to impacts shall be replaced with oak trees that are of the same species and variety.</u></p> <p>j. <u>In the event that oak trees succumb to impacts, the City and landscape architect shall work with a certified arborist and/or qualified restoration professional to select the most appropriate location for replacement coast live oak trees. Coast live oak trees shall not be planted in specific location(s) that will be subject to future ground disturbance work that may impact replacement trees. Locations shall have appropriate biological or physical factors required by coast live oak trees to grow and persist where possible.</u></p> <p><u>The City and landscape architect shall work with a certified arborist and/or qualified restoration professional to acquire appropriately sized, locally sourced coast live oak trees from a local native plant nursery that implements <i>Phytophthora</i>/Clean Nursery Stock protocols. This may reduce the probability of introducing coast live oak trees contaminated with pests, diseases, and pathogens that could spread and infect native oak trees or habitats. A certified arborist and/or qualified restoration professional shall inspect and potentially quarantine nursery stock before bringing them into the</u></p>		
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	<p><u>Project site and supervise the installation/transplanting of the coast live oak trees.</u></p> <p><u>The City shall protect and monitor the survivorship of planted coast live oak trees until the trees begin to produce seeds. The City shall consult with the certified arborist and/or qualified restoration professional on a long-term maintenance plan to provide protective caging, shading, and irrigation. Oak trees shall be protected from trampling, damage, or climbing. The City shall also consult with the certified arborist and/or qualified restoration professional if coast live oak trees show symptoms of stress and determine the appropriate response to prevent mortality. "</u></p>		
REC-2-Oak Tree Replacement Ratio	In the event that replacement trees are necessary, CDFW recommends a minimum mitigation ratio of 2:1 for impacts to coast live oak trees.	Prior to Project construction and activities	City/Project Applicant
REC-3-Oak Nursery Stock	<p>CDFW recommends the following sources for additional information about Clean Nursery Stock protocols and soilborne pathogens in the genus <i>Phytophthora</i> as discussed in Mitigation Measure #2.</p> <ul style="list-style-type: none"> • Best Management Practices for Producing Clean Nursery Stock provided by Phytosphere Research. • Understanding and Managing Sudden Oak Death in California provided by Phytosphere Research. • A Reference Manual for Managing Sudden Oak Death in California provided by the United States Department of Agriculture. 		

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<p>REC-4-Human Wildlife Interface</p>	<p>CDFW recommends the City require the use of bear-proof trash cans for this and all new developments in the foothills. There have been sightings of black bear in the Project vicinity. Bears or mountain lions spotted in residential, suburban or urban areas should be reported to the South Coast Regional Office (858) 467-4201 or AskR5@wildlife.ca.gov during normal business hours. After-hours or weekend sightings should be reported first to local police or sheriff officers, who often can respond and secure a scene quickly and then contact CDFW as needed.</p> <p>CDFW considers improper storage of human food and garbage to be the primary cause of bear conflicts with humans. This requirement is necessary for the local waste management agency to provide each house these special cans. These trash cans require the use of special trucks and must be specifically contracted. The City should require this development, and all individual houses, use bear-proof trash cans.</p> <p>Human interactions are one of the main drivers of mortality and increasing development and human presence in this area could increase the need for public safety removal and/or vehicle strikes of mountain lions. Therefore, any new development project should analyze the potential for mountain lion that are known to occur in the San Gabriel Mountains and their foothills and may be impacted by development and human activity in the Project area (see Comment #2).</p>	<p>Prior to Project construction and activities</p>	<p>City/Project Applicant</p>
<p>REC-5-Entrapment</p>	<p>The Project may result in the use of open pipes used as fence posts, property line stakes, signs, etc. CDFW recommends that all hollow posts and pipes be capped to prevent wildlife entrapment and mortality because these structures mimic the natural cavities preferred by various bird species and other wildlife for shelter, nesting, and roosting. Raptor's talons can become entrapped within the bolt holes of metal fence stakes resulting in mortality.</p>	<p>Prior to Project construction and activities</p>	<p>City/Project Applicant</p>

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	Metal fence stakes used on the Project site should be plugged with bolts or other plugging materials to avoid this hazard.		
REC-6-Landscaping	The MND states the site will be landscaped. CDFW recommends the MND provide the Project's landscaping plant palette and tree species list. CDFW also recommends using native, locally appropriate plant species for landscaping on the Project site. CDFW recommends invasive/exotic plants, including pepper trees (<i>Schinus</i> genus) and fountain grasses (<i>Pennisetum</i> genus), be restricted from use in landscape plans for this Project. A list of invasive/exotic plants that should be avoided as well as suggestions for better landscape plants can be found at California Invasive Plant Species Council website (Cal-IPC, 2022) .	Prior to Project construction and activities	City/Project Applicant
REC-7-Rodenticide	CDFW recommends preventing the use of second-generation anticoagulant rodenticides on site and over the life of the Project.	Prior to Project construction and activities	City/Project Applicant
REC-8-Nesting Birds	CDFW recommends avoiding any construction activity during nesting season. If not feasible, CDFW recommends modifying BIO-2 by expanding the time period for bird and raptor nesting from February 1 through September 15 to January 1 through September 15. If the Project occurs between January 1 through September 15, a nesting bird and raptor survey should be conducted as stated in BIO-2, prior to any ground-disturbing activities (e.g., staging, mobilization, grading) as well as prior to any vegetation removal within the Project site. It should be noted that the temporary halt of Project activities within nesting buffers during nesting season does not constitute effective mitigation for the purposes of offsetting Project impacts associated with habitat loss. Additional mitigation would be necessary to compensate for the removal of nesting habitat within the Project site based on acreage of impact and vegetation	Prior to Project construction and activities	City/Project Applicant

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Sheri Bermejo
 City of Monrovia
 March 14, 2022
 Page 24 of 24

	composition. CDFW shall be consulted to determine proper mitigation for impacts to occupied habitat depending on the status of the bird species. Mitigation ratios would increase with the occurrence a California Species of Special Concern and would further increase with the occurrence of a CESA-listed species.		
REC-9-Data	CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations [Pub. Resources Code, § 21003, subd. (e)]. The City shall ensure that all data concerning special status species within the Project site be submitted to the CNDDDB by completing and submitting CNDDDB Field Survey Forms . This includes all documented occurrences of Catalina mariposa lily, American badger, and Yerba mansa Herbaceous Alliance, and potential occurrences of Crotch's bumble bee, California red-legged frog, and other SSC. The City shall ensure the data has been properly submitted, with all data fields applicable filled out, prior to Project ground-disturbing activities. The data entry shall also list pending development as a threat and then update this occurrence after impacts have occurred. The City shall provide CDFW with confirmation of data submittal.	Prior to Project construction and activities	City/Project Applicant

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 CDFW-24
 (cont'd)



G.1. Response to California Department of Fish and Wildlife

Comment No.	Response
CDFW-1	<p>The California Department of Fish and Wildlife (CDFW) provides introductory comments regarding the project, including an overview of CDFW's role, a summary of the proposed Norumbega Drive Residence project, and an introduction to CDFW's comments. CDFW notes that the agency has made suggested revisions to assist the City in adequately addressing the project's potentially significant impacts in addition to editorial comments and other suggestions. This comment does not provide specific comments on the Draft IS/MND. Refer to responses below for the City's detailed responses to CDFW's specific comments.</p>
CDFW-2	<p>The comments provide input to the Draft IS/MND regarding mountain lions. Mountain lion (<i>Puma concolor</i>) is known to occur in Southern California, including the San Gabriel Mountains adjacent to the proposed project. SWCA wildlife biologist Pauline Roberts, Ph.D. visited the project site on April 12, 2022 to assess current conditions at the site and suitability for special-status plants and wildlife. No mountain lion dens were observed. In addition, in the summer of 2022, a Mountain Lion Habitat Assessment (2022) was completed for the project, which is included as Appendix H to the revised Draft IS/MND. The study relied on both a literature review and a field survey conducted on June 8, 2023. The field survey included an identification of plant communities, including the composition and density of species both native and non-native, to aid in the assessment of the quality of habitat for mountain lions, including foraging, breeding/denning, migration, and home range activities. The field survey included 100 percent visual coverage of the study area, which included the project site and a 0.5-mile buffer around the project site, which is large enough to understand the density and spatial ecology of mountain lions that could reasonably use the region, or the project site.</p> <p>The Mountain Lion Habitat Assessment reports that mountain lion denning sites are typically located away from development in areas of native plant communities with dense cover, where caves or other natural cavities and rock outcrops are common, and large expanses of surrounding foraging areas are required to support two adults and the young. Two potential denning/breeding sites were observed within the study area during the survey; both sites included areas with rock outcrops to the north of the project site approximately 1,000 feet from the proposed development. There is also a potential for mating in this same area (approximately 1,000 feet from the proposed development) due to the presence of hundreds of thousands of acres of contiguous protected and areas with dense vegetation and little to no human presence. No denning sites, caves or cavities occur on the project site and none are expected to occur due to the proximity to existing developments and the human presence in this area that would deter mountain lions.</p> <p>Ambush predators like mountain lions require dense woody vegetation such as chaparral, coastal sage scrub, or woodlands to hide in and ambush prey. The northern part of the project site includes valleys with dense laurel sumac scrub where mountain lions are likely to forage regularly. However, mountain lions avoid developed areas, grasslands, and other types of areas that lack vegetation and will not follow prey such as mule deer into open areas and would instead wait in dense brush at the edge of open areas and ambush prey when they entered the denser vegetation. The wild oats and annual brome grassland and the coast live oak woodland and forest on the project site are adjacent to existing developments and lack areas with dense woody vegetation near the surface that would conceal mountain lions. The fountain grass swards on the project site also lack areas with dense woody vegetation. The Mountain Lion Habitat Assessment concludes that these three plant communities that are present on the project site are not suitable foraging areas for mountain lions on the project site.¹ The coast live oak woodlands that occur in the study area further from the project site are not disturbed and would likely support foraging mountain lions in these less disturbed woodlands. Additional information on the study that was conducted and these results are provided in Appendix H of the revised Draft IS/MND.</p>

¹ South Environmental. 2023. Mountain Lion Habitat Assessment for the Norumbega Drive Residential Project in Monrovia, California. June 22.



Comment No.	Response
	<p>The proposed development is entirely within a previously disturbed area of non-native grasses and would not result in loss or direct impacts to native plant communities or areas that would be habitat for mountain lions. The development is proposed immediately adjacent to existing houses and paved roads and does not serve as a habitat linkage or wildlife movement corridor, so no mountain lions would be expected to move onto the project site or move through the area during dispersal. Areas of suitable habitat for mountain lions such as laurel sumac scrub and on the northern portion of the parcel and in the northern half of the study area would not be impacted by the project and no direct impacts to mountain lion habitat would result.</p> <p>Potential denning sites for mountain lion do not occur on the parcel and were identified in areas of dense vegetation with rock outcrops in two location that are 1,000 and 800 feet north of the proposed development. These potential denning sites will not be disturbed by the development and no direct impacts to denning sites would occur from the project. The increased human presence from a single-family home development is estimated to be negligible due to the existing conditions of human developments and human presence that would already deter mountain lions from the parcel. Therefore, no direct or indirect impacts to mountain lion dens would be expected from the project.</p> <p>However, the proposed project is adjacent to habitat that is suitable for mountain lions during foraging and dispersal or movement events. If lights were pointed at the habitat or foraging areas or noises from construction were to occur during typical movement times it is possible that mountain lions could be deterred from using the habitat north of the proposed development. To avoid potential impacts to mountain lions from night lighting or construction noise and developments, Mitigation Measure BIO-2 is provided in the revised Draft IS/MND, which limits time of construction to daytime hours, requires fencing and trash and debris control during construction, and restricts night lighting spillover in the adjacent parks and undeveloped areas. In addition, Mitigation Measure BIO-3 has also been provided, as recommend by the CDFW, to provide for proper notification of large wildlife, including mountain lions, due to the location of the site at the foothills of the San Gabriel mountains. These mitigation measures will reduce the potential impacts to a less than significant level.</p> <p>It should also be noted that the CDFW reviewed the Mountain Lion Habitat Assessment and concurred with the results per an email to South Environmental on September 21, 2023.² Further CDFW indicated that the study meets the requirements of the measures CDFW recommended in their comment letter on the previous Draft IS/MND of 2022 (enumerated in the CDFW letter as measures #1 and #2).³</p>
CDFW-3	Refer to response to Comment CDFW-2. .
CDFW-4	After providing the comment letter on the February 2022 Draft IS/MND, CDFW reviewed the Mountain Lion Habitat Assessment and concurred with the results per an email to South Environmental on September 21, 2023. Further, CDFW indicated that the study meets the requirements of the measures CDFW recommended in their comment letter, including this recommended mitigation measure. Also, refer to response to Comment CDFW-2.
CDFW-5	After providing the comment letter on the February 2022 Draft IS/MND, CDFW reviewed the Mountain Lion Habitat Assessment and concurred with the results per an email to South Environmental on September 21, 2023. Further, CDFW indicated that the study meets the requirements of the measures CDFW recommended in their comment letter, including this recommended mitigation measure.

² CDFW. 2022c. Mountain Lion Study for Norumbega Drive Residence Project email correspondence. Los Angeles County. South Coast Region, San Diego, CA. September 21.

³ CDFW. 2022a. Comments on the Mitigated Negative Declaration for Norumbega Drive Residence Project, SCH #2022020722, Los Angeles County. South Coast Region, San Diego, CA. March 14.



Norumbega Drive Residence Project
Revised Draft Initial Study/Mitigated Negative Declaration

Comment No.	Response
CDFW-6	The comment indicates that if take (as defined under CESA) or adverse impacts to mountain lion cannot be avoided the City should consult CDFW and must require a CESA Incidental Take Permit pursuant to the Fish and Game Code. This language has been added to the revised Draft IS/MND as part of Mitigation Measure BIO-3.
CDFW-7	The comment provides input on the analysis and mitigation measure included in the Draft IS/MND related to sensitive status reptile species. Consistent with the input provided by CDFW, the Draft IS/MND has been revised and additional protection measures have been provided. These measures are included in the revised Draft IS/MND as Standard Conditions SC BIO-1 through SC BIO-4, which include CDFW's recommendations.
CDFW-8	This measure has been incorporated into the revised Draft IS/MND (SC BIO-1).
CDFW-9	This measure has been incorporated into the revised Draft IS/MND (SC BIO-2).
CDFW-10	This measure has been incorporated into the revised Draft IS/MND (SC BIO-3).
CDFW-11	This measure has been incorporated into the revised Draft IS/MND (SC BIO-4).
CDFW-12	<p>Townsend's big eared bat (<i>Corynorhinus townsendii</i>) has been recorded approximately two miles from the project site. This species requires hard surfaces for daytime roosting, like caves, mines, tunnels, and buildings, which do not occur at the project site. This species could forage over the project site but would be able to escape direct impacts.</p> <p>It is assumed that bats occur in the project vicinity as they do generally in the foothills of the San Gabriel Mountains. There are a total of seven coast live oaks that are within the study area considered in the arborist report, which includes a 50-foot buffer around the project site. Four of these trees are located on the property and the other three are located on adjacent properties (i.e., within the 50-foot study area buffer). All seven of these trees are protected by the Monrovia Tree Preservation Ordinance. The project would not remove any oak trees nor result in any trimming of the existing oak trees. Nonetheless, additional mitigation measures have been added to the IS/MND since the February 2022 Draft IS/MND to significantly expand the biological resource protection measures consistent with the comments received from CDFW. Mitigation Measures BIO-4 through BIO-6 of the revised Draft IS/MND provide protections to bats through a preconstruction bat survey, tree roost impact minimization, and appropriate scheduling of work outside the maternity roosting season if maternity roosts are found.</p>
CDFW-13	See response to Comment CDFW-12 and Comment CDFW-14. To avoid and minimize potential impacts to roosting bats, Mitigation Measure BIO-4 through Mitigation Measure BIO-6 have been added. Mitigation Measures BIO-5 and BIO-6 specifically address potential impacts related to bats roosting in trees on site.
CDFW-14	Analysis of the project in the Draft IS/MND has been updated to include potential impacts to bats roosting in trees on site. To avoid and minimize potential impacts to roosting bats, Mitigation Measure BIO-4 through Mitigation Measure BIO-6 have been added to the revised Draft IS/MND. These measures include the measures recommended by CDFW. Specifically, the mitigation measure recommended by CDFW in this comment has been incorporated into the revised Draft IS/MND as Mitigation Measure BIO-4.
CDFW-15	This measure has been incorporated into the revised Draft IS/MND (Mitigation Measure BIO-5).
CDFW-16	This measure has been incorporated into the revised Draft IS/MND (Mitigation Measure BIO-6).
CDFW-17	Since publication of the February 2022 Draft IS/MND, the Applicant has revised their project plans to avoid direct impacts to the on-site oak trees. Neither the root system nor the canopy of any oak tree are planned to be removed as a result of the project re-design. However, site grading and construction has the potential to affect the health of the oak trees through pruning and inadvertent damage and could also result in other additional unanticipated impacts to the oak trees during the construction process. In light of CDFW's comments and in consideration of the revised project plans, additional refinements have been made to the



**Norumbega Drive Residence Project
Revised Draft Initial Study/Mitigated Negative Declaration**

Comment No.	Response
	requirements for the project related to oak trees. The measures identified by CDFW have been incorporated as both conditions of approval and mitigation measures. These are incorporated into the revised Draft IS/MND as Standard Conditions SC BIO-7 through SC BIO-11 and Mitigation Measures BIO-7 and BIO-8. These conditions and measures reflect and incorporate the input provided by CDFW in their March 14, 2022 letter.
CDFW-18	See response to Comment CDFW-17.
CDFW-19	The comment recommends that an infectious tree disease management plan be developed and implemented prior to the start of project construction activities. The development of an infectious tree disease management plan has been incorporated as a new mitigation measure in the revised Draft IS/MND (Mitigation Measure BIO-7).
CDFW-20	The comment recommends modifications to the mitigation measure related to oak trees (which was previously numbered as Mitigation Measure BIO-3). These recommendations have been incorporated into the revised Draft IS/MND into Standard Conditions SC BIO-7 through SC BIO-11. It should also be noted that the project plans have been revised to avoid direct impacts to oak trees. For this reason, it is not anticipated that impacts would occur to the oak trees on site nor that replacement trees will be necessary. However, incorporation of the conditions as recommended by CDFW will provide a level of assurance that if impacts were to unexpectedly occur, the approach to addressing the impacts is clearly presented as requirements for the project.
CDFW-21	Given direct impacts to oak trees have been avoided through a re-design of the proposed project, replacement trees will not be necessary. However, incorporation of the conditions as recommended by CDFW will provide a level of assurance that if impacts were to unexpectedly occur, the approach to addressing the impacts is clearly presented as requirements for the project. See Standard Conditions SC BIO-10 and SC BIO-11, which have been incorporated into the revised Draft IS/MND consistent with CDFW's direction.
CDFW-22	The comment provides additional sources of information regarding clean nursery stock protocols and soilborne pathogens. This additional reference information is appreciated and is incorporated into the revised Draft IS/MND through the publication of CDFW's letter in Appendix G in addition to being added to Standard Condition SC BIO-10 in the revised Draft IS/MND.
CDFW-23	<p>Additional comments are provided as CDFW recommendations. These recommendations are not specific comments on the Draft IS/MND but are provided by CDFW as supplemental information that may assist the City and the Applicant as they move through the entitlement and construction process. Nonetheless, the following responses are provided to each item in this section:</p> <p>Human-Wildlife Interface. The requirement to report mountain lion and bear sightings has been added as Mitigation Measure BIO-3. As directed by this CDFW comment, the Draft IS/MND provides an analysis of the potential for mountain lions to occur in and around the project site and recommends appropriate mitigation measures to address this potential.</p> <p>Entrapment. CDFW provides further recommendations for expansion of the requirements listing in the IS/MND to avoid entrapment. These additional measures have been added to Standard Condition SC BIO-4, as reflected in the revised Draft IS/MND.</p> <p>Landscaping. CDFW recommends that the Draft IS/MND provide the project's landscaping plant palette and tree species list and also recommends using native, locally appropriate plant species for landscaping the project site. CDFW requests a list of invasive/exotic plants that should be avoided. Landscaping will be required to be consistent with the landscaping requirements within the City's Municipal Code. Landscaping with living plants is required in the front and street-facing side yards of single-family lots and the landscaping must also be consistent with the City's Model Water Efficient Landscape Ordinance.</p> <p>Landscaping with locally native plants is strongly encouraged to promote habitat to native wildlife and discourage the spread of non-native weeds and invasive species. A selection of example native plants</p>



Comment No.	Response																																																												
	<p>suitable for landscaping are listed in the below table. The California Native Plant Society's Calscape tool (https://calscape.org/nurseries.php) provides information about landscaping with native plants and a map of nurseries that sell seeds and container-grown native plants for landscaping use. The Applicant will develop a landscaping plan during the building permit process, which would occur after the CEQA review process.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 45%;">Common Name</th> <th style="width: 30%;">Scientific Name</th> <th style="width: 25%;">Type</th> </tr> </thead> <tbody> <tr><td>Coast live oak*†</td><td><i>Quercus agrifolia</i></td><td>Tree</td></tr> <tr><td>Western sycamore</td><td><i>Platanus racemosa</i></td><td>Tree</td></tr> <tr><td>Toyon</td><td><i>Heteromeles arbutifolia</i></td><td>Shrub or small tree</td></tr> <tr><td>Blue elderberry</td><td><i>Sambucus mexicanus</i></td><td>Shrub or small tree</td></tr> <tr><td>Laurel sumac†</td><td><i>Malosma laurina</i></td><td>Large shrub</td></tr> <tr><td>Manzanita, especially big berry manzanita and Cushing manzanita</td><td><i>Arctostaphylos</i> spp.</td><td>Shrub</td></tr> <tr><td>Coffeeberry†</td><td><i>Frangula californica</i></td><td>Shrub</td></tr> <tr><td>Spiny redberry†</td><td><i>Rhamnus crocea</i></td><td>Shrub</td></tr> <tr><td>White sage†</td><td><i>Salvia apiana</i></td><td>Shrub</td></tr> <tr><td>Black sage</td><td><i>Salvia mellifera</i></td><td>Shrub</td></tr> <tr><td>Cleveland sage</td><td><i>Salvia clevelandii</i></td><td>Shrub</td></tr> <tr><td>Hummingbird sage</td><td><i>Salvia spathacea</i></td><td>Perennial herb</td></tr> <tr><td>Desert wishbone-bush†</td><td><i>Mirabilis laevis</i></td><td>Perennial herb</td></tr> <tr><td>Blue-eyed grass</td><td><i>Sisyrinchium bellum</i></td><td>Perennial herb</td></tr> <tr><td>Canyon sunflower†</td><td><i>Venegasia carpesioides</i></td><td>Perennial herb</td></tr> <tr><td>Sunflower†</td><td><i>Helianthus annuus</i></td><td>Annual herb</td></tr> <tr><td>Giant wild rye</td><td><i>Elymus condensatus</i></td><td>Perennial grass</td></tr> <tr><td>Deergrass</td><td><i>Muhlenbergia rigens</i></td><td>Perennial grass</td></tr> <tr><td>Purple needlegrass</td><td><i>Stipa pulchra</i></td><td>Perennial grass</td></tr> </tbody> </table> <p>* Major trimming or removal of certain oak trees may require a permit per the City of Monrovia's Oak Tree Preservation ordinance. † Documented at the project site.</p> <p>Plants listed on the invasive plant inventory (www.cal-ipc.org/plants/inventory/) by the California Invasive Plant Council (Cal-IPC) shall not be used for landscaping, including the following species:</p> <ul style="list-style-type: none"> • Algerian and English ivy (<i>Hedera canariensis</i> and <i>H. helix</i>) • Cape-ivy (<i>Delairea odorata</i>) • Fountain grass (<i>Pennisetum</i> spp.) • Giant reed (<i>Arundo donax</i>) • Highway iceplant (<i>Carpobrotum edulis</i>) • Pampasgrass (<i>Cortaderia selloana</i>) • Peruvian and Brazilian pepper trees (<i>Schinus molle</i> and <i>S. terebinthifolius</i>) <p>Rodenticides. As recommended by CDFW, the requirement to exclude use of second-generation anticoagulant rodenticides at the project site has been added to the revised Draft IS/MND as Standard Condition SC BIO-6.</p> <p>Nesting Birds. CDFW provides further recommendations for expansion of the requirements of what was Mitigation Measure BIO-2 in the 2022 Draft IS/MND. This expansion and the recommended requirements have been added to the revised Draft IS/MND under Mitigation Measure BIO-1.</p>	Common Name	Scientific Name	Type	Coast live oak*†	<i>Quercus agrifolia</i>	Tree	Western sycamore	<i>Platanus racemosa</i>	Tree	Toyon	<i>Heteromeles arbutifolia</i>	Shrub or small tree	Blue elderberry	<i>Sambucus mexicanus</i>	Shrub or small tree	Laurel sumac†	<i>Malosma laurina</i>	Large shrub	Manzanita, especially big berry manzanita and Cushing manzanita	<i>Arctostaphylos</i> spp.	Shrub	Coffeeberry†	<i>Frangula californica</i>	Shrub	Spiny redberry†	<i>Rhamnus crocea</i>	Shrub	White sage†	<i>Salvia apiana</i>	Shrub	Black sage	<i>Salvia mellifera</i>	Shrub	Cleveland sage	<i>Salvia clevelandii</i>	Shrub	Hummingbird sage	<i>Salvia spathacea</i>	Perennial herb	Desert wishbone-bush†	<i>Mirabilis laevis</i>	Perennial herb	Blue-eyed grass	<i>Sisyrinchium bellum</i>	Perennial herb	Canyon sunflower†	<i>Venegasia carpesioides</i>	Perennial herb	Sunflower†	<i>Helianthus annuus</i>	Annual herb	Giant wild rye	<i>Elymus condensatus</i>	Perennial grass	Deergrass	<i>Muhlenbergia rigens</i>	Perennial grass	Purple needlegrass	<i>Stipa pulchra</i>	Perennial grass
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**Norumbega Drive Residence Project
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Comment No.	Response
	<p>CNDDB Database. This requirement to report all observations of special-status species to the California Natural Diversity Database (CNDDDB) has been included in as a requirement in the standard conditions and mitigation measures of the revised Draft IS/MND. This requirement has been added to Standard Condition SC BIO-2 and Mitigation Measures BIO-1, BIO-2, and BIO-4.</p> <p>Mitigation and Monitoring Reporting Plan. Please refer to comment CDFW-24, below. A Mitigation Monitoring Reporting Plan (MMRP) has been developed for the project and is included as Appendix I. The information CDFW has provided has been incorporated into the MMRP.</p> <p>Filing Fees. We appreciate the information on filing fees. The Applicant will be responsible for providing the fees to CDFW upon filing of the Notice of Determination by the City of Monrovia.</p>
CDFW-24	Attachment A to the CDFW letter provides CDFW's recommendations for a MMRP. A MMRP has been developed for the project and is included as Appendix I. The information CDFW has provided has been incorporated into the MMRP.



Norumbega Drive Residence Project
Revised Draft Initial Study/Mitigated Negative Declaration

COMMENT LETTER #2



Robert C. Ferrante
Chief Engineer and General Manager
1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

March 15, 2022

Ref. DOC 6474362

Ms. Sheri Bermejo, Planning Division Manager
City of Monrovia
Planning Division
415 South Ivy Avenue
Monrovia, CA 91016

Dear Ms. Bermejo:

NOI Response to Norumbega Drive Residence Project

The Los Angeles County Sanitation Districts (Districts) received a Notice of Intent (NOI) to Adopt a Mitigated Negative Declaration (MND) for the subject project on March 2, 2022. The proposed project is located within the jurisdictional boundaries of District No. 15. We offer the following comments regarding sewerage service:

1. The wastewater flow originating from the proposed project will discharge to a local sewer line, which is not maintained by the Districts, for conveyance to the Districts' Joint Outfall B Unit 8H Trunk Sewer, located in Orange Avenue, between Buena Vista Street and Terrado Drive. The Districts' 12-inch diameter trunk sewer has a capacity of 1.5 million gallons per day (mgd) and conveyed a peak flow of 0.2 mgd when last measured in 2018.
2. As mentioned in the MND, the expected average wastewater flow from the project site, a single-family home, is 260 gallons per day.
3. The wastewater generated by the proposed project will be treated at the San Jose Creek Water Reclamation Plant located adjacent to the City of Industry, which has a capacity of 100 mgd and currently processes an average flow of 61.2 mgd.
4. The Districts are empowered by the California Health and Safety Code to charge a fee to connect facilities (directly or indirectly) to the Districts' Sewerage System or to increase the strength or quantity of wastewater discharged from connected facilities. This connection fee is used by the Districts for its capital facilities. Payment of a connection fee may be required before this project is permitted to discharge to the Districts' Sewerage System. For more information and a copy of the Connection Fee Information Sheet, go to www.lacsd.org, under Services, then Wastewater (Sewage) and select Rates & Fees. In determining the impact to the Sewerage System and applicable connection fees, the Districts will determine the user category (e.g. Condominium, Single Family home, etc.) that best represents the actual or anticipated use of the parcel(s) or facilities on the parcel(s) in the development. For more specific information regarding the connection fee application procedure and fees, the developer should contact the Districts' Wastewater Fee Public Counter at (562) 908-4288, extension 2727.
5. In order for the Districts to conform to the requirements of the Federal Clean Air Act (CAA), the capacities of the Districts' wastewater treatment facilities are based on the regional growth forecast adopted by the Southern California Association of Governments (SCAG). Specific policies included in the development

LASAN-1

DOC 6485477.D15



Norumbega Drive Residence Project
Revised Draft Initial Study/Mitigated Negative Declaration

Ms. Sheri Bermejo

2

March 15, 2022

of the SCAG regional growth forecast are incorporated into clean air plans, which are prepared by the South Coast and Antelope Valley Air Quality Management Districts in order to improve air quality in the South Coast and Mojave Desert Air Basins as mandated by the CAA. All expansions of Districts' facilities must be sized and service phased in a manner that will be consistent with the SCAG regional growth forecast for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The available capacity of the Districts' treatment facilities will, therefore, be limited to levels associated with the approved growth identified by SCAG. As such, this letter does not constitute a guarantee of wastewater service, but is to advise the developer that the Districts intend to provide this service up to the levels that are legally permitted and to inform the developer of the currently existing capacity and any proposed expansion of the Districts' facilities.

↑
LASAN-1
(cont'd)

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2743, or mandyhuffman@lacsdc.org.

Very truly yours,

Mandy Huffman

Mandy Huffman
Environmental Planner
Facilities Planning Department

MNH:mnh

DOC 6485477.D15



G.2. Response to Los Angeles County Sanitation Districts

Comment No.	Response
LASAN-1	The Los Angeles County Sanitation Districts (LASAN) provide a range of comments regarding their provision of sewerage service in relation to the project, including the specific connections to the sewer lines, where the wastewater generated by the proposed project would be treated; fee requirements; and an explanation that the provisions of sewer service and related capacity of LASAN's treatment facilities are planned consistent with Southern California Association of Governments (SCAG) regional growth forecasts. These comments in no way conflict with the information presented in the Draft IS/MND. The comment letter by LASAN does not provide any specific comments on the Draft IS/MND.



COMMENT LETTER #3

Vincent Gillespie

From: George Hills <GeorgeHills1@hotmail.com>
Sent: Wednesday, March 16, 2022 1:16 PM
To: planning@monrovia.ca.us
Subject: Norumbega Dr. Residential Project (APN 8523-002-045)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

First, thank you for the notification of this project and the attendance of city staff and the developers at the March 10th meeting on site.

After reviewing the MND pertaining to this project, we find there are several potential impacts not adequately addressed.

The failure to assess the impact on the neighborhood to the south (Norumbega Rd.) and in particular 524 Norumbega Rd. is cause for great concern.

G&CH-1

The impact of walls, fences, grading and all activity associated with the construction will cause a potential negative impact. Factors such as views of the hillside, privacy, noise and lighting should also be considered.

G&CH-2

There seems to be adequate attention to bird life , lizards and snakes. The lot is currently a well utilized wildlife (deer, bear etc.) corridor and should be factored into the review. The 40% removal of the root zone of one of the Oaks also seems out of character for the Monrovia Hillside.

G&CH-3

Most important however is the absence of attention given to the residents residing to the south of the proposed project and it is for this reason we feel a more thorough review such as a CEQA should be completed.

G&CH-4

George and Carol Hills 626 824-4672



G.3. Response to George and Carol Hills

Comment No.	Response
G&CH-1	<p>As an introduction to the email, the comment indicates that the Draft IS/MND does not adequately address several potential impacts to the neighborhood, in particular impacts to 524 Norumbega Road. However, this introductory comment does not identify specific concerns with the analysis contained in the Draft IS/MND.</p>
G&CH-2	<p>The comment indicates that walls, fences, and grading activities associated with project construction could cause a negative impact. The environmental effects of construction have been addressed within the Draft IS/MND as required by the State California Environmental Quality Act (CEQA) Statute and Guidelines. It is acknowledged that there may be other effects on the neighborhood that are not considered significant environmental impacts under CEQA that could be considered by the City of Monrovia when determining whether to approve the Norumbega Drive Residence Project. The comment indicates that factors such as views of the hillside, privacy, noise, and lighting should be considered. Some of the identified issues are appropriate to be addressed in a CEQA document and have been included in the Draft IS/MND.</p> <p>Specifically, aesthetic impacts are considered in the Draft IS/MND through addressing the State CEQA Guidelines Appendix G questions related to potential aesthetic impacts. Aesthetic impacts and visual character impacts are more narrowly defined within the context of CEQA than what can be considered by decision-making bodies in their consideration of the project through the discretionary development review process. For instance, in the Bowman case, <i>supra</i>, the court held that particular design and aesthetic issues should be addressed in local design review, not CEQA.</p> <p>Noise impacts of the proposed project are addressed in the Draft IS/MND in Section 4.13, Noise. Once again, the analysis has been guided by the questions asked by the State CEQA Guidelines Appendix G. The California Natural Resources Agency has consistently turned to this guidance document to highlight environmental issues commonly associated with most types of new development and focus attention on those issues that must be addressed in the CEQA process. All of the potential noise issues raised by Appendix G have been considered in the Draft IS/MND. The commenter does not provide specific indication of how this analysis might be deficient or otherwise inadequate, so no further response is necessary.</p> <p>Further, lighting impacts have been addressed in the Draft IS/MND as guided by the State CEQA Guidelines Appendix G, which asks whether the proposed project would create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area. This question is the typical environmental standard by which lighting is considered within a CEQA document. It is acknowledged that the single-family residence would include interior and exterior lighting that would create an additional source of illumination in the area. Vehicle headlights traveling to and from the residence would also illuminate the area. However, this increase would not be substantial because the project area is in an urban/suburban area to the south and west that is already illuminated from nearby residential uses at night. Section 17.32.080 of the Monrovia Municipal Code requires lighting be arranged to reflect away from adjoining property or any public way and be arranged so as not to cause a nuisance. The project would be required to adhere to the Municipal Code.</p> <p>In conclusion, the analysis in the Draft IS/MND focused on environmental standards recommended by the State of California and other local regulations. It is acknowledged that there is a broader range of considerations that are touched upon by the comment (e.g., social, design, privacy, private views) that can be taken into consideration by the local decision-making body when considering whether to approve a project as proposed.</p>
G&CH-3	<p>The comment indicates that there seems to be adequate attention to bird life, lizards, and snakes. In addition, the comment indicates that additional attention should be factored in for wildlife corridor consideration and specific comments regarding impacts to the oak tree(s). The Draft IS/MND specifically addresses wildlife corridors under question “d.” of the Biological Resources section. No identified wildlife corridors occur within the boundaries of the project site. The project site is very steep and lies on the edge of the urban/wildland interface. Based on its topography and position relative to existing development in the</p>



**Norumbega Drive Residence Project
Revised Draft Initial Study/Mitigated Negative Declaration**

Comment No.	Response
	<p>City of Monrovia, the site does not serve as a significant wildlife movement corridor for any terrestrial wildlife species through the local area or wider region, although it may serve as an entry point for local wildlife to the neighborhood. Further, the project has been redesigned since the February 2022 Draft IS/MND to avoid direct impacts to oak trees. In addition, the biological resource mitigation measures and conditions of approval required for the project have been significantly expanded in the revised Draft IS/MND consistent with the comments received from CDFW (Comment Letter #1 beginning on page G-2). Standard Conditions SC BIO-7 through SC BIO-11 and Mitigation Measures BIO-7 and BIO-8 contained in the revised Draft IS/MND sufficiently address potential oak tree impacts.</p>
G&CH-4	<p>The comment reiterates that more attention should be given to the residents residing south of the project. However, the comment does not raise additional ways in which this consideration could be given or suggest revisions or specific comments on the Draft IS/MND. The comment is included in this revised Draft IS/MND for consideration by the City prior to making a final decision on the project. The revised Draft IS/MND and Response to Comments will be recirculated and made available for public review in accordance with the California Environmental Quality Act. The revised Draft IS/MND, including this Appendix G: Response to Comments, will be recirculated and made available for public review in accordance with CEQA.</p>



COMMENT LETTER #4

Vincent Gillespie

From: Ron Pelham <rpsrbugman@verizon.net>
Sent: Thursday, March 17, 2022 2:25 PM
To: planning
Subject: Norumbega project meeting

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

From Ron Pelham Owner of 513 Norumbega Rd. Monrovia CA.

I would like to thank you for the notification of the above project and the attendance of the city staff and developers at the March 10 meeting on site. This appears to be a project that will have an adverse effect to the neighborhood and hillside. I would like to bring to your attention two facts about this project.

RP-1

1. The cut and fill process will undermine the house above the site and if we have 100 year rain storm we will probably lose both of these houses to flooding.

RP-2

2. I don't know if the fire potential has been addressed building this house under the cut and fill area, definitely if there was a fire the hillside would create a chimney affect. The fire would go directly up the hill in the house above. Also it might affect the houses adjacent to that house.

RP-3

I am opposed to this construction project. I truly feel this is not a buildable lot in the hillside zone. Again I would like to thank the Monrovia staff for their work on this project.

RP-4

Thank You,
Ron Pelham
rpsrbugman@verizon.net
(626) 236-3100



G.4. Response to Ron Pelham

Comment No.	Response
RP-1	The comment introduces the comment email. This comment does not raise any issue concerning the adequacy of the Draft IS/MND; therefore, no specific response is provided.
RP-2	The comment expresses that the cut and fill process could undermine the house above the site and concern over what would happen if there were a 100-year storm event. Based on consultation with the licensed project engineer (Cal Land Engineering, Inc.), all surface water will divert to approved drainage devices and the grading and drainage plans will be prepared in accordance with County 100-year storm events. The improvement of the onsite drainage system would not create any flooding conditions and would improve the onsite drainage pattern.
RP-3	<p>The comment raises concerns about whether the design was reviewed considering a potential risk to fire. The proposed residential home will be required to satisfy the California Building and California Fire Codes, as well as the following policies for hillside development:</p> <ul style="list-style-type: none"> • Fire suppression access to natural chaparral areas shall be provided and maintained; • A Landscape Plan shall be approved by the Monrovia Fire Department; • All cantilevered construction, including stairs, balconies, porches, open structure under buildings shall be fire retardant construction and protected by fire sprinklers approved by the Fire Department; • All eaves shall be fully boxed in with exterior stucco or its equivalent. Vents will be covered with one-sixteenth inch mesh or its equivalent; • The roof shall only include non-flammable materials; and • Flammable chaparral, excluding mature trees, on the lot within 200 feet of a home, shall be cleared, maintained, and replaced with vegetation to minimize fire hazard. <p>All City ordinances promoting fire prevention, including the brush mitigation program, will be enforced on the subject property.</p>
RP-4	The City acknowledges this comment and notes this commenter's opposition to the project.



COMMENT LETTER #5

My name is Daniel Hagerty, and I am a resident of Valmont Drive. Thank you for the opportunity to speak today. I have some questions and comments on the Norumbega proposed development I would love to see addressed by either the city or the applicant for this proposed development:

- 1. A mitigated negative declaration is supposed to include measures to avoid or mitigate impacts of a project to the point where no "significant effects on the environment" will occur. "Significant effects" means "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, etc."

While it is true the parcel of land is 1.3 acres, most of it is occupied by a hill, a huge portion of which must be removed to allow such an enormous building. The potential physical impact of the changes to the surrounding landscape from substantial removal of hillside is significant. Building 10- or 15-foot retaining walls may alter the natural flow of rainwater and other runoff. This could increase the likelihood of mass wasting events. Rock falls, slumps, landslides, and mudslides could inundate the properties at 524 and 525 Norumbega and render the hillside under 547 Norumbega unstable. In the event of heavy rain, slope failure exacerbated by these changes could lead to large trees or rocks falling into yards and houses as well, putting not just property but lives at risk.

DH-1

- 2. Furthermore, the design of the project would significantly impact the natural pathway that the land currently provides for wildlife. The proposed project would completely cut off the narrow pathway behind 524 and 525 Norumbega where coyotes, deer, bear, and other animals regularly traverse. This could increase the chance of dangerous encounters with wildlife.

DH-2

- 3. It also states that "a social or economic change related to a physical change may be considered in determining whether the physical change is significant". In other words, the MND must consider whether the impact of proposed development may cause adverse social or economic change that rises to the level of significance. In reviewing the proposed plan, and the MND, I do not believe it adequately considers the economic and social impact of such a large house on such a small space of land. One need only stand in the middle of the cul de sac at the end of Norumbega to imagine what a huge house would look like. It will surely reduce the property values of surrounding houses, as they will be hemmed in by walls that will block their view of the landscape. As the land was zoned public-quasi public, any potential home buyer would have concluded that the land behind, for example, 524 Norumbega, was an easement or other non-developed piece of land and would stay that way in the future. This development would rob adjacent residents of the benefit of their bargain should the zoning change go through. I worry about the precedent this will set, as other similarly small spaces between houses in and around the foothills could be instantly rezoned and developed, permanently altering the character, quality, and value of Monrovia.

DH-3

For these reasons, I ask that the planning committee request a full environmental impact report on this proposed project, as the mitigated negative declaration fails to adequately address the numerous concerns of how this proposed project will impact not only nearby private property but our wild spaces.

DH-4



Thank you for the opportunity to speak today. My name is Carolyn Contreras, and I am a resident of Valmont Drive. When we were looking to buy a house, Monrovia was high on our list because of the city's demonstrated commitment to balancing the demands of private land use and the preservation of wild public spaces. When we learned of a plan to build a large house on a very small piece of land just one street over from our house, we were alarmed, as it seems to violate the commitment to this balance. Since learning of this plan, we have scrambled under tight deadline to make sense of CEQA documents, mitigated negative declarations, and a host of other esoteric guidelines.

The residents of Norumbega Drive, Valmont Drive, and the surrounding neighborhood are stakeholders in this proposed development project, as its very existence will impact our lives, our property, and the substantive quality of the neighborhood around us for generations to come. As a stakeholder, I strongly maintain that the public was not adequately informed of this development in a manner that would prepare it to respond appropriately.

While it is true that the city is under the obligation to provide a public review period of not less than twenty days to respond to this proposed project, there is no requirement that says that cities cannot provide more than twenty days. The applicant has been working with the city on this project for three years. Twenty days is too short a time for us to process our response.

Sincerely,
Daniel Hagerty
536 Valmont Drive
Monrovia, CA 91016
dhagerty@gmail.com

—
DH-5
—



G.5. Response to Daniel Hagerty

Comment No.	Response
DH-1	<p>The first paragraph of the comment accurately summarizes the intent of CEQA analysis and review. It is correct that mitigation measures should be provided within an IS/MND to reduce and avoid significant impacts to the environment and that “significant effects” means “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, etc.” (State CEQA Guidelines Section 15382). The comment further states that the project would require alteration of the landform at the site and describes the effects as “substantial removal of a hillside.” CEQA does not prescribe that significant grading or landform alteration be determined to be a significant environmental impact, as the comment suggests. Rather, the question is whether the grading and landform alteration would have a significant adverse effect on natural resources present at the site as generally defined by the environmental criteria provided in the State CEQA Guidelines Appendix G. The comment provides some of these specific examples that could be considered significant under the State CEQA Guidelines. In relation to these specific comments, the following responses address each of these specific comments made and provide an explanation of the findings of the Draft IS/MND and the Report of Geotechnical Engineering Investigation (Geotechnical Analysis) prepared by Cal Land Engineering, Inc., dba Quartech Consultants, dated May 22, 2020.</p> <p>The comment expresses concern about mass wasting events, rock falls, slumps, landslides, and mudslides and further expresses that in the event of heavy rain, slope failure exacerbated by these changes could lead to large trees or rocks falling into near-by properties.</p> <p>Based on consultation with the licensed project engineer (Cal Land Engineering, Inc.), the project’s retaining wall would require a drainage system which would direct flow of rainwater and other runoff to a storm drain system. Further, adhering to the project design recommended by Cal Land Engineering, Inc. (including the soil recommendations) the properties would be safe under these events. Moreover, the proposed building, which would be designed in conformance with the project engineer’s recommendations, would be safe under earthquake events.</p> <p>Further, in the event of heavy rain, most of the water would be directed to the proposed storm drain system. Slope failure would not likely occur.</p>
DH-2	<p>The comment indicates the project would significantly impact the natural pathway of the land for wildlife. This is not correct. The Draft IS/MND specifically addresses wildlife corridors under question “d.” of the Biological Resources section. No identified wildlife corridors occur within the boundaries of the project site. The project site is very steep and lies on the edge of the urban/wildland interface. Based on its topography and position relative to existing development in the City of Monrovia, the site does not serve as a significant wildlife movement corridor for any terrestrial wildlife species through the local area or wider region. It may serve as an entry point for local wildlife to the neighborhood, creating visible paths through the project site but removal of this opportunity is not considered a significant impact to wildlife. No revisions have been made to the Draft IS/MND related to this comment.</p>
DH-3	<p>The comment indicates that social and economic changes should be considered in the Draft IS/MND. Section 15131 of the State CEQA Guidelines provides specific guidance on how CEQA documents can consider economic and social effect; while this section of the State CEQA Guidelines references “EIRs” the principles can, and should, be applied to IS/MNDs as well. Specifically, Section 15131 states:</p> <p>Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes.</p> <p>Economic or social effects of a project may be used to determine the significance of physical changes caused by the project. For example, if the construction of a new freeway or rail line divides an existing community, the construction would be the physical change, but the social effect on the community would</p>



Comment No.	Response
	<p>be the basis for determining that the effect would be significant. As an additional example, if the construction of a road and the resulting increase in noise in an area disturbed existing religious practices in the area, the disturbance of the religious practices could be used to determine that the construction and use of the road and the resulting noise would be significant effects on the environment. The religious practices would need to be analyzed only to the extent to show that the increase in traffic and noise would conflict with the religious practices. When an EIR uses economic or social effects to determine that a physical change is significant, the EIR shall explain the reason for determining that the effect is significant.</p> <p>The details provided by the comment related to social and economic change are focused on the commenter's belief that the project would have economic effects on neighboring property owners, specifically that that property values will decrease in the area if the Norumbega Drive residence is constructed. However, the comment provides no linkage of this perceived economic effect to physical changes in the environment. For an economic effect to be considered in a CEQA analysis, there must be an argument that the economic change will cause an environmental impact. There are no known environmental impacts that would be caused by the social or economic effects identified by the comment. As specified by State CEQA Guidelines Section 15131(a), economic or social effects of a project shall not be treated as significant effects on the environment.</p>
DH-4	<p>The comment summarizes the comment letter to generally state that the Draft IS/MND fails to adequately address the commenter's concerns and that a full environmental impact report should be prepared. No new or specific concerns regarding the analysis contained in the Draft IS/MND are raised in addition to those raised in comments DH-1 through DH-3. Based on the responses provided above, there is not substantial evidence that to support a fair argument that that the project may have a significant effect on the environment with the mitigation measures that are proposed.</p>
DH-5	<p>The comment provides additional perspective that is perceived to be the written text of the oral comments provided by Ms. Carolyn Contreras. The City acknowledges this comment and notes this commenter's opposition to the project. This comment does not raise any issue concerning the adequacy of the Draft IS/MND; therefore, no specific response is provided.</p>



Vincent Gillespie

From: Curt Brown <cbrown@lbflawfirm.com>
Sent: Monday, March 21, 2022 1:52 PM
To: planning; Sheri Bermejo
Subject: Comments re Proposed Norumbega Development APN 8523-002-045

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Sheri,

I hope you've been well. Below are comments concerning the proposed project on Norumbega. Thank you for all your time and help on this project. Please confirm receipt and that you are able to view the images contained in the body of the message.

The Proposed Fence Should be Revised

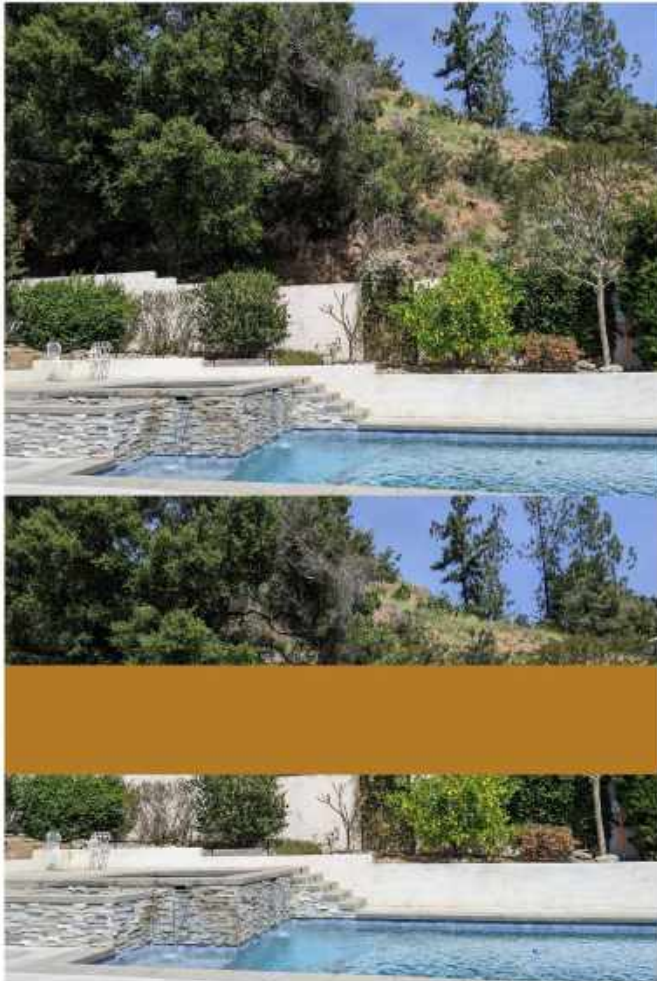
The applicant is looking to fill the lot north our north facing wall with cement up to the existing height of the wall and put another 5 ft. of fencing on top of that. This will result in a barrier almost 50% higher than what's permissible under City Code. Since we are directly beneath this property, this proposal will have a significant impact on us.

I recommend using a cable railing fence coupled with hedges or other vegetation if the footprint, foundation, and retaining wall of the building continue as proposed. Hedges or another type of natural barrier will not only be more environmentally sustainable, it will also be a lot less obtrusive for our property directly beneath it while still protecting the privacy concerns for both homes.

I look forward to continuing to work with the developer and the City to reach a mutually agreeable solution to this issue.

Below are photos for illustrative purposes since we are waiting for the revised renderings from the developer:

CB-1



CB-1
(cont'd)

The MND Doesn't Adequately Address the Impact of Wind on Air Quality & Neighbors

The proposed mitigation measures in the MND are not sufficient to reduce the environmental impacts of grading to a less than substantial degree because the MND fails to assess the impact of the high winds that frequent this area. I ask that the City revise and clarify the mitigation measures proposed in the MND to address this issue and prevent damage or trespasses to adjacent properties. I further ask that the City prohibit the use of chemicals referenced in the current mitigation measures proposed.

CB-2


CB-3

As a foothill community, we regularly see sudden high winds. Below is a survey of headlines highlighting the damage our City recently experienced:


CB-4




ABC7
Strong winds topple massive trees in some SoCal neighborhoods, damaging homes and vehicles
Fierce winds toppled massive trees in the Arcadia, Duarte and Monrovia, damaging several homes and vehicles.
Jan 22, 2022




CBS Los Angeles
High-Powered Winds Whip Through Southland, Bringing Damage To Houses, Trees
Another tree was knocked down by the strong winds in Van Nuys. A house in Monrovia was damaged by powerful winds in the San Gabriel Valley...
Jan 22, 2022



ABC7
Powerful winds wreak havoc in Southern California, thousands of SoCal Edison customers left without power throughout Southland
Southern California Edison customers in Monrovia are still dealing with power ... In Monrovia, with the damage caused by the powerful winds,...
Jan 24, 2022



ABC7
Monrovia Canyon Park, still cleaning up from last week's storm, braces for more rain
MONROVIA, Calif. (KABC) – The powerful storm that swept through Southern California last week nearly wiped out a Monrovia park,...
Dec 22, 2021



CB-4
(cont'd)

The proposal says grading will be occurring over 4-6 weeks, and the heavy winds in the area make it a treacherous situation for us since we're the property directly beneath the grading (particularly since we have an infant). If high winds occur, the mitigation measures proposed will not be sufficient to prevent soil from damaging the adjacent properties and will substantially impair the air quality in the area, and spraying chemicals on the soil only exacerbates the problem.

There Needs to be Further Geotechnical Analysis

A full EIR or a more detailed geotechnical report is warranted because: (1) the Geotechnical Analysis doesn't address landslides or liquefaction despite the parcel being located in a Landslide Zone and Liquefaction Zone; and (2) the test sites performed by the analysis only took place at the foot of the hill and do not provide any information on the composition of the section of the hill most likely to be affected by construction.

CB-5



The Geotechnical Analysis Doesn't Address Landslides or Liquefaction

According to the State, the parcel is located in an Earthquake Zone, Liquefaction Zone, and a Landslide Zone, however, the report only addresses earthquakes. It doesn't mention liquefaction or landslides at all. Despite its silence on these areas, this report is the exclusive evidence relied upon by the MND concerning several categories addressing landslides and liquefaction, some of which reach a level of significant in the absence of mitigation. This is an unwarranted level of extrapolation concerning these hazards and a more in depth analysis needs to be performed to ensure the construction doesn't negatively impact the environment or adjacent properties.

CB-6

The Soil Should be Tested Throughout the Hill

I'm also concerned the Geotechnical Analysis didn't perform soil excavation studies higher up on the hill. The four test sites are all at the very bottom of the hill, which is extremely steep, and given the level of excavation and grading, a more full study of the soil makeup directly above these sites is necessary. Without a more detailed analysis, it's impossible to use this report as evidence to support the conclusions advanced by the MND.

CB-7

Thank you,



Curt Brown



Managing Shareholder
Liu, Brown & Firoozmand, P.C.

[\(323\) 607-2914](tel:(323)607-2914)

cbrown@lbflawfirm.com



G.6. Response to Curt Brown

Comment No.	Response
CB-1	<p>The comment provides specific input and suggestions regarding how the wall and fence along the southern boundary of the site should be designed (Curt Brown's property's northern boundary). The comment recommends specific design parameters coupled with hedges or other vegetation. In response to this comment and direction provided by the City, the Applicant has revised the project plans to provide for wrought-iron fencing on top on the retaining wall on the west side of the property. Below are renderings of the revised design. The design provides for a 5-foot retaining wall with a 5-foot wrought iron fence.</p>  
CB-2	<p>The comment indicates that the mitigation measures in the Draft IS/MND are not sufficient to reduce the environmental impacts resulting from grading because there is not an assessment of the impact of high winds that frequent the area. The analysis in the Draft IS/MND considers high wind conditions. The requirements in SC AIR-1 include requirements specific to high wind events. For example, during earthmoving or excavation operations, fugitive dust emissions shall be controlled by regular watering to prevent excessive amounts of dust, ceasing earthmoving and excavation activities during periods of high winds. These high winds events are those greater than 20 miles per hour [mph] averaged over 1 hour. During construction, the wind conditions would be monitored to comply with these mitigation measures and ensure that fugitive dust would be controlled sufficiently.</p>



Comment No.	Response
CB-3	<p>The comment asks the City to revise and clarify the mitigation measures to address the potential for wind and prohibit the use of the chemicals referenced in the Draft IS/MND. The South Coast Air Quality Management District provides the following definition for “chemical stabilizers” which highlights the non-toxic properties. These stabilizers are water-absorbent products such as calcium chloride, which are generally effective short-term treatment and easily wash away with rain or snow. Sufficient precautions are taken to comply with federal, state, or local water agency determinations.</p> <p style="padding-left: 40px;">“CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule, or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.</p>
CB-4	<p>The comment provides reference to several news articles regarding high winds in the area and indicates that the heavy winds in the area will be particularly of issue for the commenter because their property is directly beneath the grading. The comment further indicates that the mitigation measures proposed will not be sufficient to prevent soil from damaging the adjacent properties and will substantially impair the air quality in the area.</p> <p>The measures in SC AIR-1 include requirements specific to high wind events. For example, during earthmoving or excavation operations, fugitive dust emissions shall be controlled by regular watering to prevent excessive amounts of dust, ceasing earthmoving and excavation activities during periods of high winds. These high winds events are those greater than 20 miles per hour [mph] averaged over 1 hour. During construction, the wind conditions would be monitored to comply with these mitigation measures and ensure that fugitive dust would be controlled sufficiently.</p>
CB-5	<p>The comment introduces concerns regarding the Geotechnical Analysis conducted for the project. These specific concerns are addressed below (CB-6 and CB-7).</p>
CB-6	<p>The comment asks for more information regarding landslides and liquefaction. According to regional geology map and the subsurface investigation by Cal Land, the property is underlain by a thin layer of fill and colluvium and Quartz Diorite bedrock within the planned building area. The remaining site is underlain by Quartz Diorite bedrock. The liquefaction and seismic induced landslide within the bedrock is unlikely under the design conditions.</p>
CB-7	<p>The comment questions the methodology of the Geotechnical Analysis. Based on consultation with the licensed project engineer (Cal Land Engineering, Inc.) the entire hill is underlain by Quartz Diorite. The proposed building would be at the bottom of the hill; therefore, the full study of soil throughout the hill is not necessary and design parameters specified in the Geotechnical Analysis are appropriate.</p>



COMMENT LETTER #7

March 21, 2022

Michael W. and Sheila S. Young
547 Norumbega Dr.
Monrovia CA 91016
Phone: 626.298.4018

City of Monrovia
Planning Division
Sheri Bermejo, Planning Division Manager 415 South Ivy Avenue
Monrovia, California 91016
(626) 932-5539
sbermejo@ci.monrovia.ca.us

RE: Comments on [Norumbega Drive \(Assessor's Parcel Number \[APN\] 8523-002-045\)](#)
residential building proposal.

Dear Sheri and Monrovia Planning Division,

I am submitting these comments in opposition to, and with significant concern about the proposed residential dwelling proposal on Norumbega Dr. next to 547 Norumbega Dr.

My wife and I moved from Arcadia to Monrovia because we loved the charm of the city's character, community, wildlife, ecology, and homes. We had heard that Monrovia was against the building of homes that were oversized for their lots (sometimes referred to as "McMansions") that were becoming abundant in Arcadia. 547 Norumbega was perfect for us.

Large enough to house our 5 children and our pets, the house sits wonderfully apart from other properties and provides a majestic view in almost all directions. We are also very happy with the wildlife we are able to observe there: deer several times a week, frequent bears, foxes, bobcats, coyotes, snakes, lizards, hawks, and many other bird species. The vacant lot next to the house is often occupied by any one of these species, who use trails along the steep hillsides to arrive there.

We even went so far as to investigate the status of the vacant lot to the east of us and found that it was zoned P/QP. This was a relief to us as we believed that no house would be built there. Unfortunately, after a fire in that lot that nearly took our house, the lot was sold to a developer who has now proposed rezoning the lot and building a new residential structure there.

This proposed structure will most likely reduce our property value and have a similar effect on houses nearby – especially for the 18+ months of construction that will be required. During that time, the noise and congestion created by work crews and heavy machinery doing extensive earth moving, grading, and construction will disrupt the otherwise peaceful and serene neighborhood. Our views will most certainly be negatively impacted, especially from the first and second floors. Instead of a feeling of privacy and relative isolation, we will be looking into a neighbor's windows and replacing the foundation of our vista to the east with concrete and roof tiles.

M&SY-1

M&SY-2

M&SY-3



We are very disappointed in the direction this proposed project is taking and are equally surprised that what has been proposed has seemingly met with approval thus far. Unfortunately, what appears to accommodate Monrovia's RF Zone density requirements and California's CEQA requirements on paper does not, in our strong opinion, do so in the actual reality of its impact.

M&SY-4

I would also like to express our disappointment in not receiving notice of the pending MDN until the week of March 7.

It is our understanding that Monrovia established the RF Density requirements and the overall hillside development requirements to preserve the character and charm of Monrovia's hillside neighborhoods and protect the environment and wildlife that live there, consequently protecting the safety and value of the homes and ecologies in hillside communities.

This project does not fully accommodate the RF Density requirements established by Monrovia and posted on the Monrovia website:

<https://www.cityofmonrovia.org/home/showpublisheddocument/9044/636390884261030000>.

RF Density Requirements

(plans inserted into google maps photo to scale based on legend)



M&SY-5

Dwelling Size Requirements

- Size up to 35% of 1st 20,000 sq ft. There is only roughly 7000 sq ft of developable area without further unreasonable earth moving and digging into the hillside. Requirements should be based on this rather than the mountainous/steep graded portion of lot. In other words, the full 1.3 acres should not be used for this formula.

M&SY-6



Setback <ul style="list-style-type: none">Houses 400 ft from proposed build have 30+ feet of setback from Norumbega Dr. Average setback should be required per the document at greater than 25 ft.	M&SY-7
Height Restrictions <ul style="list-style-type: none">Total height of house is 35' from street level to top. Using the "height from graded lot" requirement is meaningless to houses next to the lot. House is two story only based on technical definition of 3 story. But for all intents and purposes on this lot and in this position, it has the impact of a 3-story house.	M&SY-8
3 car Garage for hillside streets <ul style="list-style-type: none">Tandem garages do not count toward this requirement, yet the house has a "4 car" garage set in a 2 x2 tandem configuration.	M&SY-9
Minimally visible garage <ul style="list-style-type: none">Houses on Norumbega Drive have garages that are minimally visible from street. Per the RF Density Requirements document, the new home should also have a minimally visible garage.	M&SY-10
Impact to view <ul style="list-style-type: none">The view from 547 Norumbega will be negatively impacted as described earlier in this document.	M&SY-11
Neighborhood Compatibility Design Review <ul style="list-style-type: none">It does not preserve character and charm.It is not compatible with the unique character of the neighborhood in terms of mass, scale, height, and design. This is primarily due to the development area being shoe-horned into a lot from property line to property line east to west with major retaining wallsPrivacy at 547 Norumbega will be impacted. Views will allow sight of 2nd and 3rd floor windows at 547 and visa-versa.Fails to maximize visually compatible relationships, and bright, open neighborhoods. (See compatibility comment above.) This is not an "open" design for this and surrounding lots.	M&SY-12
<p>This home occupies most, if not all, of the developable area on the lot. Basing size, height, density, etc. requirements on the fact that this is a 1.3-acre lot leads to spurious conclusions. Much of this works on paper because of the size of the lot but fails due to the nature of the lot and the actual real-world impact. Additionally, as described several times above, many requirement accommodations are questionable.</p>	M&SY-13

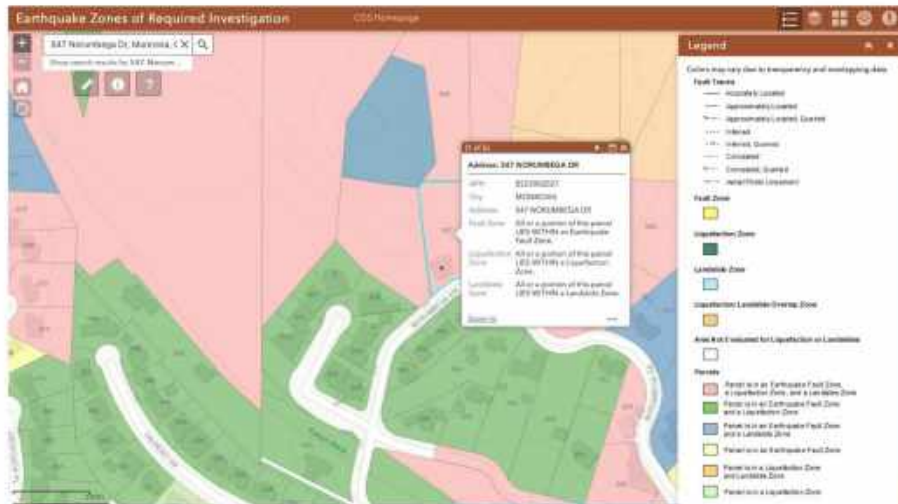


Minimum Negative Declaration

(screenshot source: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>)

Earthquake fault, Liquefaction, and Landslide Zone

The property and those adjacent are in an earthquake fault zone. There is a fault line that runs through the Norumbega neighborhood. Additionally, both the lots at 547 and the lot on which the proposed development will occur are also liquefaction and landslide zones.



M&SY-14



Geotechnical Assessment

It is odd that an MDN is proposed here given these facts. The geotechnical report on which the MDN is based does not appear to address liquefaction directly. In addition, the core samples taken were from a limited area. Core samples from, and assessments of the steep hillsides and the lot at 547 should be pursued. It is unclear how much risk will be exposed to our lot at 547 with the significant movement of land and the construction of various retaining walls. We are urgently concerned that this construction will destabilize our lot and that in the event of an earthquake, the destabilization will result in the movement of soil and building to the east – essentially a slide into the proposed new development.



M&SY-15

A full EIR should be pursued to ensure that no danger of liquefaction or other earthquake risks exists. The EIR should extend to cover the developed area and undeveloped steep hillsides at our lot at 547 Norumbega Dr as well as the steep hillsides extending to the north of the proposed structure.

M&SY-16

Biological Assessment and Wildlife

Appendix D, the Revised Biological Assessment states the following:

“The project site is very steep, and lies on the edge of the urban/wildland interface. Based on its topography and position relative to existing development in the City of Monrovia, the site does not appear to play a substantial role in facilitating the movement of any terrestrial wildlife species through the local area or wider region.”

M&SY-17

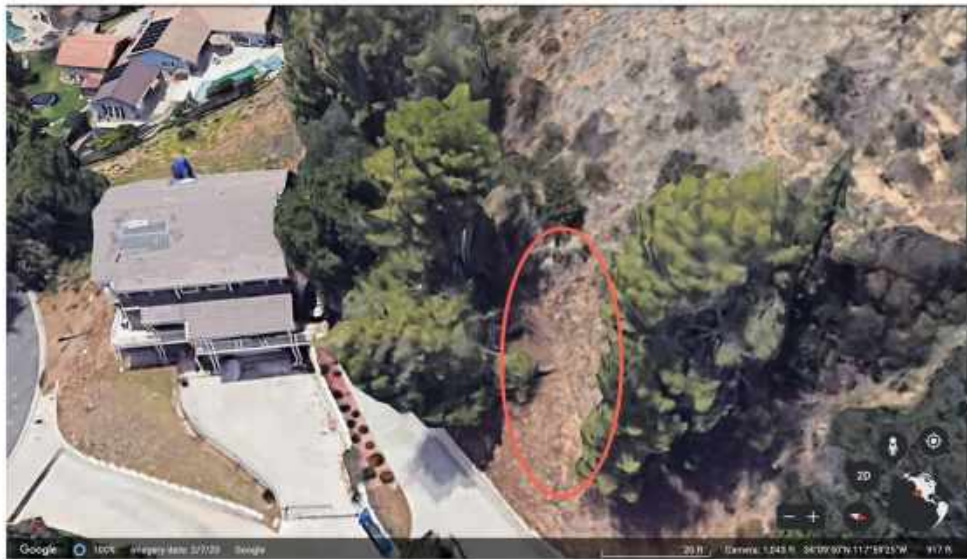
This is, in fact, incorrect. Deer, bear, and other animals have trails that proceed along the steep grades north of both 547 and the proposed development lot. The trails are identifiable and can be seen on site.



The lot in question actually serves as a major corridor for various species of wildlife and as a source of food for the same. Deer, fox, bears, bobcats, and other animals are often seen there. A large part of the joy of living in Monrovia is our ability to observe the wildlife there. It is one of the key features of our property at 547 Norumbega Dr.



M&SY-17
(cont'd)





Oak Trees

Oak tree root systems will suffer 20% - 40% destruction due to retaining wall construction. Again, this is surprising given Monrovia's commitment to maintaining the character and charm of the area. Fences, etc. will not prevent the destruction of these root systems and are putting the trees at risk. Those trees are on our property, and we very much do not want them harmed. If they are harmed, no recourse remains when they die. If they do not die quickly, long term health is questionable.

M&SY-18

Conclusion

Summarily, the amount of risk incurred to the hillside, to the welfare of wildlife, to the safety of residents, to views from 547 Norumbega Dr, to home values, to currently thriving oak trees, and to the ecology of the hillside is an unreasonable incursion into the serenity and stability of the neighborhood. Additionally, the amount of land being moved, the character, size, and weight of the building, and the disruption of peace in the neighborhood all are unreasonable asks of neighboring homeowners.

M&SY-19

The mitigations proposed do not eliminate the risks and the risks are substantial. An EIR is certainly called for given the status of these lots as earthquake, liquefaction, and landslide zones.

The lot is not suitable for development and should not be rezoned. If rezoned, the suitable development area requires a building that is substantially smaller with less impact overall.

We strongly oppose approval of the currently proposed development plan.



G.7. Response to Michael W. and Sheila S. Young

Comment No.	Response
M&SY-1	The comment introduces the comment letter, states the commenters' objection to the project, and describes the reasons why the commenters moved to their home (547 Norumbega Drive, located adjacent to the project site). This introductory comment does not identify specific concerns with the analysis contained in the Draft IS/MND.
M&SY-2	The comment describes concerns regarding the construction process and the potential for property value decreases. The environmental effects of the construction process have been addressed in the Draft IS/MND, specifically within the Air Quality and Noise sections. Response to comment DH-3 provides information regarding how the State CEQA Guidelines direct agencies to consider economic and social effects in a CEQA analysis, including the limitations thereof. While effects to property values are outside of the scope of the IS/MND, these comments are included in this revised Draft IS/MND for consideration by the City prior to making a final decision on the project. The comment does not suggest revisions or specific comments on the Draft IS/MND.
M&SY-3	The comment states that their (private) views will be negatively impacted if the proposed Norumbega Drive residence is constructed. The analysis of aesthetics impacts, including views, contained in the Draft IS/MND has been completed consistent with the State CEQA Guidelines and relevant case law, including <i>Mira Mar Mobile Community v. City of Oceanside</i> (2004) 119 Cal.App.4th 477. In this court case, the City determined that any impact to private views was not a "significant" environmental effect that required analysis in an EIR. The EIR concluded that the policy standards of the City's general plan, redevelopment plan, local coastal program, and zoning ordinances protected public views but not private views. The Court of Appeal held that the EIR's analysis and conclusions regarding the project's impact to surrounding private views was proper and held that the City's decision not to protect private views was not an abuse of discretion. While the City has the discretion to consider private views during the design review process, it is not a requirement of CEQA to consider private views. Therefore, no changes have been made to the Draft IS/MND in response to this comment.
M&SY-4	The comment provides a statement of overall dissatisfaction with the project as proposed and the review process to date. No specific comments are provided regarding the Draft IS/MND, and a response is not provided. The comment is included in this revised Draft IS/MND for consideration by the City prior to making a final decision on the project.
M&SY-5	The comment states that the project does not fully accommodate the RF density requirements. The RF development standards were designed to take into consideration the varying terrains throughout the City's hillside areas. Terracing a residential structure into a steep slope is encouraged when the lot has a limited level area for a building footprint. The code prohibits cantilever construction because it is typically more intrusive in a neighborhood and highly visible to the City below. Terracing a residence into a steep slope reduces or eliminates the number of retaining walls used to develop a lot because the residential structure can be designed to retain the slope. On the subject site the residence has limited level area to accommodate a building footprint and it has been designed to retain and step into the steep slope to comply with the RF development standards.
M&SY-6	The comment describes concerns that although the lot is 1.3 acres in size the proposed residence is oversized based on the roughly 7,000 square feet of developable land area. The maximum floor area allowed in the RF Zone allows a higher percentage of floor area (35% FAR) for the first 20,000 square feet of lot size and reduces to a smaller percentage (10% FAR) for lots exceeding 20,000 square feet to assure that a lot does not appear overbuilt. This sliding scale formula allows smaller lots in the RF Zone to be developed with a reasonable house size (i.e.: maximum 2,625 square foot residence on a 7,500 square foot lot) but once the lot exceeds 20,000 square feet in size it reduces to the smaller percentage to control overbuilding and to allow reasonable use of the land. The proposed residence and attached garage are less than half the size of what is permitted by code. The FAR is just one piece of a combination of RF development standards that regulate the placement and size of a house on a hillside lot.



Comment No.	Response
M&SY-7	The comment questions why the average front yard setback is not applied to the development on the subject site. The average setback is taken from the same side of the street (400' on each side of the site) and is for the purpose of ensuring that a house does not protrude into a front yard more than the majority of homes on a block. There are residential blocks where the homes have deep front yards and allowing a new residence to be built at the minimum 25' setback would not be compatible with the neighborhood. There are no front yard setbacks within 400' on either side of the subject property that can be used to establish an average. Adjacent to the site on the south side are all rear and side yard setbacks and on the north side are properties that are served by shared driveways and private-ways where the homes do not face the street. There is no front yard setback uniformity along the street, therefore, the proposed 25' front yard setback complies with the zoning code.
M&SY-8	The comment states that the total height of the residence is 35' when measured from the street level and using the "height from graded lot" requirement is meaningless to the houses next to the lot. The comment continues to question the technical definition of two-story versus three-story construction and believes the proposal has the impact of a three-story residence. The RF development standards are in place to allow reasonable development on lots with varying terrains. If the maximum building height was only measured from street level many lots (depending on their terrain) in the RF Zone could not be developed or would be very limited restricted on development capacity. The "height from graded lot" requirement does allow reasonable development and height and encourages terracing a residence into a slope which reduces the visual impact of a multi-storied home. Because the zoning code prohibits three-story construction the proposed upper level of the residence does not overlap with the lower garage level. This offset reduces the visual height of the structure and complies with the standards of the zoning code.
M&SY-9	The comment expresses concern that tandem parking should not be counted towards a three-car garage requirement on a hillside street. The minimum requirement for the proposed residence is a two-car garage because Norumbega Drive is not a hillside street. It is defined as a local street in the Circulation Element of the Monrovia General Plan. A hillside street is typically narrower and does not have on-street parking.
M&SY-10	The comment questions why the "minimized visible garage" requirement is not applied. The zoning code requirement is similar to the average front yard setback requirement (same side of the street, 400' on both sides of the lot) and the intent is to require garage placement similar to the predominant pattern on the block. This segment of Norumbega Drive is unique in that there is no predominant pattern to apply. All of the homes located in the subdivision to the south have garage access off of Norumbega Road. The homes to the north are served by shared driveways and private-ways on properties that are not visible from the street.
M&SY-11	The comment reiterates that the view from 547 Norumbega will be negatively affected by the project. Refer to the previous response to comment M&SY-3.
M&SY-12	The comment discusses concerns regarding neighborhood compatibility design review. The majority of homes along this portion of Norumbega Drive do not face the street or cannot be seen from the street. The proposed two-story residence is amongst properties that are developed with one-, two- and three-story homes, and its mass, height and design are similar to the surrounding properties but would be more visible because it does face the street. The limited level area and steep terrain on this lot dictates placement of the residence and garage access. The southerly living room windows on the second level that overlook the lower neighbor's backyard would be opaque and fixed, and a bedroom window that that was originally designed to face south was relocated to the east building elevation. To maximize visually compatible relationships, and bright, open neighborhoods the proposed residence has been terraced into the steep terrain, does not exceed two-stories in height, and complies with all RF development standards. The subject property is surrounded by lots that have been substantially graded in the past and is being developed under a more restrictive code to better integrate into the hillside neighborhood.
M&SY-13	The comment reiterates concern regarding the developable area of the lot and references/summarizes previous comments. Refer to responses to Comments M&SY-2 through M&SY-12.



Comment No.	Response
M&SY-14	The comment provides specific screenshots and information regarding earthquake faults, liquefaction, and landslides, indicating concern regarding these issues and the effect of project development related to these issues. Based on the Geotechnical Analysis and consultation from the licensed project engineer (Cal Land Engineering, Inc.), construction of the proposed development is feasible from an engineering geologic perspective and the postulated active fault is situated at least 80 (Sierra Madre Fault Zone) to 290 (Raymond Fault) feet from the nearest property corner. Additionally, the remaining site is underlain by Quartz Diorite bedrock. The liquefaction and seismic induced landslide within the bedrock is unlikely under the design conditions.
M&SY-15	The comment raises concern over the geotechnical assessment and the CEQA analysis related to liquefaction and soil stability. The site is underlain by Quartz Diorite bedrock. The liquefaction and seismic induced landslide within the bedrock is unlikely under the design conditions. Based on the regional geology map and Cal Land Engineering's subsurface investigation, the entire hill is underlain by Quartz Diorite. The proposed building would be at the bottom of the hill; therefore, the full study of soil throughout the hill is not necessary. Moreover, retaining walls would prevent soil movements.
M&SY-16	The comment suggests that an EIR is necessary because of liquefaction and other earthquake-related concerns. According to regional geology map and the subsurface investigation by Cal Land Engineering, the property is underlain by a thin layer of fill and colluvium and bedrock of Quartz Diorite within the planned building area. The remaining site is underlain by bedrock of Quartz Diorite. The liquefaction and seismic induced landslide within bedrock is unlikely under the design conditions; therefore, an EIR is not required.



Comment No.	Response
M&SY-17	<p>The comment indicates that wildlife has been observed within and moving through the project site, including species typical of the suburban-wildland interface such as deer, foxes, bears, and bobcats. The commenter also notes that wildlife usage and wildlife trails are visible at the project site. These observations accurately reflect use of the site by large wildlife. Wildlife may cross the site from time-to-time and even create trails. However, no wildlife trails were observed during the site visit conducted by SWCA wildlife biologist Pauline Roberts, Ph.D. on April 12, 2022. Use of the site by large wildlife is not evidence that the site constitutes a wildlife corridor that allows mobile species to disperse from one open space to another. Currently, the project site is likely used by wildlife to access foraging opportunities within upper Monrovia, such as deer foraging in yards, bobcats and foxes hunting small mammals, and bears hunting and scavenging around residences. There is no additional large open space within Monrovia to which the project site provides connectivity.</p> <p>For animals seeking to travel longer distances a wildlife corridor is available in and alongside the channelized Rio Hondo drainage which flows southward out of Monrovia Canyon, passing within approximately 400 feet south of the project site and flowing eventually into the San Gabriel River. To the north and west of the project site there are no residences along the Rio Hondo drainage and ample opportunities for wildlife to access this corridor.</p> <p>Los Angeles County describes wildlife corridors as “areas of open space of sufficient width to permit larger, more mobile species (such as foxes, bobcats and coyote) to pass between larger areas of open space, or to disperse from one major open space region to another are referred to as wildlife corridors. Such areas generally are several hundred feet wide, unobstructed, and usually possess cover, food and water. The upland margins of a creek channel, open ridgelines, open valleys or the bottoms of drainages often serve as major corridors locally, as do riparian alignments. Corridors used by mountain lions require even wider open space areas to maintain movement opportunities.”⁴ The project site does not meet this definition of a wildlife corridor.</p> <p>Since the publication of the February 2022 Draft IS/MND, further study of the potential use of the project site by mountain lions was conducted in response to the CDFW’s request for additional consideration. The Mountain Lion Habitat Assessment conducted for the project is included as Appendix H to the revised Draft IS/MND (June 2023). Per the Mountain Lion Habitat Assessment, The site would not be considered habitat for mountain lions, nor does it serve as a linkage or a connection between areas of habitat such that the site would be used as a movement corridor for mountain lions. Lions would avoid the project site due to the lack of dense vegetation needed to conceal themselves and the presence of humans and development that would deter lions from the immediate area. Mountain lions would move through the dense scrub and chaparral habitats in the northern areas of the parcel and beyond to the north and northwest within the study area where undisturbed native habitat occurs. These areas would be considered movement corridors and linkages to the habitats of the genetically isolated populations of mountain lions to the west in the Simi Hills and Santa Monica Mountains. However, these areas would not be affected by the proposed project. As a result of the Mountain Lion Habitat Assessment, an additional mitigation measure has been added the IS/MND to further ensure impacts will not occur (Mitigation Measure BIO-3 of the revised Draft IS/MND).</p>
M&SY-18	<p>The comment indicates concern over oak tree impacts and provides specific comments related to root systems of the oak trees. The project arborist revised the oak tree report and has provided additional assessment and recommended mitigation in Appendix E. Further, the project has been redesigned since the February 2022 Draft IS/MND to avoid direct impacts to oak trees and oak tree mitigation has been significantly expanded in the revised Draft IS/MND consistent with comments received from CDFW (Comment Letter #1 beginning on page G-2). Standard Conditions SC BIO-7 through SC BIO-11 and Mitigation Measures BIO-7 and BIO-8 contained in the revised Draft IS/MND sufficiently address potential oak tree impacts.</p>

⁴ County of Los Angeles. 2022. Significant Ecological Areas, local and site specific habitat linkages and wildlife corridors https://planning.lacounty.gov/sea/local_and_site_specific_habitat_linkages_and_wildlife_corridors. Accessed June 20, 2022.



**Norumbega Drive Residence Project
Revised Draft Initial Study/Mitigated Negative Declaration**

Comment No.	Response
M&SY-19	The comment provides a conclusion to the letter and reiterates concern with and opposition to proposed project. This comment and other comments contained in this letter are provided verbatim in this appendix to the revised Draft IS/MND for consideration by the City of Monrovia during the public review and discretionary permit process.



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APPENDIX H

Mountain Lion Habitat Assessment

June 22, 2023

Miguel Rivas
Group ATOM Development
Email: Groupatomdevelopment@gmail.com

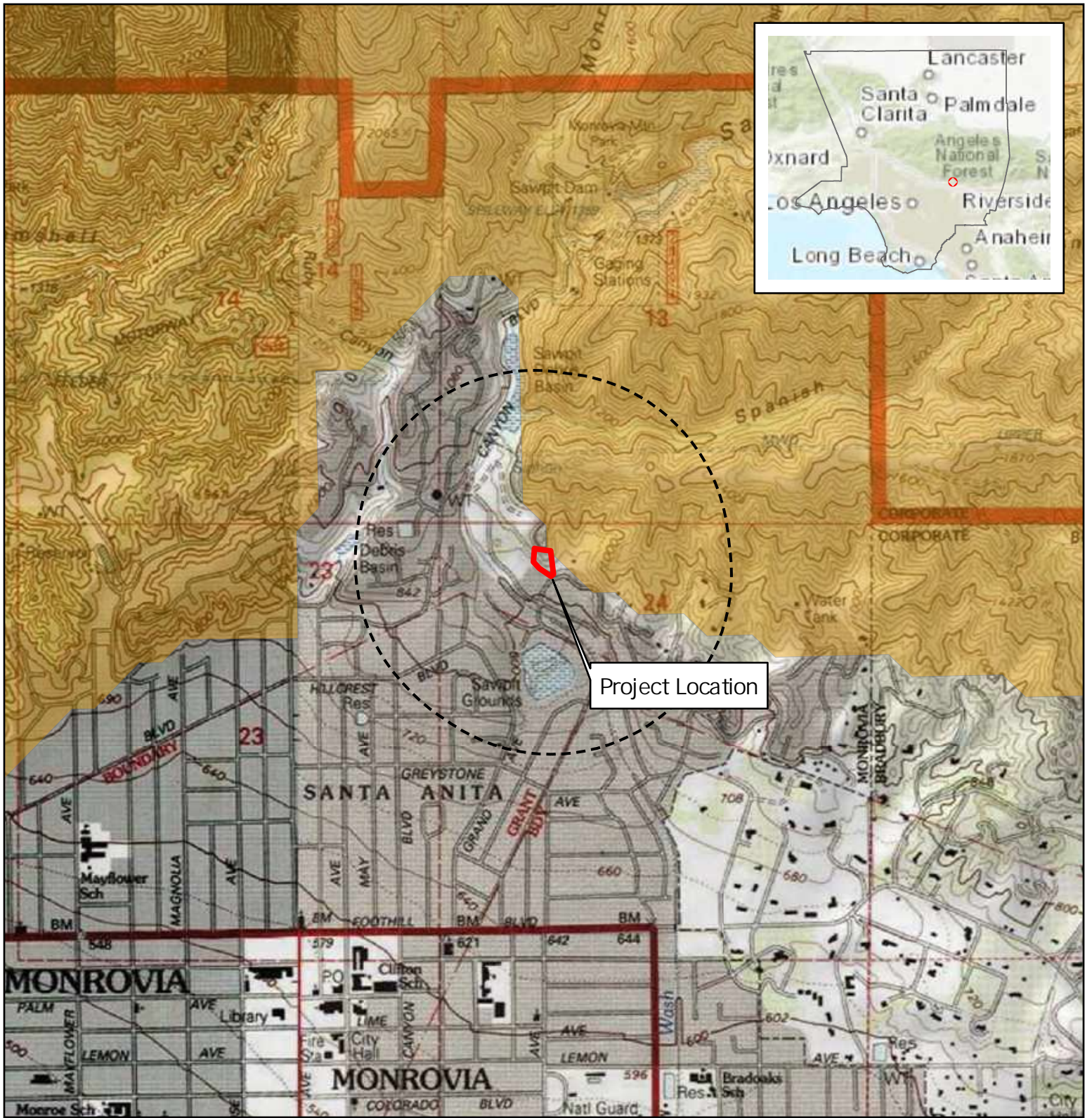
RE: Mountain Lion Habitat Assessment for the Norumbega Drive Residential Project in Monrovia, California

Dear Miguel,

This habitat assessment has been prepared by South Environmental for the Norumbega Drive Residential Project in Monrovia, California. The project includes a single-family home development within the southern foothills of the San Gabriel Mountains. The project completed a Mitigated Negative Declaration (MND) to comply with the California Environmental Quality Act (CEQA) and comments on the MND from the California Department of Fish and Wildlife (CDFW) include requests for additional analysis regarding the project's potential impacts to mountain lion. On April 16, 2020, the California Department of Fish and Wildlife (CDFW) voted to advance the southern California and central coast population of mountain lion (*Puma concolor*) as a candidate for listing under the California Endangered Species Act (CESA). The proposed project is within the estimated range of mountain lions in California and this report assesses the habitat for mountain lions on the project site and within a 0.5-mile buffer around the project site, and assesses the potential impacts (if any) to mountain lions from the project. Recommendations for avoiding impacts to mountain lions from the project are also included.

Project Location

As shown in Figure 1 and Figure 2 below, the project site is in the foothills of the San Gabriel Mountains at the northern edge of the City of Monrovia, California approximately 500-feet northeast of Sawpit Wash. The project is within the U.S. Geological Survey (USGS) Azusa 7.5" topographical map, and within Section 24 of Township 01 North (01N) and Range 11 West (11W). The project site includes 1.295-acre on one parcel with a parcel number (Assessor's Parcel Number [APN]s: 8523-002-045). The parcel is at the northern edge of an urban area and is surrounded by single family houses to the south and east. To the west and north of the project site is undeveloped, native habitats owned by the City of Monrovia and the Los Angeles Department of Water and Power. There is no development currently on the project site.



Source: ESRI USA Topo Maps and World Topo Map 2023, California Wildlife Habitat Relationship (CWHR) data ArcGIS online

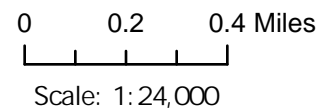
Norumbega Project - Mountain Lion Study

Figure 1. Project Location

- Project Parcel (1.295-Acres)
- Study Area (0.5-Mile Buffer)
- Mountain Lion Habitat Model - CWHR

Project Site is within the City of Monrovia, California, in Los Angeles County on the USGS Azusa 7.5-minute quadrangle map in Section 24 of Township 01 North and Range 11 West

Center Coordinate (Decimal Degrees):
 Latitude: 34.1637170N Longitude: -117.9908215W





Source: BING Aerial Basemap 2023, CPAD GIS 2023

Norumbega Project - Mountain Lion Study

Figure 2. Project Vicinity

- Project Parcel (1.295-Acres)
- Study Area (0.5-Mile Buffer)
- Mountain Lion Habitat Model - CWHR
- California Protected Areas Database (CPAD)

0 0.07 0.15 Miles

Scale: 1:9,000





The California Wildlife Habitat Relationships (CDHR) System from CDFW includes a mountain lion habitat model (CDFW, 2023). The California Protected Areas Database (CPAD) is a GIS database of lands that are protected for open space, and it is administered by the California Natural Resources Agency (CNRA) (CNRA, 2022). Figure 1 includes GIS for the CDHR mountain lion habitat model. Figure 2 includes the GIS both the CDHR mountain lion habitat model and CPAD.

Proposed Development

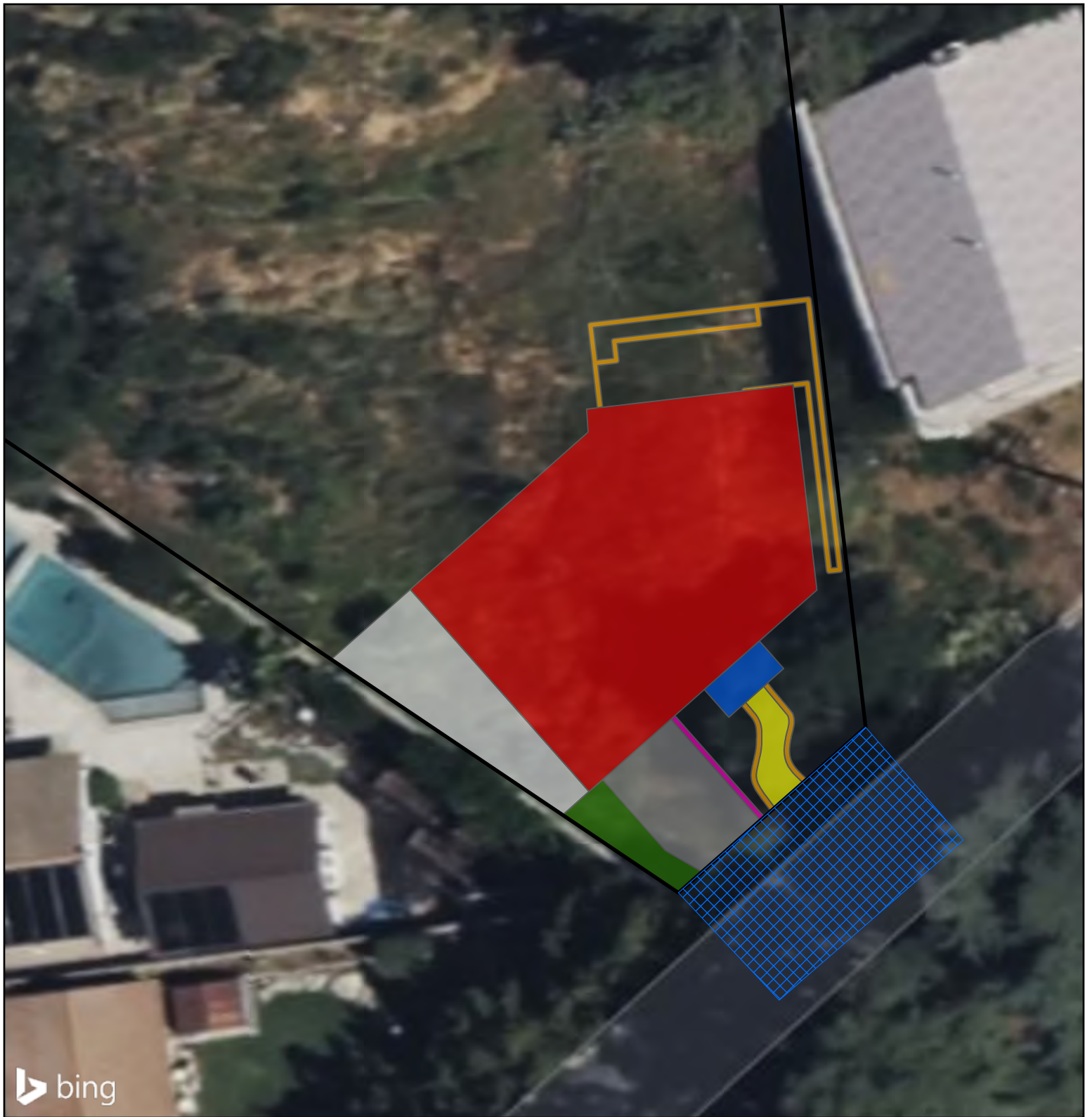
The proposed development is shown in Figure 3 below and includes the following features:

- A single-family house with 2-stories, a concrete slab, driveway, garden wall, landscape, and a porch with steps.
- Retaining walls will be built on the northeast side of the single-family house to contain the foothills and to avoid erosion of the adjacent steep slopes. Retaining walls will also be built to contain and secure the steps that lead to the front porch.
- The development will be accessed by construction equipment from Norumbega Drive. Staging areas and employee parking are located on Norumbega Drive to the southeast of the project site in areas shown in Figure 3.

Methodology

This habitat assessment relies on both a literature review and a field survey conducted on June 8, 2023. The field survey included an identification of plant communities, including the composition and density of species both native and non-native, to aide in the assessment of the quality of habitat for mountain lions, including foraging, breeding/denning, migration, and home range activities. The field survey also included the identification and mapping of suitable mountain lion denning areas such as caves, thickets, crevices, etc. The field survey included 100% visual coverage of the study area.

Volume 85, Issue 8 of the *Journal of Wildlife Management* released in November 2021, features an article titled *Big Cats in the Big City: Spatial Ecology of Mountain Lions in Greater Los Angeles* (Riley et al., 2021) that focuses on the same population of mountain lions that has been listed as a candidate under CESA. The article estimates home range size, landscape use, and landscape selection for mountain lions in the Santa Monica Mountains and is the main source of information regarding the natural history of mountain lions used in this assessment. Other sources are cited throughout and listed in the Bibliography at the end of the report.

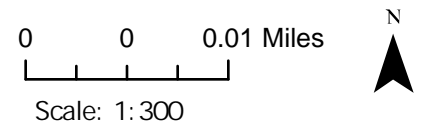


Source: BING Aerial Basemap 2023

Norumbega Project - Mountain Lion Study

Figure 3. Proposed Development

- | | |
|---|---|
|  Project Parcel (1.295-Acres) |  Garden Wall |
|  Proposed Staging Area |  Landscape |
| Proposed Development |  Porch |
|  Concrete Slab |  Retaining Wall |
|  Driveway |  Single Family House |
| |  Steps |





Study Area

The study area includes the proposed project parcel (project site) and 0.5-mile buffer surrounding the parcel, which is large enough to understand the density and spatial ecology of mountain lions that could reasonably use the region, or the project parcel.

Mountain Lion Literature Review

Status

The mountain lion is a specially protected mammal in California (Fish and Game Code Section 4800) and on April 20, 2020, the California Fish and Game Commission accepted a petition to list the southern and central coastal California evolutionarily significant unit (ESU) mountain lions as threatened under CESA. As a CESA-candidate species, the mountain lion in southern California is granted full protection of a threatened species under CESA. San Gabriel Mountains population of mountain lions is part of the southern California ESU due to the potential for breeding and genetic interconnectedness of this population with the genetically isolated population at risk in the Santa Monica Mountains, and according to Riley et. al, in this population, "movement of mountain lions is significantly restricted by major freeways and development. This restriction has led to very low genetic diversity and potentially increased incidence of social interactions such as intraspecific killing and inbreeding between close relatives." Models estimate a 20% probability of extirpation over the next 50 years due purely to demographic processes and a 100% probability of extirpation if inbreeding increases mortality as it has done with the Florida panther. Other risks to the mountain lions in the Santa Monica Mountains include risk of death from vehicle strikes or rodenticides commonly used in urban areas. (Riley et al, 2021). The stability of the population in the areas surrounding the Santa Monica Mountains (including the San Gabriel Mountains near the project site) is essential for the recovery and future stability of the mountain lions in the southern and central coastal California ESU.

Efforts for recovery are focused on two things: restoring and maintaining a genetic link between the populations in the southern California/central coast ESU and conserving large portions of habitat (chaparral and coastal sage scrub) that will support the local breeding population. To maintain genetic diversity, large blocks of conserved habitat and unobstructed and sizable safe travel corridors between them are essential for long term population persistence and stability (Vickers, 2014). The fact that mountain lions can exist in a large urban landscape like Los Angeles is a direct result of conserving large contiguous blocks of natural areas necessary for these animals to persist. Large, protected areas such as the Santa Monica Mountain National Recreation Area (SMMNRA), Griffith Park, and the San Gabriel Mountains can support mountain lion home ranges, and breeding is regularly documented in SMMNRA. However, development of habitat is still



ongoing in the region and continues to pressure the mountain lion. Fragmentation of habitat from construction of new roads and houses is still an issue that reduces the available habitat, degrades the remaining habitat, and creates new risks for conflict with vehicles and people. The US Highway 101 creates a barrier for movement of the relatively large population of mountain lions in the SMMNRA to other large population in the Simi Hills and Santa Susana Mountains to the north, which is the cause of the isolation and potential effects of inbreeding. A 165-foot-wide wildlife crossing overpass is currently under construction that will span the US Highway 101 and connect the SMMNRA population of mountain lions to other populations to the north and east, thus restoring the flow of genes and eliminating the inbreeding fitness concerns.

Habitat Characteristics and Spatial Ecology

As described earlier, mountain lions require a large block of habitat to form a home range in which they can persist and breed successfully. The smallest known home range of an adult male is 5,900-acres, and was the home range of P22, the mountain lion that occurred alone in Griffith Park east of Highway 101 for the last 6-years. Females can have smaller home ranges and the smallest documented is approximately 2,000-acres in size according to CDFW.

Typically, mountain lions are associated with woodlands and riparian areas in the mountains and foothills of the entire United States. However, Riley et al, shows that in the Santa Monica Mountains and in the southern California populations mountain lions are most often found in shrublands including chaparral at greater than 50% of the time, coastal sage scrub at 20% of the time, upland woodlands approximately 15% of the time, riparian woodlands 9% of the time, grasslands up to 3% of the time, and the remaining time was spent in altered landscapes less than 3% of the time and in urban areas less than 1% of the time. These individuals are adapted to use smaller home ranges that are immediately adjacent to dense urban development, and they are virtually never found in urban areas and altered landscapes are avoided to the extent that is possible. Most notably tracked mountain lion P22 (recently deceased) had restricted his home range to the smallest recorded for an adult male instead of risk crossing freeways and urban areas to find mates and more resources.

Mountain lions are ambush predators and research has shown that in southern California they consistently select native vegetation with dense cover. They use chaparral most commonly and show a preference for chaparral over other habitat types. Coastal sage scrub and woodlands were also selected, and grasslands were avoided nearly as strongly as disturbed and developed areas likely due to the inability to find cover and ambush prey. Other studies (Atwood et. al 2007; Dellinger et al. 2020; Hopcraft et al. 2005) show that mountain lions select areas with dense stalking cover and avoid open areas to facilitate hunting, and they will select areas where the probability of hunting success is greatest rather than areas where deer are encountered most



often. The study population in the SMM selected chaparral and coastal sage scrub most often, and those are the dominant community types, so this is not surprising. Also not surprising is that mountain lions avoid areas that are grasslands, developed or modified. Landscape modifications and development are shown to reduce the value of habitat for mountain lions to the point that they will avoid the area. This indicates that the density of cover is more important than the presence of prey species due to the higher success rate of capturing prey while in dense vegetation.

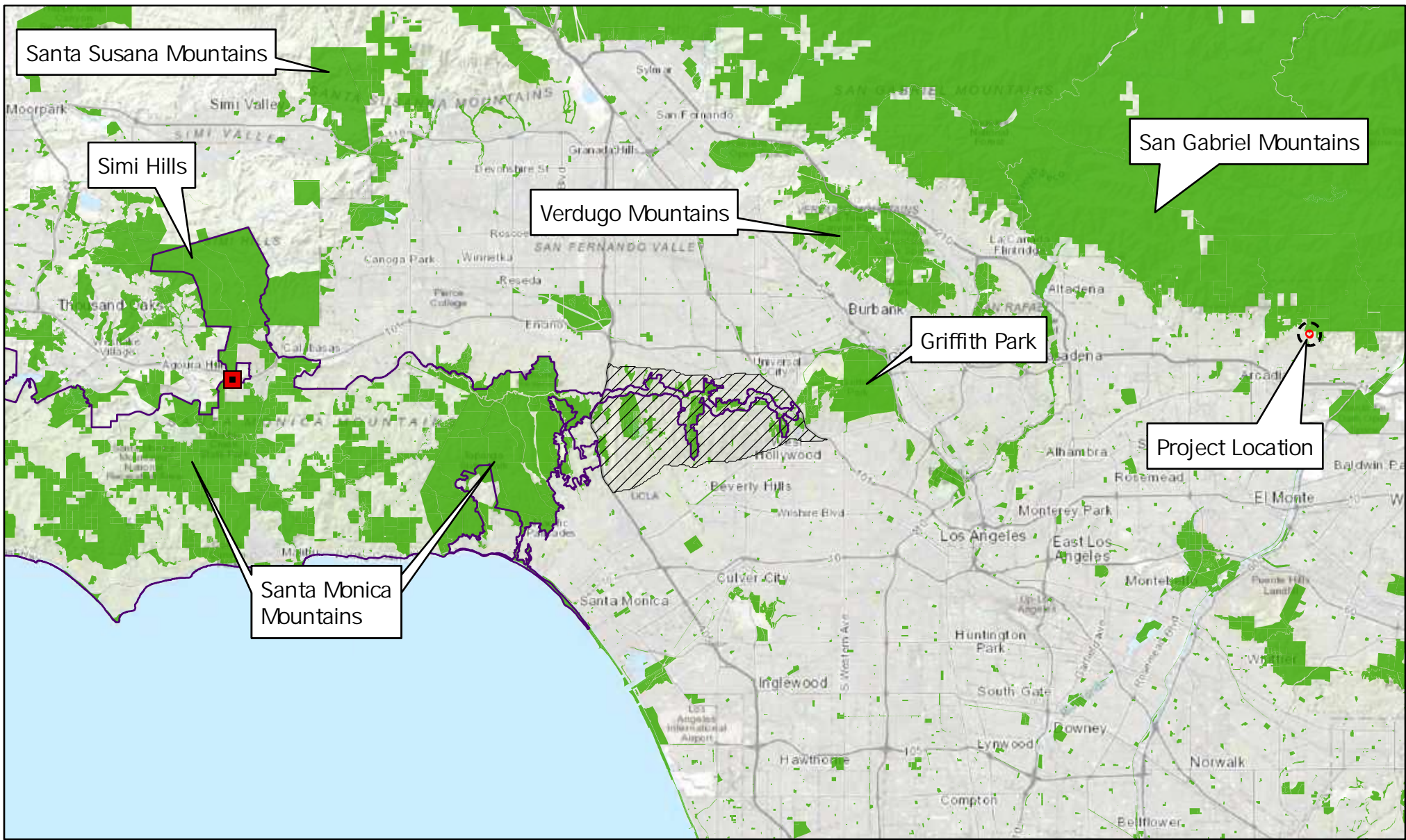
Denning areas for mountain lions are in caves and other natural cavities, thickets in brush, and timber for cover and denning. The denning sites will need to be in proximity to large expanses of habitat to support the young and to support the parents, and a single male's home range is large.

Distribution and Presence in Region

The distribution of mountain lions in the Santa Monica Mountains and surrounding areas of Los Angeles County is correlated with the protected areas shown in attached Figure 4. Approximately 15 mountain lions are estimated to occur in the core habitat areas Santa Monica Mountains west of I-405 in the large blocks of conservation areas consisting of approximately 110,000-acres associated with the SMMNRA. This population is productive and has confirmed successful breeding in this area. It is also an isolated population at risk of becoming extinct and the target of the CESA candidacy. The Liberty Canyon Wildlife Overpass shown in Figure 4 would connect this population to other productive populations north of the 101 in the Simi Hills and Santa Susana Mountains, and then indirectly to the Verdugo Mountains and the San Gabriel Mountains. The flow of genes is considered essential for the persistence of the mountain lions in the Santa Monica Mountains.

A single mountain lion (P22) was known to occur in Griffith Park where a 4,500-acres contiguous block of conserved native habitat occurs, and camera-trap data from throughout the entire park indicate that no other mountain lions have occurred there. P22 used an additional 1,000 acres of areas surrounding the conserved lands for its home range. One male mountain lion has a 13,300-acres home range in the Verdugo Mountains and at least one other female lion has been observed there using the same range.

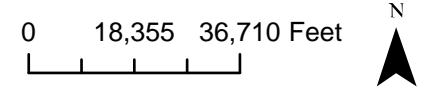
On the study area, mountain lions would be expected to use the undeveloped native habitats within the protected areas of the San Gabriel Mountains. These areas include hundreds of thousands of native scrub, chaparral, and woodlands that would be prime home range habitat for mountain lions, and they would be expected to forage, breed/den, and move through the area on a regular basis. This area is large enough to support a large and stable breeding population that would act as a genetic source for recovery of mountain lions in the SMM due to the potential



Source: ESRI World Topo 2023, Benson 2016, and CPAD GIS Database 2023

Norumbega Project - Mountain Lion Study

Figure 4. Protected Areas of Los Angeles County



- Project Parcel (1.295-Acres)
- Study Area (0.5-Mile Buffer)
- Santa Monica Mountains NRA Boundary
- Mountain Lion Assessment Area (18,000-acres)
- California Protected Areas Database (CPAD)
- Liberty Canyon Wildlife Overpass





migratory connections between the San Gabriel Mountains, Simi Hills, and Santa Susana Mountains.

Assessment of Mountain Lion Habitat on Study Area

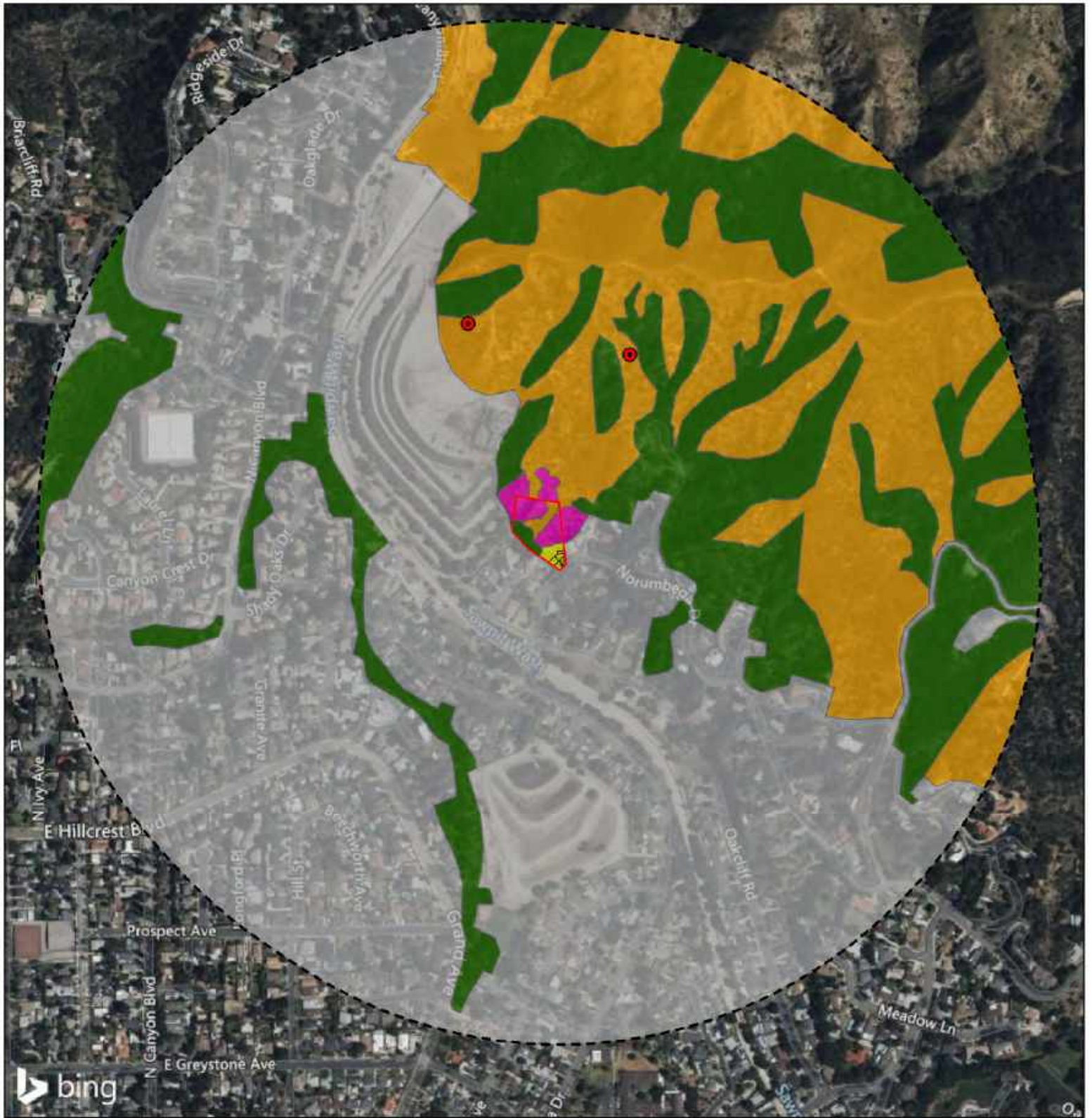
The parcel is at the northern edge of an urban area and is surrounded by single family houses to the south and east. To the north of the project site is government-owned land. There is no development currently on the project site. The project parcel has a topography that undulates with extremely steep south-facing slopes. It has an approximate high elevation of 931 feet above mean sea level at the northern parcel boundary and an approximate low elevation of 834 feet above mean sea level at the southern parcel boundary. The study area to the north and northeast includes steeply sloped mountain foothills that are undeveloped and rugged native habitats.

Plant Communities

As shown in Figure 5, the northern and central parts of the project parcel include coverage by fountain grass swards as described by the CNPS A Manual of California Vegetation Online (CNPS 2023). The southern part of the project parcel is covered by a wild oats and annual bromes grassland. The western part of the project parcel includes coverage by a coast live oak woodland and forest. The northern part of the project parcel includes coverage by a laurel sumac scrub shrubland. There is a mix of scrub, woodland, and chaparral habitats within the undeveloped mountains north and northwest of the site, and is largely dominated by laurel sumac scrub and chaparral associations with a few areas of coast live oak woodlands, largely within the canyon areas.

The fountain grass swards community is dominated by crimson fountain grass (*Pennisetum setaceum*). Also included is laurel sumac (*Malosma laurina*), branching phacelia (*Phacelia ramosissima*), slender Russian thistle (Kali collina), coast prickly pear (*Opuntia littoralis*), California manroot (*Marah fabacea*), Mexican weeping pine (*Pinus patula*), yellow sweet clover (*Melilotus officinalis*), white sage (*Salvia apiana*), snowy penstemon (*Penstemon spectabilis*), chaparral dodder (*Cuscuta californica*), chia (*Salvia columbariae*), coast live oak (*Quercus agrifolia*) white horehound (*Marrubium vulgare*), great brome (*Bromus diandrus*), red brome (*Bromus rubens*), and shortpod mustard (*Hirschfeldia incana*).

The wild oats and annual bromes grassland is dominated by wild oat (*Avena fatua*) and among others also includes crimson fountain grass, white horehound, great brome, red brome, shortpod mustard, coast live oak, American black nightshade (*Solanum Americanum*), tree tobacco (*Nicotiana glauca*), silk-reed (*Neyraudia reynaudiana*), common sunflower (*Helianthus annuus*), castor bean (*Ricinus communis*), common sowthistle (*Sonchus oleraceus*), petty spurge (*Euphorbia peplus*), and Canada wild rye (*Elymus canadensis*).

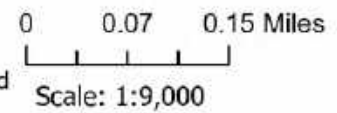


Source: BING Aerial Basemap 2023

Norumbega Project - Mountain Lion Study

Figure 5. Plant Communities

- Project Parcel (1.295-Acres)
- Survey Area (0.5-Mile Buffer)
- Potential Denning/Breeding Site
- Proposed Development Footprint
- Developed / Ornamental Landscaped
- Fountain Grass Swards
- Laurel Sumac Scrub Shrubland
- Wild Oats and Annual Brome Grassland
- Coast Live Oak Woodland and Forest



Plant Communities and Land Cover

Coast Live Oak Woodland and Forest





The coast live oak woodland and forest is dominated by coast live oak. Among others, it also includes California manroot, sticky monkey flower (*Diplacus aurantiacus*), and nasturtium (*Tropaeolum majus*).

The laurel sumac scrub shrubland is dominated by laurel sumac. Among others, it also includes crimson fountain grass, white horehound, great brome, red brome, and shortpod mustard.

Denning/Breeding Sites in Study Area

Mountain lion denning sites are typically located away from development in areas of native plant communities with dense cover, where caves or other natural cavities and rock outcrops are common, and large expanses of surrounding foraging areas are required to support two adults and the young. Two potential denning/breeding sites were observed within the study area during the survey and the location is shown in Figure 5. These sites included areas with rock outcrops to the north of the project parcel approximately 1,000 feet from the proposed development. There is a potential for mating in this area due to the presence of hundreds of thousands of acres of contiguous protected and areas with dense vegetation and little to no human presence. No denning sites, caves or cavities occur on the project parcel and none are expected to occur due to the proximity to existing developments and the human presence in this area that would deter mountain lions.

Foraging Areas

Ambush predators like mountain lions require dense woody vegetation such as chaparral, coastal sage scrub, or woodlands to hide in and ambush prey. The northern part of the project parcel includes valleys with dense laurel sumac scrub where mountain lions are likely to forage regularly.

Mountain lions avoid developed areas, grasslands, and other types of areas that lack vegetation and will not follow prey such as mule deer into open areas and would instead wait in dense brush at the edge of open areas and ambush prey when they entered the denser vegetation. The wild oats and annual brome grassland and the cost live oak woodland and forest on the project parcel are adjacent to existing developments and lack areas with dense woody vegetation near the surface that would conceal mountain lions. The fountain grass swards on the project parcel also lack areas with dense woody vegetation. These three plant communities are not suitable foraging areas for mountain lions on the project site. The coast live oak woodlands that occur in the study area further from the project site are not disturbed and would likely support foraging mountain lions in these less disturbed woodlands.

Habitat Linkages and Movement Corridors

The project site is positioned at the northern edge of a suburban neighborhood in the City of Monrovia and has existing houses on the east and west. To the south is densely populated areas



and would not be considered habitat for mountain lions. Therefore the project site does not serve as a linkage or a connection between areas of habitat and would not be used as a movement corridor for mountain lions. Lions would avoid the project site due to the lack of dense vegetation needed to conceal themselves and the presence of humans and development that would deter lions from the immediate area.

Mountain lions would move through the dense scrub and chaparral habitats in the northern areas of the parcel and beyond to the north and northwest within the study area where undisturbed native habitat occurs. These areas would be considered movement corridors and linkages to the habitats of the genetically isolated populations of mountain lions to the west in the Simi Hills and Santa Monica Mountains.

Impacts Assessment and Recommendations

The proposed development is entirely within a previously disturbed area of non-native grasses and would not result in loss or direct impacts to native plant communities or areas that would be habitat for mountain lions. The development is proposed immediately adjacent to existing houses and paved roads and does not serve as a habitat linkage or wildlife movement corridor, so no mountain lions would be expected to move onto the project site or move through the area during dispersal. Areas of suitable habitat for mountain lions such as laurel sumac scrub and on the northern portion of the parcel and in the northern half of the study area would not be impacted by the project and no direct impacts to mountain lion habitat would result.

Potential denning sites for mountain lion do not occur on the parcel and were identified in areas of dense vegetation with rock outcrops in two location that are 1,000 and 800 feet north of the proposed development. These potential denning sites will not be disturbed by the development and no direct impacts to denning sites would occur from the project. The increased human presence from a single family home development is estimated to be negligible due to the existing conditions of human developments and human presence that would already deter mountain lions from the parcel. Therefore, no direct or indirect impacts to mountain lion dens would be expected from the project.

However, the proposed project is adjacent to habitat that is suitable for mountain lions during foraging and dispersal or movement events. If lights were pointed at the habitat or foraging areas or noises from construction were to occur during typical movement times it is possible that mountain lions could be deterred from using the habitat north of the proposed development. To avoid potential impacts to mountain lions from night lighting or construction noise and developments, Regulatory Compliance Measure #1 that limits time of construction to daytime hours, requires fencing and trash and debris control during construction, and restricts night



lighting spillover in the adjacent parks and undeveloped areas. These mitigations will reduce the potential impacts to a less than significant level.

Mitigation Measure #1: Construction Measures and Lighting

- The construction site shall be fenced to exclude wildlife such as mountain lions from entering the development areas.
- Fencing or walls shall be prohibited within areas of native habitat, except where necessary for public safety or habitat protection or restoration. Fencing or walls that do not permit the free passage of wildlife shall be prohibited in any wildlife corridors.
- Construction activities for the project shall be restricted and no work shall occur from 1-hour after sunset to 1-hour before sunrise.
- Trash and debris shall be contained onsite during construction.
- Exterior lighting (except traffic lights, navigational lights, and other similar safety lighting) shall be minimized, restricted to low intensity features, shielded, and directed away from native habitats to minimize impacts on wildlife. Permitted lighting shall conform to the following standards:
 - The minimum necessary to light walkways used for entry and exit to the structures, including parking areas, on the site. This lighting shall be limited to fixtures that do not exceed two feet in height, that are directed downward, and use bulbs that do not exceed 60 watts, or the equivalent, unless a higher wattage is authorized by the City.
 - Security lighting attached to the residence that is controlled by motion detectors and is limited to 60 watts, or the equivalent.
 - The minimum lighting necessary for safe vehicular use of the driveway. The lighting shall be limited to 60 watts, or the equivalent.
 - A light, not to exceed 60 watts or the equivalent, at the entrance to the (identify non-residential accessory structures).
 - No lighting around the perimeter of the site, no lighting for sports courts or other private recreational facilities, and no lighting for aesthetic purposes is allowed.



Conclusion

The proposed development would occur in a non-native grassland that is not habitat for mountain lions. The development would be placed at the edge of a paved road and between two existing houses, which limits the potential for mountain lion to occur because they avoid developments and humans. Pristine habitat occurs on the north edge of the parcel and beyond into the San Gabriel Mountains, but the project would not impact any habitat linkage or movement corridor because it would be at the edge of developed areas and would not be placed near the existing habitat. Potential mountain lion denning sites would be avoided by the project by 800 feet. Mitigation Measure #1 is recommended so that the project would avoid deterring mountain lions from the habitat adjacent to the project site from lighting or fencing. With the implementation of Mitigation Measure #1 the project would have no direct or indirect impacts on mountain lions.

If you have any questions regarding the information in this report, please contact Matthew South by email: msouth@southenvironmental.com or by mobile phone: 303-818-3632.

Sincerely,

Matthew R. South
Principal Biologist

Attachments

- Attachment 1: Photograph Exhibit
- Attachment 2: Biologist's Resumes

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Attachment 1: Photograph Exhibit



Image 1.) View of project parcel from Norumbega Drive, facing north.

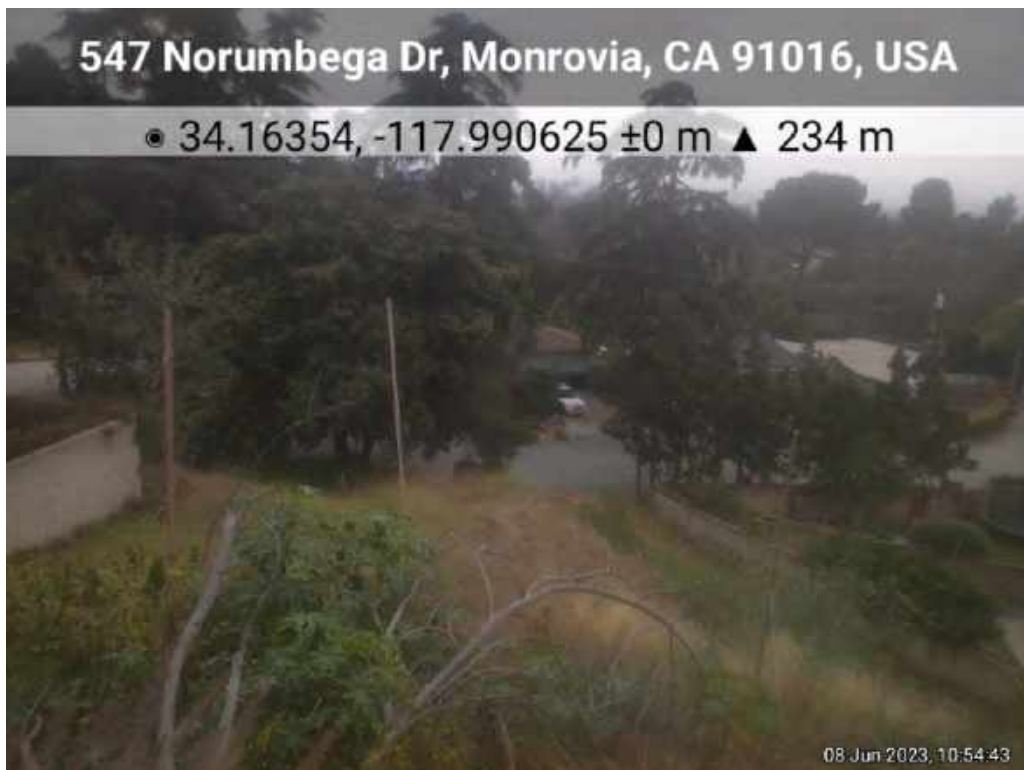


Image 2.) View of wild oats and annual brome grassland on the project parcel from boundary with fountain grass swards, facing south.

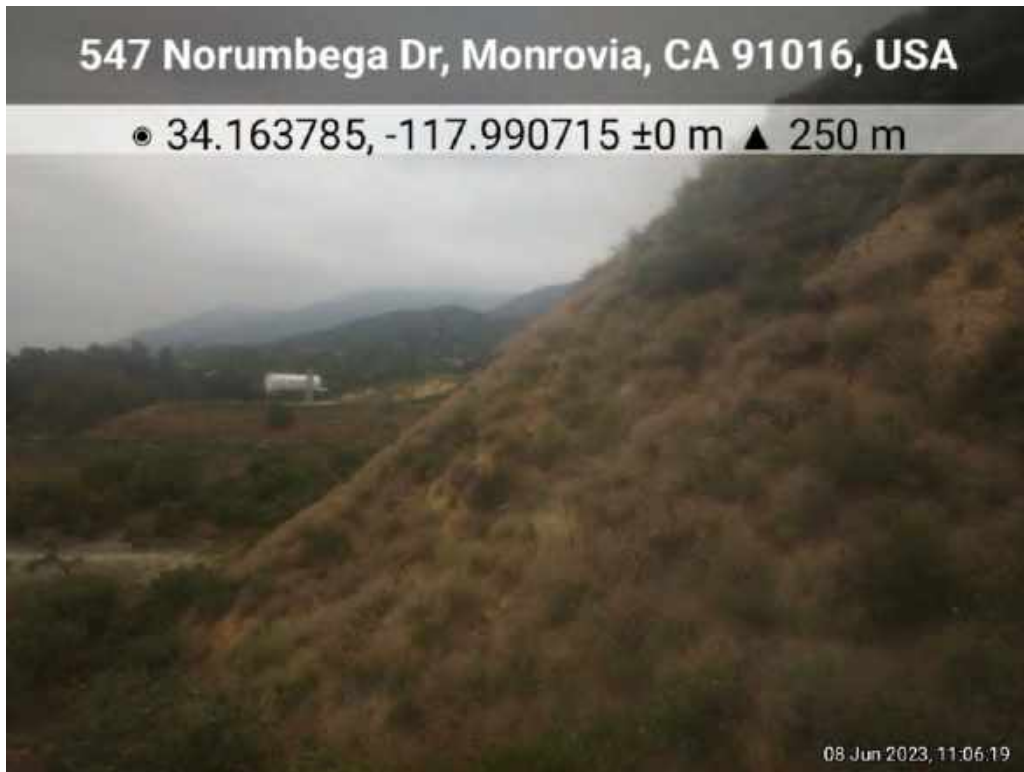


Image 3.) View of fountain grass swards on a slope on the project parcel, facing northwest.

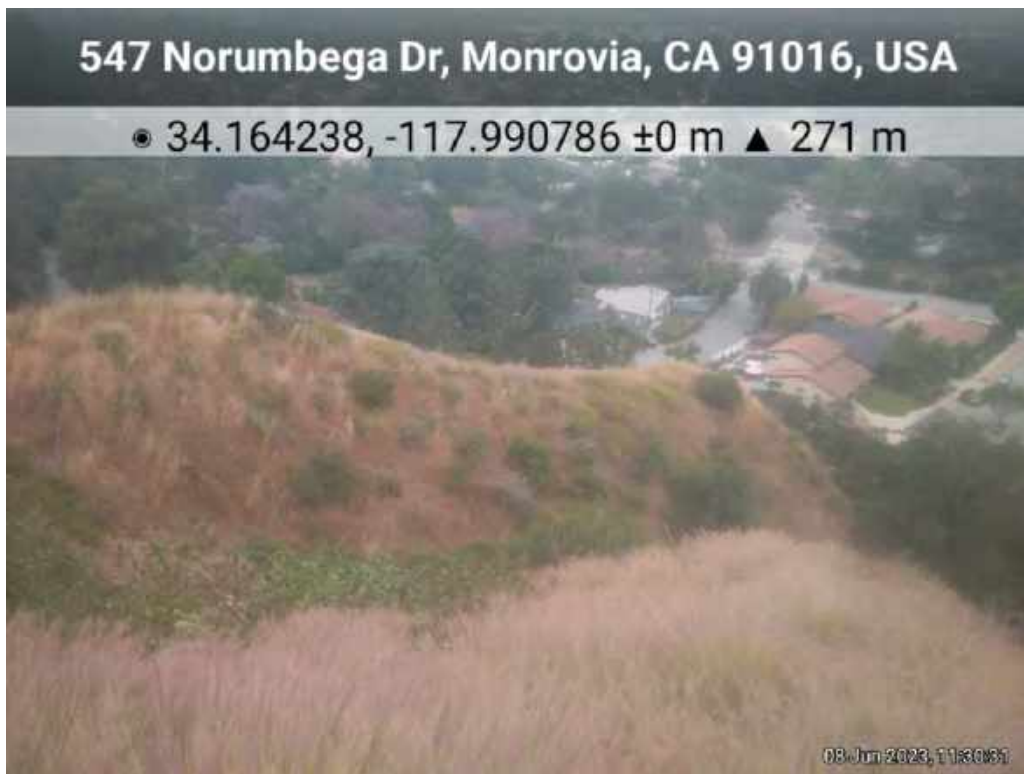


Image 4.) View of project parcel from fountain grass swards, facing south.

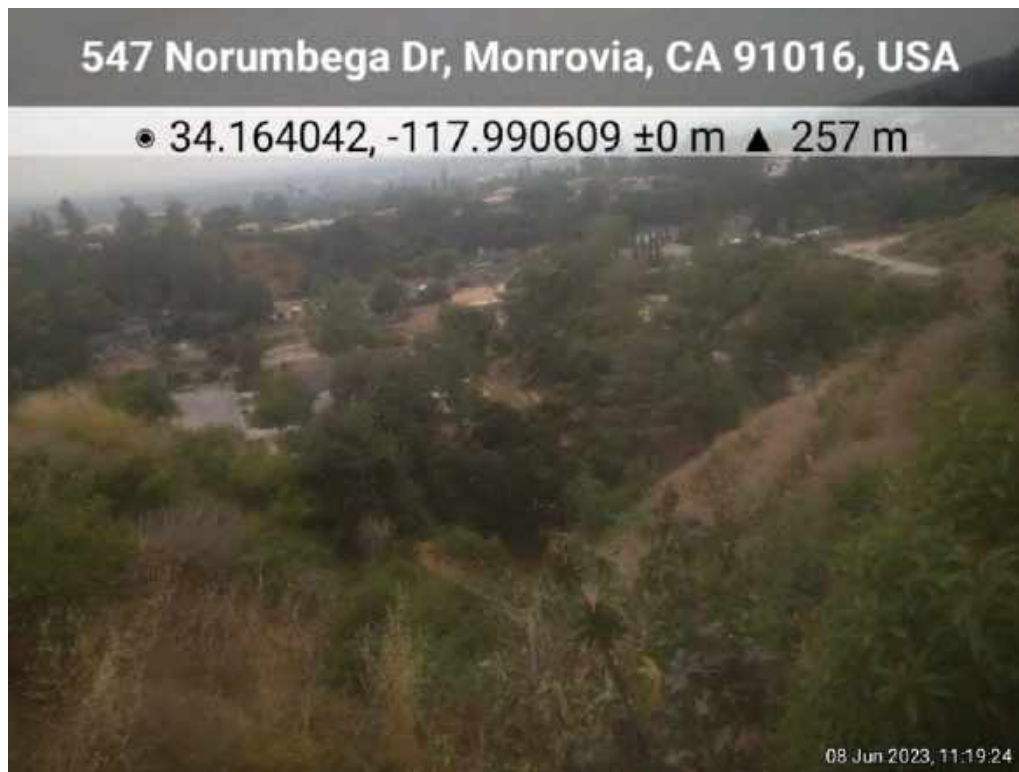


Image 5.) View of laurel sumac scrub leading to coast live oak woodland and forest on the project parcel, facing west.



Image 6.) View of coast live oak woodland and forest on the project parcel, facing east.

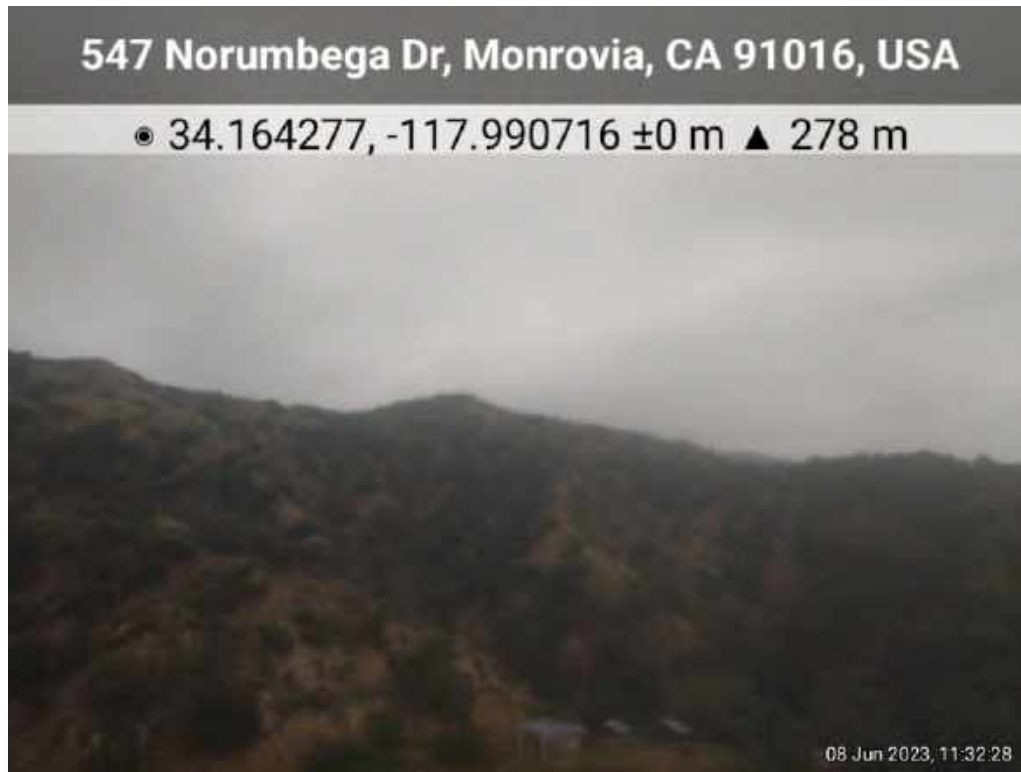


Image 7.) Distal view of coast live oak woodland and forest valleys and laurel sumac scrub shrubland uplands, facing east.

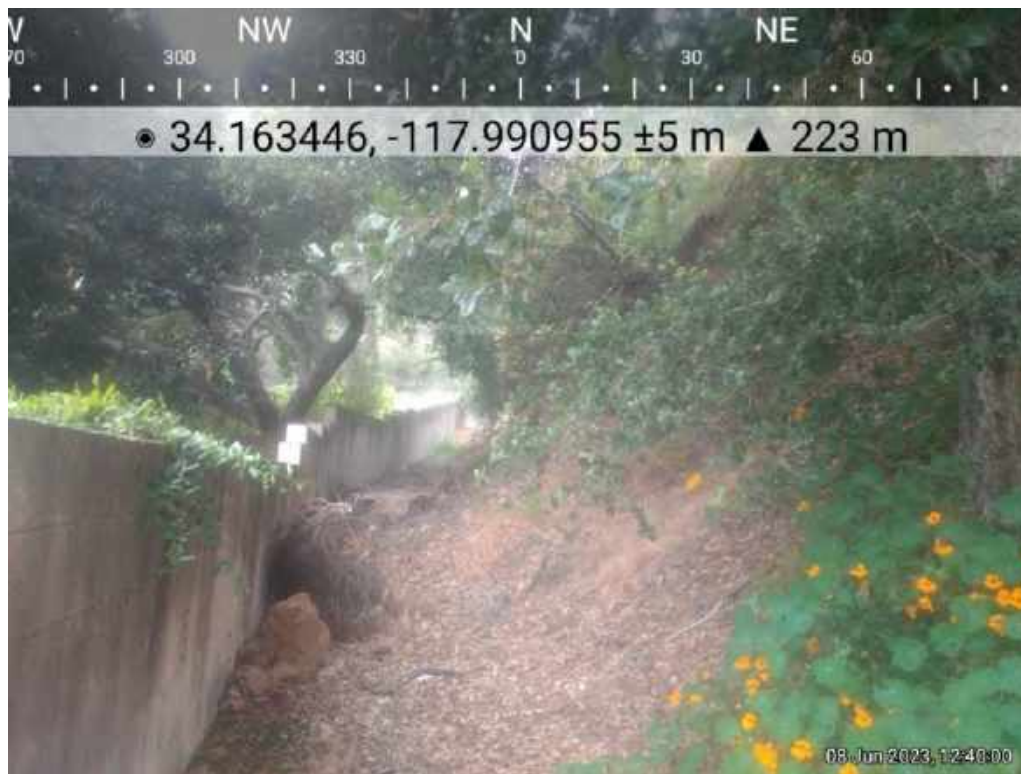


Image 8.) View of project parcel boundary from under coast live oak canopy, facing north.



Image 9.) View of wild oats and annual grassland from project parcel boundary, facing south.

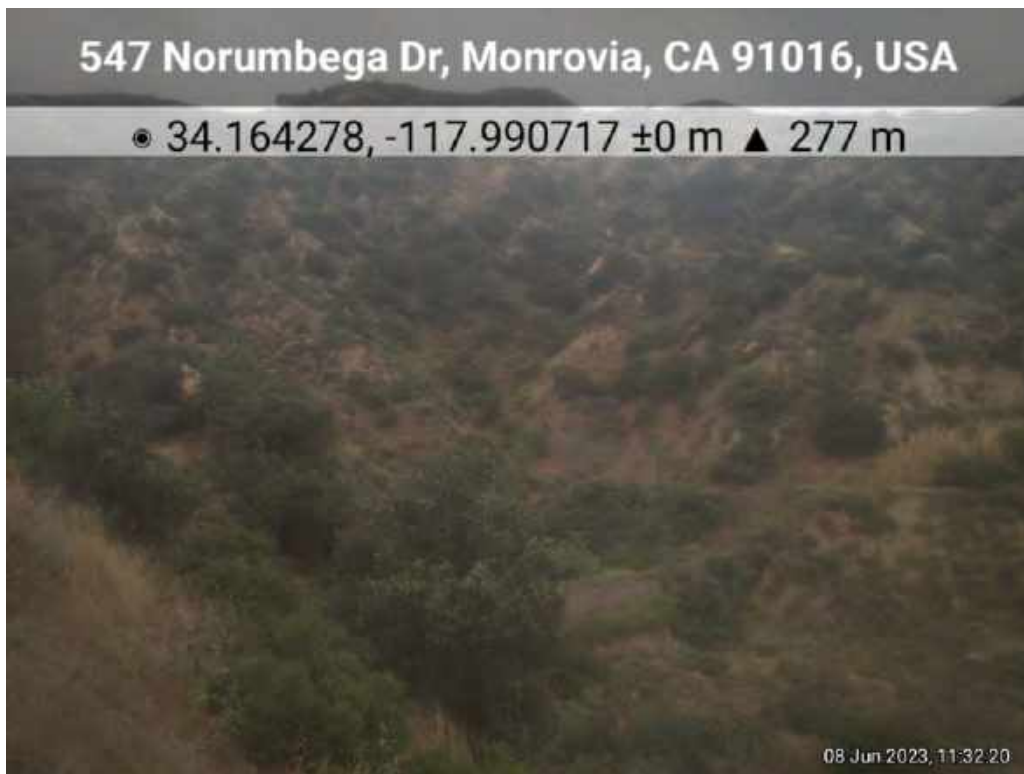


Image 10.) View of potential denning site in outcrop of San Gabriel Mountains, facing northeast.



Image 11.) View of potential denning site in outcrop of San Gabriel Mountains, facing east.

Attachment 2: Biologist's Resumes

EDUCATION

B.S., Wildlife Ecology, University of Wisconsin-Madison, 2004

CERTIFICATIONS

Certified Wildlife Biologist, The Wildlife Society 2014

ISA Certified Arborist (WE-12564A) 2019

Certified Technical Service Provider (TSP) for Fish and Wildlife Management Plans, USDA NRCS 2017

Authorized Desert Tortoise Biologist – Numerous BOs

Unmanned Aircraft System Pilot Certification, FAA #4177603

TRAINING

Wetland Delineation Training Course – The Wetland Institute (2014)

Southwest Willow Flycatcher Workshop, 2017

USGS Desert Tortoise Health Assessment and Tissue Collection Techniques Training, 2009

Matthew South

PRINCIPAL BIOLOGIST

Matthew South founded South Environmental in 2018. He is a certified wildlife biologist and certified arborist with 20 years of professional experience providing natural resources consulting services for a wide variety of clients that include residential, commercial, government, utility, infrastructure, research, and non-profit projects. For the last 15 years, Mr. South has been an environmental consultant in southern California acting as a Wildlife Biologist and Geographic Information System (GIS) Analyst. In early 2018 he started South Environmental and has since been supporting clients in Los Angeles, Ventura, San Bernardino, and Riverside Counties.

Mr. South's background in ecology has led to a passion for conservation planning and resources assessments for the purpose of preservation and management. The integration of the latest technologies such as advanced GIS systems, mobile computing, and drone sensing allows him to innovate new data collection, analysis, and collaboration tools for the environmental sciences that produce more accurate data and better-informed resource managers.

EXPERTISE

- **Conservation and Management Planning.** Mr. South's has extensive experience preparing mitigation and monitoring plans, habitat conservation plans, and technical biological resources management plans that are compliant with federal, state, and local regulations. Mr. South is the only active NRCS TSP for Fish and Wildlife Plans Certified in California.
- **Biological Resources Assessment.** Mr. South has completed dozens of biological resources assessments throughout southern California.
- **Rare Plants and Arborist Services.** Mr. South has surveyed and assessed thousands of native and landscaped trees in southern California. He is a certified arborist with 5-years of tree survey experience working closely with some of the most experienced arborists in California. In addition, he has performed hundreds of hours of rare plant surveys and habitat assessments.
- **Wetland & Jurisdictional Delineations.** Mr. South has conducted dozens of jurisdictional and wetland delineations per the guidelines and methods from the US Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and the state Regional Water Quality Control Boards (RWQCB).
- **GIS.** Mr. South is an expert at spatial data collection and analysis using ESRI mobile and desktop software products and Trimble hardware.

SELECT MOUNTAIN LION ASSESSMENT EXPERIENCE

Mountain Lion Study – Granito Drive Project (2022). Mr. South planned and implemented a focused mountain lion study for a large single-family development within the Santa Monica Mountains that assessed habitat, wildlife movement corridors, impacts to habitat blocks, and impacts foraging, denning, and movement areas. The study was a local, regional, and population wide assessment of mountain lions. The study relied on a site survey, camera trap study, and a literature review. The study was prepared in response to comments from the City of Los Angeles biologists and public comments on the biological resources assessment regarding potential impacts to mountain lions.

Focused Mountain Lion Assessment – Marlay Drive Project (2022). Mr. South was contracted as a subject-matter expert to prepare focused mountain lion habitat assessment for a proposed single-family home development in the Santa Monica Mountains. The focused study relied on a literature review and assessment of habitat from existing sources and was in response to comments from the City of Los Angeles and CDFW on a report written by another firm.

Various Biology Reports with Mountain Lion Assessments (2020-present). Mr. South has prepared or overseen the preparation of hundreds of biological resources assessment reports with mountain lion focused assessments since the mountain lion became a candidate for listing to the California Endangered Species Act. These reports are prepared within the range of the population of mountain lions that is the target of the listing status, in the Santa Monica Mountains, San Gabriel Mountains, Simi Hills, and Verdugo Hills. Select Projects include:

- Baseline Road in LaVerne
- Altadena Hills Project
- 16 Beverly Park
- 64 Beverly Park
- 74 Beverly Park
- 79 Beverly Park
- Toyopa Drive
- Mapleton Drive
- Tigertail
- 680 Sarbonne
- 777 Sarbonne
- Stradella Road
- Tower Grove
- Bella Drive
- Chautauqua Boulevard
- Benedict Canyon
- Haslam Terrace
- Summitridge Drive
- Rial Lane
- Outpost Ave
- Pasquera
- Beverly Grove
- Multiple Granito Drive Projects
- Floral and Electra Drive Project
- Hillside
- Magnolia
- Swallow
- Sierra Mar
- Beverly Grove
- Stradella
- Chalon Road
- Moraga
- Brentridge
- Viewcrest
- Old Chimney Road
- Multiple Developments on Mulholland Highway
- Berkley Hall School Project
- Charmel Lane
- Paseo Miramar Roadway Project
- Posetano-Revello Project
- Palmera
- Shadow Mountain Drive
- Astral Project
- Nofral Road Projects
- San Onofre Drive
- Crescent Drive



OTHER SELECT PROJECT EXPERIENCE

Southern California Gas (SCG) As-Needed Natural and Cultural Resources Services (2022-ongoing). As a subconsultant on this contract Mr. South has overseen the assessment numerous resources from single point locations to many miles of pipelines. More recently he has begun to conduct biological assessment in the coastal zone in Santa Barbara County as well as endangered species Biological Assessments (BAs) in support of Coastal Development Permits for SCG. Wetland delineation and permitting, biological resources assessments, and resources surveys and monitoring are services that Mr. South both provides personally and oversees a team of specialists that support the environmental impacts analysis and permitting for SCG.

Santa Clarita VTTM Multi-Use Development Project (2018-ongoing). South Environmental prepared a biological resources assessment report, jurisdictional delineation, rare plant survey, and a focused oak tree survey and report for a proposed large-scale development that includes mixed uses such as senior living, commercial areas, and residential developments. South Environmental has been retained to prepare permit applications following the completion of the projects CEQA analysis.

City of Palmdale - Confidential Project (2022-ongoing). South Environmental prepared a jurisdictional delineation and permit applications to CDFW and RWQCB for the project. Services included EPIMS application and RWQCB Dredge and Fill Application and coordination including for mitigation management and alternatives analysis. This is a large-scale warehouse development next to a major river and has many protected resources and multi-agency involvement.

Southern California Edison (SCE) As-Needed Natural and Cultural Resources Services (2021-ongoing). As a subconsultant on this contract for multiple Primes (SWCA, EI, Rincon, and Stantec), South Environmental has focused its biological resources services on wetland delineations and permitting efforts for SCE throughout all its regions. From single pole delineations in roadside ditches to several hundred poles through miles of wet meadows in the Sierras, the projects vary in size and complexity as well as location. Primarily, delineations have been in the Sierras with the largest and most complex projects in Inyo and Mono Counties and several in Kern and Tulare. A few of the specific projects include

- Pickle Meadow: Aquatic Resources Delineation Report and Permitting for 300-poles located in a wet meadow behind Bridgeport Reservoir.
- Kern River: Wetland Delineation and Permitting for 15 pole replacements in Kernville.
- June Lake to Tom's Place: Wetland Delineation and Permitting for 40 poles spread through Inyo and Mono Counties.
- Cajon Wash: Jurisdictional Delineation and SBKR Assessment and Permitting for 10 pole replacements and realignment for a capital project located in SBKR Critical Habitat.
- Pipes Wash: Delineation and Permitting for 25-poles that are within Pipes Wash, a large ephemeral wash in the San Bernardino desert.



EDUCATION

M.S., Earth, Environmental, and Physical Science, Wichita State University, 2012

B.S., Bachelor of Science, Biology, Wichita State University, 2004

PROFESSIONAL EXPERIENCE

South Environmental (2021-Present), Senior Biologist
AGEISS, Inc. (2020-2021), Environmental Scientist
Timberwolf Environmental (2019), Senior Project Manager
Nebraska Oil and Gas Conservation Commission (2018-2019), Project Manager
Stelbar Oil Corporation, Inc. (2006-2018), Project Manager

GIS

ESRI ArcGIS Pro, ArcCollector, Survey123, AccGIS online
Trimble GPS

James McNutt, M.S.

SENIOR ENVIRONMENTAL SCIENTIST AND LEAD DELINEATOR

James McNutt is a Senior Environmental Scientist and Lead Delineator with 17 years of professional experience in environmental project management, jurisdictional and wetland delineations, environmental permitting and technical documents, biological resource and community identification, and geology. Mr. McNutt brings over 10 years of experience completing jurisdictional and wetland delineations as a lead delineator in accordance with the U.S. Army Corps of Engineers (USACE) 1987 Delineation Manual Protocols.

Since starting at South Environmental in early 2021, Mr. McNutt has participated in scores of environmental clearance projects throughout Southern California as a lead delineator. This experience includes several Southern California Gas (SoCal Gas) jurisdictional delineations, dozens of jurisdictional delineations for Southern California Edison (SCE), and several more for private enterprise developments. He has been responsible for determining the boundary of jurisdictional features near SoCal Gas project features, SCE project features, and private enterprise features using Trimble GIS to accurately collect data, while using modules such as ArcCollector and Survey123 to validate all data collection processes. He also is a GIS analyst that creates figures for data packages regarding jurisdictional delineation reporting and permitting documents.

As a project manager, environmental scientist, and geologist for oil and gas companies, environmental consultants, and agencies in the west and Midwest, he oversaw wetland investigations and delineations on client assets such as leaseholds and drill-sites using the Criteria Determination Methodologies for Vegetation, Soil, and Hydrology. In these roles, he has also completed permit applications and successfully negotiated wetlands and waters permits for dozens of projects, while closely coordinating with clients, agencies, and managers. This includes projects requiring compliance with the implementation of Mitigation Monitoring Reporting Plans, regulatory compliance, and data management processes.

EXPERTISE

- Environmental Regulations and Permitting
- Environmental Project Management
- Jurisdictional and Wetland Delineations
- Biological Habitat Assessment Reporting
- USACE Section 401/404 Compliance
- Biological Data Collection and Assessment Methods



SELECT PROJECT EXPERIENCE

Southern California Gas On-Call Environmental Services. Conducted standard jurisdictional and wetland delineation work, as well emergency repair jurisdictional and wetland delineation work, for biological resource assistance regarding construction and maintenance projects throughout southern California. Activities have included data collection near protected resources for conducting wetland and jurisdictional delineations, jurisdictional delineation and habitat assessment reporting, and permit generation for RWQCB, USACE, and CDFW compliance.

Southern California Edison On-Call Environmental Services. Conducted standard jurisdictional and wetland delineation work, as well emergency repair jurisdictional and wetland delineation work, for biological resource assistance regarding construction and maintenance projects throughout southern California. Activities have included data collection near protected resources for conducting wetland and jurisdictional delineations, jurisdictional delineation and habitat assessment reporting, and permit generation for RWQCB, USACE, and CDFW compliance. For SCE, he has also carried out rare plant surveys, nesting bird surveys, construction monitoring, and tree removal monitoring, where applicable.

Private Development Environmental Services in Southern California. Conducted standard jurisdictional and wetland delineation work and habitat assessment work for biological resource assistance regarding industrial, commercial, and residential projects throughout southern California. Activities have included data collection for conducting wetland and jurisdictional delineations, jurisdictional delineation and habitat assessment reporting, and permit generation for RWQCB, USACE, and CDFW compliance. For private enterprises, he has also carried out tree removal monitoring and completed Combined Vegetation Rapid Assessment forms for plant community determination, where applicable.

Stelbar Oil Corporation Leasehold and Drill Site Environmental Investigation and Remediation Projects. Administered and managed the company's site environmental compliance efforts related to sampling, delineation, and site remediation. He also wrote technical reports regarding site regulatory compliance for regulatory agencies in seven different U.S. states. Oversaw the wetland investigations and delineations on leaseholds, drill-sites, and company assets according to Sections 401/404 of CWA and USACE guidelines. Led data management for site regulatory compliance and oversaw variables for SWPPP and SPCCs. Served in a role dedicated to site environmental remedial tasks and was managed environmental consultants and state agency representatives regarding these efforts.

Nebraska Oil and Gas Conservation Commission Environmental Compliance and Permitting Projects. Served as a staff petroleum engineer and project manager responsible for coordinating site compliance, drilling permits, and well plugging efforts between oil companies, environmental consultants, and state agencies. Oversaw wetland investigations and delineations on drill sites and company assets. Held a key role as the representative for Groundwater Protection Council (GPC) meetings with the Environmental Protection Agency. Documented relevant public infrastructure and oil and gas facilities using TerraSync GIS program. Led database management for all state wells and oversaw reports regarding contaminant mitigation and run-off compliance plans.

Timberwolf Environmental Consulting Projects. Served as a lead senior editor for the review and submittal of all company reports drafted by project scientists and project managers that also included Environmental Site Assessments and 3rd Party Audit Reports. He also managed client Underground Storage Tank regulations and wetland investigation and delineations on BLM lands.

AGEISS, Inc. Edwards Air Force Base Environmental Compliance Projects. Serves as an environmental scientist responsible for 3rd party review of numerous environmental reports submitted by various environment contractors, including Superfund (CERCLA) documents, site work plans, QAPP reports, Groundwater Monitoring reports, Conceptual Site Model reports, Bench Scale Study Reports, MMRP reports, and Well Installation reports. Developed a comprehensive understanding of the Superfund (CERCLA) funding and remediation processes and of the Compliance and Restoration Program. The work required consistent communication and coordination with the California State Water Resources Control Board, California Department of Toxic Substances Control, and the United States Environmental Protection Agency – Region 9.

APPENDIX I

Mitigation Monitoring and Reporting Plan

APPENDIX I. MITIGATION MONITORING AND REPORTING PROGRAM

The California Environmental Quality Act (CEQA) requires that when a public agency completes an environmental document which includes measures to mitigate or avoid significant environmental effects, the public agency must adopt a reporting or monitoring plan. This requirement ensures that environmental impacts found to be significant will be mitigated. The reporting or monitoring plan must be designed to ensure compliance during project implementation (Public Resources Code Section 21081.6).

In compliance with Public Resources Code Section 21081.6, Table 1, Mitigation Monitoring and Reporting Checklist, has been prepared for the Norumbega Residence Project (project). This Mitigation Monitoring and Reporting Checklist is intended to provide verification that all applicable mitigation measures relative to significant environmental impacts are monitored and reported. Monitoring will include: 1) verification that each mitigation measure has been implemented; 2) recordation of the actions taken to implement each mitigation; and 3) retention of records in the City of Monrovia's "Norumbega Residence Project" file.

This Mitigation Monitoring and Reporting Program (MMRP) delineates responsibilities for monitoring the project, but also allows the City flexibility and discretion in determining how best to monitor implementation. Monitoring procedures will vary according to the type of mitigation measure. Adequate monitoring consists of demonstrating that monitoring procedures took place and that mitigation measures were implemented. This includes the review of all monitoring reports, enforcement actions, and document disposition, unless otherwise noted in the Mitigation Monitoring and Reporting Checklist (Table 1). If an adopted mitigation measure is not being properly implemented, the designated monitoring personnel shall require corrective actions to ensure adequate implementation.

Reporting consists of establishing a record that a mitigation measure is being implemented, and generally involves the following steps:

- The City distributes reporting forms to the appropriate entities for verification of compliance.
- Departments/agencies with reporting responsibilities will review the IS/MND, which provides general background information on the reasons for including specified mitigation measures.
- Problems or exceptions to compliance will be addressed to the City as appropriate.
- Periodic meetings may be held during project implementation to report on compliance of mitigation measures.
- Responsible parties provide the City with verification that monitoring has been conducted and ensure, as applicable, that mitigation measures have been implemented. Monitoring compliance may be documented through existing review and approval programs such as field inspection reports and plan review.
- The City prepares a reporting form periodically during the construction phase and an annual report summarizing all project mitigation monitoring efforts.



- Appropriate mitigation measures will be included in construction documents and/or conditions of permits/approvals.

Minor changes to the MMRP, if required, would be made in accordance with CEQA and would be permitted after further review and approval by the City. Such changes could include reassignment of monitoring and reporting responsibilities, plan redesign to make any appropriate improvements, and/or modification, substitution or deletion of mitigation measures subject to conditions described in CEQA Guidelines Section 15162. No change will be permitted unless the MMRP continues to satisfy the requirements of Public Resources Code Section 21081.6.

In addition to the mitigation measures included in Table 1, It is acknowledged that the public review draft IS/MND identified the following standard conditions of approval:

Air Quality

SC AIR-1 Prior to issuance of any Grading Permit, the City of Monrovia Public Works Department shall confirm that the project stipulates that, in compliance with SCAQMD Rule 402 and Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures, as specified in the SCAQMD's Rules and Regulations. SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Applicable dust suppression techniques from Rules 403 and 402 are as follows:

- The Project Construction Contractor shall develop and implement dust control methods that shall achieve this control level in a SCAQMD Rule 403 dust control plan, designate personnel to monitor the dust control program, and order increased watering, as necessary, to ensure a 55% control level. Those duties shall include holiday and weekend periods when work may not be in progress. Additional control measures to reduce fugitive dust shall include, but are not limited to, the following:
 - Apply water twice daily, or nontoxic soil stabilizers according to manufacturer's specifications, to all unpaved parking or staging areas or unpaved road surfaces or as needed to areas where soil is disturbed.
 - Use low-sulfur fuel for stationary construction equipment. This is required by SCAQMD Rules 431.1 and 431.2.
 - During earthmoving or excavation operations, fugitive dust emissions shall be controlled by regular watering to prevent excessive amounts of dust, ceasing earthmoving and excavation activities during periods of high winds (i.e., winds greater than 20 miles per hour [mph] averaged over 1 hour), and minimizing the area disturbed by earthmoving or excavation operations at all times.
 - After earthmoving or excavation operations, fugitive dust emissions shall be controlled by revegetating and watering portions of the construction area to remain inactive longer than a period of 3 months and watering all active portions of the construction site.



- At all times, fugitive dust emissions shall be controlled by limiting the on-site vehicle speed to 15 mph and paving road improvements as soon as feasible.
- At all times during the construction phase, ozone precursor emissions from mobile equipment shall be controlled by maintaining equipment engines in good condition and in proper tune according to manufacturers' specifications.
- Outdoor storage piles of construction materials shall be kept covered, watered, or otherwise stabilized with environmentally safe soil stabilization materials to minimize fugitive dust emissions and wind erosion.

SC AIR-2 Prior to issuance of any Grading Permit, the City of Monrovia Public Works Department shall confirm that the project complies with Mitigation Measure AIR-C of the *Final Environmental Impact Report, Monrovia General Plan Proposed Land Use and Circulations Elements* (dated January 2008) to reduce diesel engine emissions of ozone precursors ROG_s and NO_x, particulate matter less than 10 microns in size (PM₁₀), particulate matter less than 2.5 microns in size (PM_{2.5}), and diesel particulate matter.

- Idling of diesel-powered vehicles and equipment shall not be permitted during periods of non-active vehicle use. Diesel-powered engines shall not be allowed to idle for more than 5 consecutive minutes in a 60-minute period when the equipment is not in use, occupied by an operator, or otherwise in motion, except as follows:
 - When equipment is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control;
 - When it is necessary to operate auxiliary systems installed on the equipment, only when such system operation is necessary to accomplish the intended use of the equipment;
 - To bring the equipment to the manufacturers' recommended operating temperature;
 - When the ambient temperature is below 40 degrees Fahrenheit (°F) or above 85°F; or when equipment is being repaired.

Biological Resources

SC BIO-1 Capture and Handling of Wildlife. The project may require capture, handling, and relocation of wildlife. Pursuant to the California Code of Regulations, title 14, section 650, the project sponsor's qualified biologist must obtain appropriate handling permits to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with project construction and activities. Details on what activities require a



permit, permit application forms, and other information are available from CDFW at <https://wildlife.ca.gov/Licensing/Scientific-Collecting>.

CDFW has the authority to issue permits for the take or possession of wildlife, including mammals; birds, nests, and eggs; reptiles, amphibians, fish, plants; and invertebrates (Fish & G. Code, §§ 1002, 1002.5, 1003). Effective October 1, 2018, a Scientific Collecting Permit is required to monitor project impacts on wildlife resources, as required by environmental documents, permits, or other legal authorizations; and, to capture, temporarily possess, and relocate wildlife to avoid harm or mortality in connection with otherwise lawful activities (Cal. Code Regs., tit. 14, § 650).

SC BIO-2 Special-status Species Preconstruction Survey. The project sponsor shall retain a qualified biologist with experience surveying for coast (Blainville's) horned lizard, coastal whiptail, Southern California legless lizard, California glossy snake, and coast patch-nosed snake. Prior to commencing any project-related ground-disturbing activities, the qualified biologist shall conduct focused surveys for species of special concern (SSC) and suitable habitat no more than one month from the start of any ground-disturbing activities or vegetation removal where there may be impacts to SSC. Project-related activities include construction, equipment and vehicle access, parking, and staging. In addition, the qualified biologist shall conduct daily biological monitoring during any activities involving vegetation clearing or modification of natural habitat. Positive detections of SSC and suitable habitat at the detection location shall be mapped and photographed. The qualified biologist shall provide a summary report of SSC surveys to the City prior to implementing any project-related ground-disturbing activities and vegetation removal. Depending on the survey results, a qualified biologist shall develop species-specific mitigation measures for implementation during the project. All observations of special-status species will be documented and submitted to the CNDDDB by reporting any special status species detected by completing and submitting CNDDDB Field Survey Forms. This includes all documented occurrences of mountain lion, San Diego desert woodrat, and potential occurrences of Crotch's bumble bee, and other special status species. The City shall ensure the data has been properly submitted, with all data fields applicable filled out, prior to project ground-disturbing activities. The City will require the project sponsor's qualified biologist's assistance with the required reporting. The project sponsor shall provide CDFW with confirmation of data submittal.

SC BIO-3 Protection Plan. Wildlife should be protected or allowed to move away on its own (non-invasive, passive relocation) to adjacent appropriate habitat within the open space on site or in suitable habitat adjacent to the project area (either way, at least 200 feet from the grading limits). Special status wildlife shall only be captured by a qualified biologist with proper handling permits (see SC BIO-1). The qualified biologist shall prepare a species-specific list (or plan) of proper handling and passive relocation protocols. The list (or plan) of protocols shall be implemented during project construction and activities/biological construction monitoring.

SC BIO-4 Injured or Dead Wildlife. If any SSC are harmed during relocation or a dead or injured animal is found, work in the immediate area shall stop immediately, the qualified biologist will be notified, and dead or injured wildlife documented. A formal report shall be sent to CDFW and the City within three calendar days of the incident or finding. Work in the immediate area may only resume once the proper notifications have been



made and additional mitigation measures have been identified to prevent additional injury or death.

- SC BIO-5** Entrapment. The project may result in the use of open pipes used as fence posts, property line stakes, signs, etc. CDFW recommends that all hollow posts and pipes be capped to prevent wildlife entrapment and mortality because these structures mimic the natural cavities preferred by various bird species and other wildlife for shelter, nesting, and roosting. Raptor's talons can become entrapped within the bolt holes of metal fence stakes resulting in mortality. Metal fence stakes used on the project site are required to be plugged with bolts or other materials to avoid this hazard.
- SC BIO-6** Rodenticides. Second-generation anticoagulant rodenticides shall not be used on site during construction and over the life of the project.
- SC BIO-7** A certified arborist shall meet on site with the contractor, prior to the start of construction to verify that the protective fencing described in Mitigation Measure BIO-8 is in place and to sign an acknowledgement that they have read and understand the tree protection measures for the project. The project shall avoid mechanical injury and compaction to roots, root flares, trunks, and branches under the dripline of the oak trees. No root exposure or pruning shall occur. This condition shall be added to the site plans as notes labeled "TREE PROTECTION REQUIREMENTS."
- SC BIO-8** During project construction, mulch and compost shall be applied around the trees once every 6 months. Wood chip mulch shall be applied over the soil surface soil to 4 inches deep to preserve moisture and improve soil condition. If a certified arborist or and/or qualified restoration professional determines work is being performed improperly, that individual(s) shall stop work and determine the best course of action to avoid any tree damage or mortality before restarting work. This condition shall be added to the site plans as notes labeled "TREE PROTECTION REQUIREMENTS."
- SC BIO-9** Protected trees are not anticipated to be damaged by construction. However, in the event that protected trees are damaged by construction, they shall be repaired in accordance with accepted arboriculture methods by a tree specialist. The project arborist shall determine when repair is required. These procedures may have a potential to cause decreased health (greater than 25% signs of visible stress) or mortality of any oak trees designated to be preserved. If any root disturbing activities are determined to have caused irreversible impacts that may eventually lead to decreased health or mortality of any oak tree, those activities and potential impacts shall be documented immediately. All documentation shall be summarized in a report provided to the City of Monrovia. Preserved oak trees that may succumb to impacts shall be replaced with oak trees that are of the same species and variety. This condition shall be added to the site plans as notes labeled "TREE PROTECTION REQUIREMENTS."



SC BIO-10 In the event that oak trees succumb to impacts (which is not anticipated because impacts are not foreseen to oak trees), the project sponsor and project arborist shall select the most appropriate location for replacement coast live oak trees. Coast live oak trees shall not be planted in specific location(s) that will be subject to future ground disturbance work that may impact replacement trees. Locations shall have appropriate biological or physical factors required by coast live oak trees to grow and persist where possible. The project sponsor and project arborist shall acquire appropriately sized, locally sourced coast live oak trees from a local native plant nursery that implements Phytophthora/Clean Nursery Stock protocols. CDFW recommends the following sources for additional information about Clean Nursery Stock protocols and soilborne pathogens:

- Best Management Practices for Producing Clean Nursery Stock provided by Phytosphere Research.
- Understanding and Managing Sudden Oak Death in California provided by Phytosphere Research.
- A Reference Manual for Managing Sudden Oak Death in California provided by the United States Department of Agriculture.

This may reduce the probability of introducing coast live oak trees contaminated with pests, diseases, and pathogens that could spread and infect native oak trees or habitats. A certified arborist and/or qualified restoration professional shall inspect and potentially quarantine nursery stock before bringing them into the project site and supervise the installation/transplanting of the coast live oak trees. The project sponsor shall protect and monitor the survivorship of planted coast live oak trees until the trees begin to produce seeds. The project sponsor shall consult with the certified arborist and/or qualified restoration professional on a long-term maintenance plan to provide protective caging, shading, and irrigation. Oak trees shall be protected from trampling, damage, or climbing. The project sponsor shall also consult with the certified arborist and/or qualified restoration professional if coast live oak trees show symptoms of stress and determine the appropriate response to prevent mortality.

These conditions shall be added to the site plans as notes labeled “TREE PROTECTION REQUIREMENTS.”

SC BIO-11 In the event that replacement oak trees are necessary (which is not anticipated because impacts are not foreseen to oak trees), CDFW recommends a minimum mitigation ratio of 2:1 for impacts to coast live oak trees. Coast live oak trees may be difficult to establish from seed or sapling, especially under drought conditions. A higher mitigation ratio would account for mortality and attrition of replacement coast live oak trees, and potential mortality of any oak trees marked for preservation. If all replacement trees survive and reach reproductive maturity, this will have a net benefit for birds. This condition shall be added to the site plans as notes labeled “TREE PROTECTION REQUIREMENTS.”



Geology and Soils

- SC GS-1** Prior to issuance of a grading permit or encroachment permit, the respective Project Sponsor shall provide a geotechnical report that addresses earthwork and foundation recommendations, including but not limited to, earthwork, retaining walls and foundation construction adjacent to the existing structures located on the property, pavement structural sections and recommendations. The geotechnical report shall include data regarding the nature, distribution and strengths of existing soils, conclusions and recommendations for grading procedures, design criteria for and identified corrective measures, and opinions and recommendations regarding existing conditions and proposed grading. The report shall also include subsurface geology of the site, degree of seismic hazard if any, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, opinions and recommended design criteria to mitigate any identified geologic hazards including locations of surface and subsurface fault lines in the area as applicable.
- SC GS-2** If evidence of subsurface paleontological resources is found during construction, excavation and other construction activity in that area shall cease within 50 feet of the discovery and the construction contractor shall contact the City Planning Division. With direction from the City Planning Division, a qualified paleontologist, who meets the guidelines defined by the Society of Vertebrate Paleontology, shall be retained to evaluate the find and recommend a course of action. If warranted, the qualified paleontologist shall prepare and complete a standard Paleontological Resources Mitigation Program for identified resources. Construction shall not resume within 50 feet of the discovery until the qualified paleontologist states in writing that the proposed construction activities would not significantly damage paleontological resources.

Noise

- SC NS-1** All construction equipment shall be equipped with mufflers and other suitable noise attenuation devices.
- SC NS-2** Grading and construction contractors shall use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment).
- SC NS-3** All residential units located within 500 feet of the construction site shall be sent a notice regarding the construction schedule of the proposed project. A sign, legible at a distance of 50 feet shall also be posted at the construction site. All notices and the signs shall indicate the dates and duration of construction activities, as well as provide a telephone number where residents can inquire about the construction process and register complaints.
- SC NS-4** A “noise disturbance coordinator” shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would be required to implement reasonable measures such that the complaint is resolved. All notices that are sent to residential units within 500 feet of the construction site and all signs posted at the construction site shall list the telephone number for the disturbance coordinator.



Table 1. Mitigation Monitoring and Reporting Checklist

MM #	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring Responsibility	Monitoring Timing	Verification of Compliance		
						Initials	Date	Remarks
BIOLOGICAL RESOURCES								
BIO-1	<p>Nesting Birds. If possible, construction activities for the project should avoid the bird and raptor nesting season recommended by CDFW (January 1 through September 15). In the event that vegetation and tree removal or trimming needs to occur between January 1 and September 15, the Project Sponsor shall retain a qualified biologist to conduct a nesting bird survey no more than 3 days prior to commencement of construction, vegetation removal and/or ground disturbing activities (e.g., staging, mobilization, grading). Results of the pre-construction survey shall be submitted to the City's Planning Division and CDFW prior to the commencement of all such construction or ground disturbing activities and the issuance of any permits. The biologist conducting the clearance survey shall document the negative results, if no active bird nests are observed on the project site or within the vicinity during the clearance survey with a brief letter report, submitted to the City's Planning Division prior to commencement of construction or ground disturbing activities, indicating that no impacts to active bird nests would occur, before construction or ground disturbing activities can proceed.</p> <p>If an active avian nest is discovered during the pre-construction clearance survey, all construction and ground disturbing activities shall stay outside of a 300-foot buffer around the active nest. For listed raptor species, this buffer shall be 500 feet. All observations of special-status species will be documented and submitted to the CNDDDB by reporting any special status species detected by completing and submitting CNDDDB Field Survey Forms. The City shall ensure the data has been properly submitted, with all data fields applicable filled out, prior to project ground-disturbing activities. The City will require the project sponsor's qualified biologist's assistance with the required reporting. The project sponsor shall provide CDFW with confirmation of data submittal. If active nests are determined to be present, a biological monitor shall be on-site to</p>	Project Applicant; Applicant's Qualified Biologist	Prior to Construction; During Construction Activities if Active Nests Requiring Monitoring are Identified	City of Monrovia Planning Division	Prior to Construction Activities; During Construction if Active Nests Requiring Monitoring are Identified			



**Norumbega Drive Residence Project
Mitigation Monitoring and Reporting Program**

MM #	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring Responsibility	Monitoring Timing	Verification of Compliance		
						Initials	Date	Remarks
	delineate the boundaries of the buffer area and to monitor the active nest at least twice weekly to ensure that nesting behavior is not adversely affected by construction or ground disturbing activity or until construction activity is completed, whichever comes first. No impacts to active nests and/or nesting habitat shall be allowed without prior approval from CDFW. Monitoring activities shall be reported to the City's Planning Division and CDFW for review and approval monthly until nesting behavior is not adversely affected by construction or ground disturbing activity or all such construction activity is completed, whichever comes first. If, as a result of the monitoring, active nesting habitat is identified and determined to be an impediment to construction activities, CDFW shall be consulted to identify next steps and appropriate protection and compensation approaches. Removal or impact to an active nest or nesting habitat shall not occur without CDFW approval. CDFW may require compensation for any proposed habitat loss. Compensation for habitat loss would increase with the occurrence of any California Species of Special Concern and/or CESA-listed species.							
BIO-2	<p>Mountain Lion. As directed by CDFW, a pre-construction survey of the parcel was conducted for the parcel through the Mountain Lion Habitat Assessment, which was accepted by CDFW in September 2023. As a result of the Mountain Lion Habitat Assessment, measures to avoid potential impacts to mountain lions from night lighting or construction noise have been identified. The following measures shall be required to address potential construction-period impacts to the mountain lion, could occur adjacent to the project site in habitat that is suitable for mountain lions for foraging and dispersal or movement events:</p> <p>a. The construction site shall be fenced to exclude wildlife such as mountain lions from entering the development areas.</p> <p>b. Fencing or walls shall be prohibited within areas of native habitat, except where necessary for public safety or habitat protection or restoration. Fencing or walls that do not permit the free passage of wildlife shall be prohibited in any wildlife corridors.</p>	Project Applicant; Applicant's Construction Contractor; Property Owner	Prior to Construction; During Construction; After Construction	City of Monrovia Planning Division	During Construction; Post- Construction Prior to Occupation			



**Norumbega Drive Residence Project
Mitigation Monitoring and Reporting Program**

MM #	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring Responsibility	Monitoring Timing	Verification of Compliance		
						Initials	Date	Remarks
	<p>c. Construction activities for the project shall be restricted and no work shall occur from 1-hour after sunset to 1-hour before sunrise.</p> <p>d. Trash and debris shall be contained onsite during construction.</p> <p>e. Exterior lighting (except traffic lights, navigational lights, and other similar safety lighting) shall be minimized, restricted to low intensity features, shielded, and directed away from native habitats to minimize impacts on wildlife. Permitted lighting shall conform to the following standards:</p> <ul style="list-style-type: none"> • The minimum necessary to light walkways used for entry and exit to the structures, including parking areas, on the site. This lighting shall be limited to fixtures that do not exceed two feet in height, that are directed downward, and use bulbs that do not exceed 60 watts, or the equivalent, unless a higher wattage is authorized by the City. • Security lighting attached to the residence that is controlled by motion detectors and is limited to 60 watts, or the equivalent. • The minimum lighting necessary for safe vehicular use of the driveway. The lighting shall be limited to 60 watts, or the equivalent. • No lighting around the perimeter of the site, no lighting for sports courts or other private recreational facilities, and no lighting for aesthetic purposes is allowed. <p>In addition, all observations of special-status species will be documented and submitted to the CNDDDB by reporting any special status species detected by completing and submitting CNDDDB Field Survey Forms. The City shall ensure the data has been properly submitted, with all data fields applicable filled out, prior to project ground-disturbing activities. The City will require the project sponsor's qualified biologist's assistance with the required reporting. The project sponsor shall provide CDFW with confirmation of data submittal.</p>							



**Norumbega Drive Residence Project
Mitigation Monitoring and Reporting Program**

MM #	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring Responsibility	Monitoring Timing	Verification of Compliance		
						Initials	Date	Remarks
BIO-3	Mountain Lion and Black Bear Reporting. Due to the location of the site at the foothills of the San Gabriel mountains, any occurrence of mountain lion or black bear spotted in the project area (any location visible from the project site) shall be reported to the South Coast Regional Office of CDFW – (858) 467-4201 or AskR5@wildlife.ca.gov. If the sighting is not during normal business hours, the sighting should first be reported to the local police or sheriff officers. If it is determined during consultation with the CDFW that a mitigation and avoidance plan and/or incidental take permit (ITP) are needed, construction will not proceed until these have been prepared and approved by CDFW and the City.	Project Applicant; Applicant's Construction Contractor	Prior to Construction; During Construction	City of Monrovia Planning Division	During Construction			
BIO-4	Preconstruction Bat Survey. Prior to construction activities, a qualified bat specialist shall conduct bat surveys within these areas (plus a 100-foot buffer as access allows) in order to identify potential habitat that could provide daytime and/or nighttime roost sites, and any maternity roosts. Acoustic recognition technology shall be utilized to maximize detection of bat species to minimize impacts to sensitive bat species. A discussion of survey results, including negative findings shall be provided to the City. Depending on the survey results, a qualified bat specialist shall discuss potentially significant effects of the project on bats and include species-specific mitigation measures to reduce impacts to below a level of significance (CEQA Guidelines, § 15125). All observations of special-status species will be documented and submitted to the CNDDDB by reporting any special status species detected by completing and submitting CNDDDB Field Survey Forms. The City shall ensure the data has been properly submitted, with all data fields applicable filled out, prior to project ground-disturbing activities. The City will require the project sponsor's qualified biologist's assistance with the required reporting. The project sponsor shall provide CDFW with confirmation of data submittal. Surveys, reporting, and preparation of robust mitigation measures by a qualified bat specialist shall be completed and submitted to the City prior to any project-related ground-disturbing activities or vegetation removal at or near locations of roosting habitat for bats.	Project Applicant; Applicant's Qualified Biologist	Prior to Construction; During Construction Activities if Measures are Determined to be Necessary by the Qualified Biologist	City of Monrovia Planning Division	Prior to Construction; During Construction Activities if Measures are Determined to be Necessary by the Qualified Biologist			



**Norumbega Drive Residence Project
Mitigation Monitoring and Reporting Program**

MM #	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring Responsibility	Monitoring Timing	Verification of Compliance		
						Initials	Date	Remarks
BIO-5	Tree Roost Impact Minimization. If bats are not detected, but the bat specialist determines that roosting bats may be present at any time of year and could roost in trees at a given location, during tree trimming, trees shall be pushed using heavy machinery prior to using a chainsaw to remove branches. To ensure the optimum warning for any roosting bats that may still be present, trees shall be pushed lightly two or three times, with a pause of approximately 30 seconds between each nudge to allow bats to become active. A period of at least 24 hours, and preferable 48 hours, shall elapse prior to such operations to allow bats to escape.	Project Applicant; Applicant's Qualified Biologist	Prior to Construction; During Construction Activities if Measures are Determined to be Necessary by the Qualified Biologist	City of Monrovia Planning Division	Prior to Construction; During Construction Activities if Measures are Determined to be Necessary by the Qualified Biologist			
BIO-6	Bat Maternity Roosts. If maternity roosts are found, work shall be scheduled between October 1 and February 28, outside of the maternity roosting season when young bats are present but are yet ready to fly out of the roost (March 1 to September 30).	Project Applicant; Applicant's Qualified Biologist	Prior to Construction; During Construction Activities if Measures are Determined to be Necessary by the Qualified Biologist	City of Monrovia Planning Division	Prior to Construction; During Construction Activities if Measures are Determined to be Necessary by the Qualified Biologist			
BIO-7	Oak Tree Infectious Disease Management. An infectious tree disease management plan shall be developed and implemented prior to initiating project activities. All trees scheduled for pruning shall be inspected prior to start of those activities for contagious tree diseases including but not limited to: thousand canker fungus (<i>Geosmithia morbida</i>), polyphagous shot hole borer (<i>Euwallacea</i> spp.), and goldspotted oak borer (<i>Agrilus auroguttatus</i>). To avoid the spread of infectious tree diseases, diseased trees, or any parts thereof, shall not be transported from the project site without first being treated using best available management practices relevant for each tree disease observed. This mitigation measure shall be added to the site plans as notes labeled "TREE PROTECTION REQUIREMENTS."	Project Applicant; Applicant's Qualified Arborist	Prior to Construction; During Construction Activities if Measures are Determined to be Necessary by the Qualified Arborist	City of Monrovia Planning Division	Prior to Construction; During Construction Activities if Measures are Determined to be Necessary by the Qualified Arborist			



**Norumbega Drive Residence Project
Mitigation Monitoring and Reporting Program**

MM #	Mitigation Measure	Implementation Responsibility	Implementation Timing	Monitoring Responsibility	Monitoring Timing	Verification of Compliance		
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BIO-8	<p>Oak Tree Construction Management. These mitigation measures shall be added to the site plans as notes labeled "TREE PROTECTION REQUIREMENTS." The following measures shall be implemented to protect the coast live oak trees prior to and during the construction process. Numbering reference for the oak trees corresponds with the numbering in the arborist report and as shown on Figure 2-5 of this Initial Study/Mitigated Negative Declaration. All work shall be overseen by a certified arborist, who will serve as the arborist for the project (project arborist).</p> <p>a. Provide protective fencing at the edge of the canopy plus 5 feet. Fencing shall be already installed and inspected by the project arborist prior to the beginning of work on-site. Tree protection fencing shall be a chain link fence with an access gate at least 4 feet high with 2 inch by 6-inch steel posts installed at 8 feet on center. Post locations to be installed under observation by a qualified consulting arborist to avoid root damage.</p> <p>b. Provide a minimum 8.5 inch by 11-inch retroreflective sign spaced a maximum of every 100 feet along each fence perimeter. The signs shall display the following information:</p> <ul style="list-style-type: none"> i. "TREE PROTECTION ZONE" ii. Name and contact information of project owner or authorized representative. <p>c. Mechanical injury and compaction to roots, root flares, trunks, and branches under the dripline of any tree to be retained shall not occur.</p> <p>d. Lay steel plates across any areas near street trees or under protected trees used for access.</p> <p>e. No construction staging, washout or disposal of construction materials or by products shall be placed within the tree protection zones. Avoid storing soil or material on unprotected natural grade. Containment to be provided for concrete, paint, stucco, and other washout activities.</p>	Project Applicant; Applicant's Qualified Arborist; Applicant's Construction Contractor	Prior to Construction; During Construction Activities	City of Monrovia Planning Division	Prior to Construction; During Construction Activities			



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	<p>f. Equipment shall not idle under the driplines of trees. Significant burn can occur to leaves and bark from exhaust and heat.</p> <p>g. The tree/root protection zone shall be irrigated sufficiently with clean, potable water to keep the tree in good health and vigor before, during and after construction. Trees shall be soaked so that water reaches a depth of 2-3 feet on a monthly basis, starting as soon as possible.</p> <p>h. Apply mulch and compost around the trees once every 6 months during construction. Mulch in the form of wood chips is recommended for application over the surface of the soil to 4 inches deep to preserve moisture and improve soil condition.</p> <p>i. INSPECTION: Trees shall be inspected on a periodic basis by a qualified tree consultant. The relative age, condition and targets under the tree shall determine the inspection frequency. It is the responsibility of the property owner to establish and implement an appropriate inspection schedule based on the recommendation provided by a qualified arboricultural consultant.</p>							
CULTURAL RESOURCES								
CUL-1	<p>Prior to issuance of grading permits, a qualified archeologist meeting the Secretary of the Interior's Professional Qualifications Standards, and a Native American monitor shall be retained to monitor all ground-disturbing activities. Ground-disturbing activities include, but are not limited to, brush clearance, grubbing, excavation, trenching, grading, and drilling. A sufficient number of archaeological and Native American monitors shall be present each workday to ensure that simultaneously occurring ground-disturbing activities receive thorough levels of monitoring coverage. The qualified archeologist and Native American monitors shall have the ability to recommend, with written and photographic justification, the termination of monitoring efforts to the City, and should the City and the Native American participant(s) concur with this assessment, then monitoring shall cease.</p>	<p>Project Applicant; Applicant's Qualified Archaeologist; Native American Monitor</p>	<p>Prior to and During Ground-Disturbing Activities</p>	<p>City of Monrovia Planning Division</p>	<p>Prior to and During Ground-Disturbing Activities</p>			



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	<p>Prior to construction, a qualified archaeologist shall present a Worker Environmental Awareness Program (WEAP) training in cooperation with the Native American monitor. The WEAP training shall provide an overview of cultural (prehistoric and historic) and tribal cultural resources and outline regulatory requirements for the protection of cultural and tribal cultural resources. The WEAP will also cover the proper procedures in the event an unanticipated cultural or tribal cultural resource is identified during construction. The WEAP training can be in the form of a video or PowerPoint presentation. Printed literature (handouts) can accompany the training and can also be given to new workers and contractors to avoid the necessity of continuous training over the course of the project. A cursory investigation by the archaeological and Native American monitors shall be completed following vegetation removal.</p> <p>If previously unidentified cultural or tribal cultural resources are encountered during the cursory investigation and/or during ground-disturbing activities, the archaeological and Native American monitors shall have the authority to halt ground-disturbing activities within 100 feet of the resource(s) and an Environmentally Sensitive Area (ESA) physical demarcation shall be established. If prehistoric or potential tribal cultural resources are identified, Mitigation Measure TCR-1, as outlined in Section 4.18, shall be implemented.</p> <p>The qualified archaeologist, in consultation with the City (and Native American participant[s] should the find be prehistoric), shall determine whether the resource is potentially significant in accordance with Section 15064.5 of the CEQA Guidelines (that is, whether it is a historical resource, a unique archaeological resource, or tribal cultural resources). If avoidance is not feasible, a qualified archaeologist, in consultation with the City and Native American participant(s), should the find be prehistoric, shall prepare and implement a detailed treatment plan. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of, but would not be limited to, in-field documentation, archival research, subsurface testing, and excavation.</p>							



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	<p>In the event that an identified cultural resource is of Native American origin, the qualified archaeologist shall consult with the City's Planning Division who will consult with the Native American participant(s), as outlined in Mitigation Measure TCR-1. No work will continue within the ESA until the qualified archaeologist, and City (along with the Native American participant[s] should the find be prehistoric) agree to and complete the appropriate treatment, and state in writing that the proposed construction activities would not significantly damage any archaeological resources.</p> <p>The archaeological and Native American monitors shall complete daily monitoring logs that provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified.</p>							
CUL-2	<p>If human remains are found, those remains would require proper treatment, in accordance with applicable laws. State of California Health and Safety Code Sections 7050.5 through 7055 describe the general provisions for human remains. Specifically, Health and Safety Code Section 7050.5 requires if any human remains are accidentally discovered during excavation of a site, the County Coroner shall be notified of the find immediately, and no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. As required by State law, if the remains are determined to be Native American, the County Coroner shall notify the NAHC, which would determine and notify a Most Likely Descendant (MLD). The MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC and shall have the opportunity to offer recommendations for the disposition of the remains.</p>	Project Applicant; Applicant's Qualified Archaeologist; Applicant's Construction Contractor	During Ground-Disturbing Activities	City of Monrovia Planning Division	Prior to and During Ground-Disturbing Activities			



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GEOLOGY AND SOILS								
GS-1	<p>To appropriately address the potential for landslide and slope instability, the following measures shall be implemented during and after construction of the project. The contractor shall be responsible for ensuring construction measures are implemented. Post-construction measures shall be the responsibility of the property owner:</p> <p>a. Comply with all recommendations in the Geotechnical Analysis.</p> <p>b. Protect slopes from runoff by installing and maintaining top-of-slope compacted earth berms or concrete interceptor drains.</p> <p>c. Install backdrains for all retaining walls.</p> <p>d. Install and maintain landscaping on all slopes; landscaping on slopes shall be with suitable plant material requiring minimum cultivation and irrigation water to thrive.</p> <p>e. Install and use an irrigation system to provide for regulated and controlled watering of vegetation (i.e., avoiding over- or under-watering). After construction of the residence is complete, avoid overwatering and slope saturation.</p> <p>f. Maintenance shall include correction of defective drainage terraces on slope, elimination of burrowing rodents, corrections of defective irrigation facilities, and controlled slope vegetation growth. Irrigation programs for all landscaped slopes should be well controlled and minimized. Seasonal adjustments shall be made to prevent excess moisture in the slope soils.</p>	Project Applicant; Applicant's Construction Contractor; Property Owner	During Construction; Ongoing Maintenance Annually After Construction	City of Monrovia Building Division	During Construction			
HAZARDS AND HAZARDOUS MATERIALS								
HAZ-1	<p>During construction, only allow parking of vehicles on one side of Norumbega Drive to ensure emergency vehicles can access the surrounding neighborhood should a wildfire occur in the area. If Norumbega Drive is identified as an evacuation route during a wildfire emergency, the contractor would be responsible for ensuring that all vehicles and materials are immediately removed from the street and the evacuation route is clear.</p>	Project Applicant; Applicant's Construction Contractor	During Construction	City of Monrovia Planning Division	During Construction			



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TRANSPORTATION								
TRA-1	Prior to project construction initiation, the Project Sponsor shall prepare a Traffic Management Plan for approval by the City Traffic Engineer. The Traffic Management Plan shall specify that one direction of travel in each direction on adjacent roadways must always be maintained during project construction activities. If full lane closures are required and one direction of travel in each direction cannot be maintained, the Traffic Management Plan shall identify planned detours. The Traffic Management Plan shall include measures such as construction signage, limitations on timing for lane closures to avoid peak hours, temporary striping plans, and use of construction flag person(s) to direct traffic during heavy equipment use. The Traffic Management Plan shall be incorporated into project specifications for verification prior to final plan approval by the City Traffic Engineer.	Project Applicant	Prior to Construction Activities; During Construction	City of Monrovia Public Works Division	Prior to Construction Activities; During Construction			
TRIBAL CULTURAL RESOURCES								
TCR-1	Prior to the issuance of grading permits, a Native American Monitor from tribe(s) that consulted on this project pursuant to Assembly Bill 52, and a qualified archeologist shall be retained to monitor all ground-disturbing activities. Ground-disturbing activities include, but are not limited to, brush clearance, grubbing, excavation, trenching, grading, and drilling. A sufficient number of Native American and archaeological monitors shall be present each workday to ensure that simultaneously occurring ground-disturbing activities receive thorough levels of monitoring coverage. Should more than one Tribe request participation in monitoring, a rotating schedule will be implemented. The Native American and qualified archaeological monitors shall have the ability to recommend, with written and photographic justification, the termination of monitoring efforts to the City, and should the City and the qualified archeologist concur with this assessment, then monitoring shall cease. Prior to construction, a Native American representative shall present a WEAP training in cooperation with the qualified	Project Applicant; Native American Monitor	Prior to and During Ground-Disturbing Activities	City of Monrovia Planning Division	Prior to and During Ground-Disturbing Activities			



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	<p>archaeologist. The WEAP training shall provide an overview of cultural (prehistoric and historic) and tribal cultural resources and outline regulatory requirements for the protection of cultural and cultural resources. The WEAP will also cover the proper procedures in the event an unanticipated cultural or tribal cultural resource is identified during construction. The WEAP training can be in the form of a video or PowerPoint presentation. Printed literature (handouts) can accompany the training and can also be given to new workers and contractors to avoid the necessity of continuous training over the course of the project.</p> <p>A cursory pedestrian survey shall be completed by the Native American and archaeological monitors following vegetation removal. If previously unidentified cultural or tribal cultural resources are encountered during the cursory investigation and/or during ground-disturbing activities, the archaeological and Native American monitors shall have the authority to halt ground-disturbing activities within 100 feet of the resource(s) and an ESA physical demarcation shall be established. If historic-age or potential archaeological resources are identified, Mitigation Measure CUL-1 shall be implemented.</p> <p>The Native American participant(s) shall determine whether the resource is a potential tribal cultural resource. If avoidance is not feasible, a qualified archaeologist, in consultation with the City and Native American participant(s), shall prepare and implement a detailed treatment plan. Treatment for most resources would consist of, but would not be limited to, in-field documentation, archival research, subsurface testing, and excavation.</p> <p>If human remains and/or grave goods are discovered or recognized at the project site, all ground disturbance shall immediately cease, and the county coroner shall be notified per PRC Section 5097.98, and Health & Safety Code Section 7050.5. Human remains and grave/burial goods shall be treated alike per PRC Section 5097.98(d)(1) and (2).</p> <p>Any historical archaeological material that is not Native American in origin (non-TCR) shall be curated at a public, non-profit institution with a research interest in the materials, such as</p>							



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	the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, it shall be offered to a local school or historical society in the area for educational purposes.							
WILDFIRE								
WFR-1	During site clearing within the project site when any electrical construction equipment is in use, the construction crew shall have fire prevention equipment (such as fire extinguishers, emergency sandbags, etc.) accessible at all times to put out any accidental fires that could occur from the use of electrical construction equipment.	Project Applicant; Applicant's Construction Contractor	During Construction	City of Monrovia Planning Division	During Construction			



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