

CITY OF SANTA CLARITA
MITIGATED NEGATIVE DECLARATION

Proposed Final

MASTER CASE: Master Case 18-182

PERMIT/PROJECT: Tentative Parcel Map (TPM) 80287 – Four-lot Subdivision
Master Case 18-182: Tentative Parcel Map 18-004 and Initial Study 18-005

APPLICANT: Bill Rex

AGENT: CRC Enterprises
27600 Bouquet Canyon Road, Suite 200
Santa Clarita, CA 91350
(661) 297-2336

PROJECT LOCATION: South of Sultus Street, between Triumph Avenue and Tannahill Avenue Assessor's
Parcel Number (APN): 2841-018-071

DESCRIPTION OF THE PROJECT:

The City of Santa Clarita Planning Commission approved Tentative Parcel Map (TPM) 80287 and adopted the Initial Study and Mitigated Negative Declaration for the project on January 16, 2024. The proposed TPM would subdivide the existing 19.87-acre parcel and would create four new lots. Two lots would be accessed from Triumph Avenue and two lots would be accessed from Tannahill Avenue. A single-family home could be developed on each newly created lot in the future, but no new development is being proposed with this request. No oak trees onsite would be removed as part of this subdivision. The project site is zoned Non-Urban 4 in the community of Canyon Country, within the Sand Canyon Special Standards District.

Based on the information contained in the Initial Study prepared for this project, and pursuant to the requirements of Section 15070 of the California Environmental Quality Act (CEQA), the City of Santa Clarita

City Council Planning Commission Director of Community Development

finds that the project as proposed or revised will have no significant effect upon the environment, and that a Mitigated Negative Declaration shall be adopted pursuant to Section 15070 of CEQA.

Mitigation measures for this project

Are Not Required Are Attached Are Not Attached

Patrick Leclair
PLANNING MANAGER

Prepared by:  Andy Olson, Associate Planner
(Signature) (Name/Title)

Approved by:  Erika Iverson, Senior Planner
(Signature) (Name/Title)

Public Review Period From December 26, 2023 To January 16, 2024

Public Notice Given On December 26, 2023

Legal Advertisement Posting of Properties Written Notice

CERTIFICATION DATE: January 16, 2024

California Environmental Quality Act
FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Rexhall Project

Lead Agency:



*City of Santa Clarita
23920 Valencia Boulevard, Suite 302
Santa Clarita, CA 91355
(661) 255-4330
Contact: Andy Olson*

Prepared by:

Michael Baker
INTERNATIONAL

*3760 Kilroy Airport Way, Suite 270
Long Beach, CA 90806
Office: (562) 200-7165*

ADOPTED JANUARY 16, 2024

TABLE OF CONTENTS

TABLE OF CONTENTS	1
INITIAL STUDY	3
A. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:	10
B. DETERMINATION:	10
C. DISCUSSION OF ENVIRONMENTAL IMPACTS	11
I. AESTHETICS.....	11
II. AGRICULTURE AND FOREST RESOURCES.....	14
III. AIR QUALITY	17
IV. BIOLOGICAL RESOURCES.....	31
V. CULTURAL RESOURCES.....	37
VI. ENERGY.....	41
VII. GEOLOGY AND SOILS	51
VIII. GREENHOUSE GAS EMISSIONS.....	59
IX. HAZARDS AND HAZARDOUS MATERIALS	70
X. HYDROLOGY AND WATER QUALITY	75
XI. LAND USE AND PLANNING.....	84
XII. MINERAL RESOURCES.....	86
XIII. NOISE.....	88
XIV. POPULATION AND HOUSING.....	101
XV. PUBLIC SERVICES.....	103
XVI. RECREATION	108
XVII. TRANSPORTATION.....	109
XVIII. TRIBAL CULTURAL RESOURCES	112
XIX. UTILITIES AND SERVICE SYSTEMS	114
XX. WILDFIRE	121
XXI. MANDATORY FINDINGS OF SIGNIFICANCE	123
CORRECTIONS AND ADDITIONS	126

LIST OF FIGURES

Figure 1 Regional Location.....7
Figure 2 Project Location.....8
Figure 3 Conceptual Site Plan.....9

LIST OF TABLES

Table III-1 SCAQMD Regional Air Quality Significance Thresholds18
Table III-2 Short-Term Construction Emissions.....23
Table III-3 Long-Term Operational Air Emissions.....26
Table III-4 Localized Significance of Construction Emissions29
Table VI-1 Project and Countywide Energy Consumption46
Table VI-2 Project Energy Use General Plan Consistency Analysis.....49
Table VIII-1 Estimated Greenhouse Gas Emissions64
Table VIII-2 Consistency with the 2022 Scoping Plan: AB 32 GHG Inventory Sectors.....66
Table VIII-3 Consistency with the 2020-2045 RTP/SCS.....67
Table XIII-1 Noise and Land Use Compatibility Guidelines.....91
Table XIII-2 City of Santa Clarita Noise Limits.....92
Table XIII-3 Noise Measurements.....93
Table XIII-4 Maximum Noise Levels Generated by Typical Construction Equipment.....95
Table XIII-5 Typical Noise Levels Generated by Parking Lots.....97
Table XIII-6 Typical Vibration Levels for Construction Equipment.....99
Table XIX-1 Project Construction Waste Generation.....119

APPENDICES

Appendix A Oak Tree Report
Appendix B Air Quality/Greenhouse Gas Emissions/Energy Data
Appendix C Biological Resource Evaluation
Appendix D Cultural Resources Identification Memorandum
Appendix E Preliminary Geotechnical Report and Percolation Feasibility Study
Appendix F Paleontological Resources Records Search
Appendix G Los Angeles County Fire Department Conditions of Approval
Appendix H Hydrology Report
Appendix I Noise Data
Appendix J Assembly Bill 52 Documentation

INITIAL STUDY

CITY OF SANTA CLARITA



Project Title/Master Case Number: Rexhall Project
Master Case 18-182

Lead Agency Name and Address: City of Santa Clarita
23920 Valencia Boulevard, Suite 302
Santa Clarita, CA 91355

Contact Person and Phone Number: Andy Olson
Associate Planner
(661) 255-4330
aolson@santa-clarita.com

Project Location: The Project would be developed on a vacant 19.87-acre site located at APN 2841-018-071 (Project Site) within the southeast in the City of Santa Clarita.¹ As shown in **Figure 1**, primary regional access to the Project Site is provided by the Antelope Valley Freeway (State Route [SR] 14) approximately 1.9 miles to the north, the Foothill Freeway (Interstate [I] 210) approximately 5.1 miles to the south, and the Golden State Freeway (I-5) approximately 6.5 miles to the southwest of the Project Site. As shown in **Figure 2**, the Project Site is located at the southeast corner of Triumph Avenue and Diver Street and is bounded by Triumph Avenue to the west, Tannahill Avenue to the east, residential uses to the north, and vacant land to the south. The Project Site is also located within the Sand Canyon Special Standards District area.

Applicant's Name and Address: Rexhall Company
45640 23rd St. W.
Lancaster, CA 93536

General Plan Designation and Zoning: The Project Site is designated as Non-Urban Residential in the City's General Plan and is zoned Non-Urban 4 (NU4).² Per Santa Clarita General Plan and Santa Clarita Municipal Code (SCMC) Section 17.32.040, the NU4 designation provides for the maintenance and expansion of rural communities that are distinguished by large lot sizes (generally two acres or greater), agricultural and equestrian uses, and an absence of urban services. Uses in this designation could include single-family homes at a maximum density of one dwelling unit per two acres, agriculture, equestrian uses, private recreation, and public and institutional facilities serving the local area. Supportive commercial uses serving the local area would also be allowed with certain requirements.

¹ The parcel was previously identified as APN 2841-018-035 but was subsequently renumbered for reasons unrelated to the project and its site boundaries. The Project Site is identified as APN 2841-018-071, effective April 9, 2021.

² City of Santa Clarita, General Plan Map <https://www.santa-clarita.com/home/showpublisheddocument/16338/638121386187130000>; City of Santa Clarita, Zoning Map, February 2023, <https://www.santa-clarita.com/home/showpublisheddocument/16336/638119886928430000>, accessed June 17, 2023.

Description of Project and Setting:

Existing Conditions

The Project Site is currently vacant and undeveloped with remnants of one building foundation associated with a building that was constructed between 1978 and 1985 and demolished by 1992. The Project Site also includes dirt access paths/trails, 162 Coast Live Oak trees, and vegetation.³ The Coast Live Oak trees would be retained as part of the Project. The overall site has an average slope of 8.4 percent, while the northwestern portion of the Project Site has an average slope of 16.2 percent.

Proposed Project

Project Overview

The Project includes the development of four single-family homes on a 19.87-acre (865,340-square-foot) site. As shown in **Figure 3**, the Project Site would be subdivided into four parcels, each of which would accommodate a single-family building pad. The proposed four parcel sizes are: 4.98 acres, 4.99 acres, 5.00 acres, and 4.90 acres. To accommodate the Project, site preparation would involve grading and construction, septic leaching fields, and access driveways. The two proposed homes within the western parcels of the Project Site would be accessed via Triumph Avenue, and the two proposed homes within the eastern parcels of the Project Site would be accessed via Tannahill Avenue. To accommodate the Project, site balancing would occur with a cut of 5,163 cubic yards and fill of 4,656 cubic yards of earthwork.⁴ As proposed, the Project would retain all 162 Coast Live Oak trees currently onsite.

Development Standards

As described above, the maximum density allowed within NU4 zones is one dwelling unit per two acres. In addition, pursuant to SCMC Section 17.32.040, NU4 zones are subject to 20-foot front yard setbacks, 15-foot rear yard setbacks, 5-foot side yard setbacks, and 20-foot side yard setbacks for reverse corner lots. Without a Conditional Use Permit (CUP), main structures and accessory structures are allowed a maximum height of 35 feet. Distances between main structures must be at least 10 feet, and distances between main and accessory structures must be at least 6 feet. Pursuant to SCMC Section 17.39.030, new developments within the Sand Canyon Special Standards District area are also required to provide riding/hiking trails per the Sand Canyon Backbone Trails exhibit on file with the City's Parks, Recreation, and Community Services Department, as approved by the Department Director.

³ Trees, etc. (division of RDI & Associates, Inc.), Oak Tree Report prepared for the Project, revised January 15, 2021. See **Appendix A** of this IS/MND.

⁴ The difference between the cut and fill amounts is due to shrinkage/recompaction.

Access and Trails

Vehicular access to the two proposed homes within the western parcels would be available via a proposed 20-foot wide driveway along Triumph Avenue. Vehicular access to the two proposed homes within the eastern parcels would have individual 20-foot wide driveways along Tannahill Avenue.

To comply with the Sand Canyon Backbone Trails Corridor Extension and SCMC Section 17.39.030, the Project would provide a 12-foot wide trail easement along the western and southern edges of the Project Site.

Sustainability Features

The Project would comply with the latest California Green Building Standards Code, the current version of which is the 2022 California Green Building Standards Code, which was adopted by reference by the City of Santa Clarita per SCMC Chapter 25.01, and would provide sustainability features such as energy efficient appliances and lighting, a solar-ready roof, and low-flow water fixtures. The Project would comply with the SCMC Section 9.38.035.A.1 by utilizing drought tolerant plant materials and water-efficient irrigation and landscape guidelines. In addition, the Project's landscaping plan would be reviewed by the City prior to issuance of a grading permit.

Anticipated Construction Schedule

Construction activities of the Project would begin with site clearance and grading, involving site balancing with a cut of 5,163 cubic yards and fill of 4,656 cubic yards of earthwork. This would be followed by construction of the four single-family homes, septic leaching fields, and access driveways. The Project would also install new utility connections from existing public infrastructure to serve the Project; no off-site improvements are needed. Project construction is anticipated to be completed in 17 months.

Required Approvals

Pursuant to Article 4 of the CEQA Guidelines, the City of Santa Clarita is the lead agency for this Project, taking primary responsibility for conducting environmental review and approving or denying the Project. The entitlements, reviews, permits, and approvals required to implement the Project are as follows:

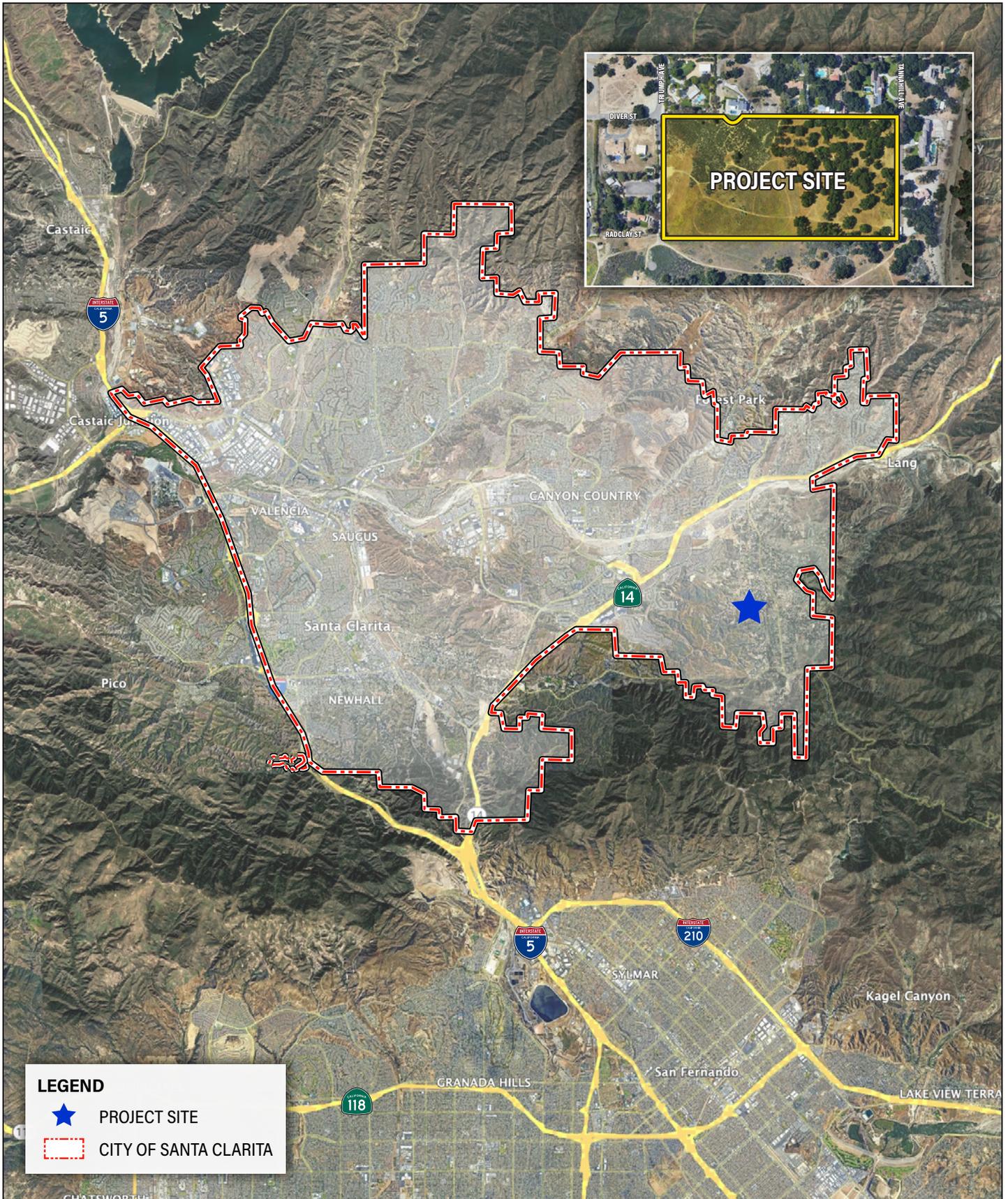
- **Tentative Parcel Map** to create new lots on the Project Site
- **Landscape Plan Review** to ensure City's landscaping standards are met prior to issuance of a grading permit.
- **Minor Use Permit** to allow grading for a quantity in exceedance of 10,000 cubic yards.
- Other discretionary and ministerial permits and approvals that may be deemed necessary to construct and operate the Project, including, but not limited to, building permits.

Surrounding Land Uses:

Surrounding uses in the vicinity of the Project Site include residential uses to the west across Triumph Avenue, east across Tannahill Avenue, and north of the Project Site. Vacant land is located to the south with residential uses farther to the south.

Other Public Agencies whose Approval is Required: Los Angeles County Fire Department

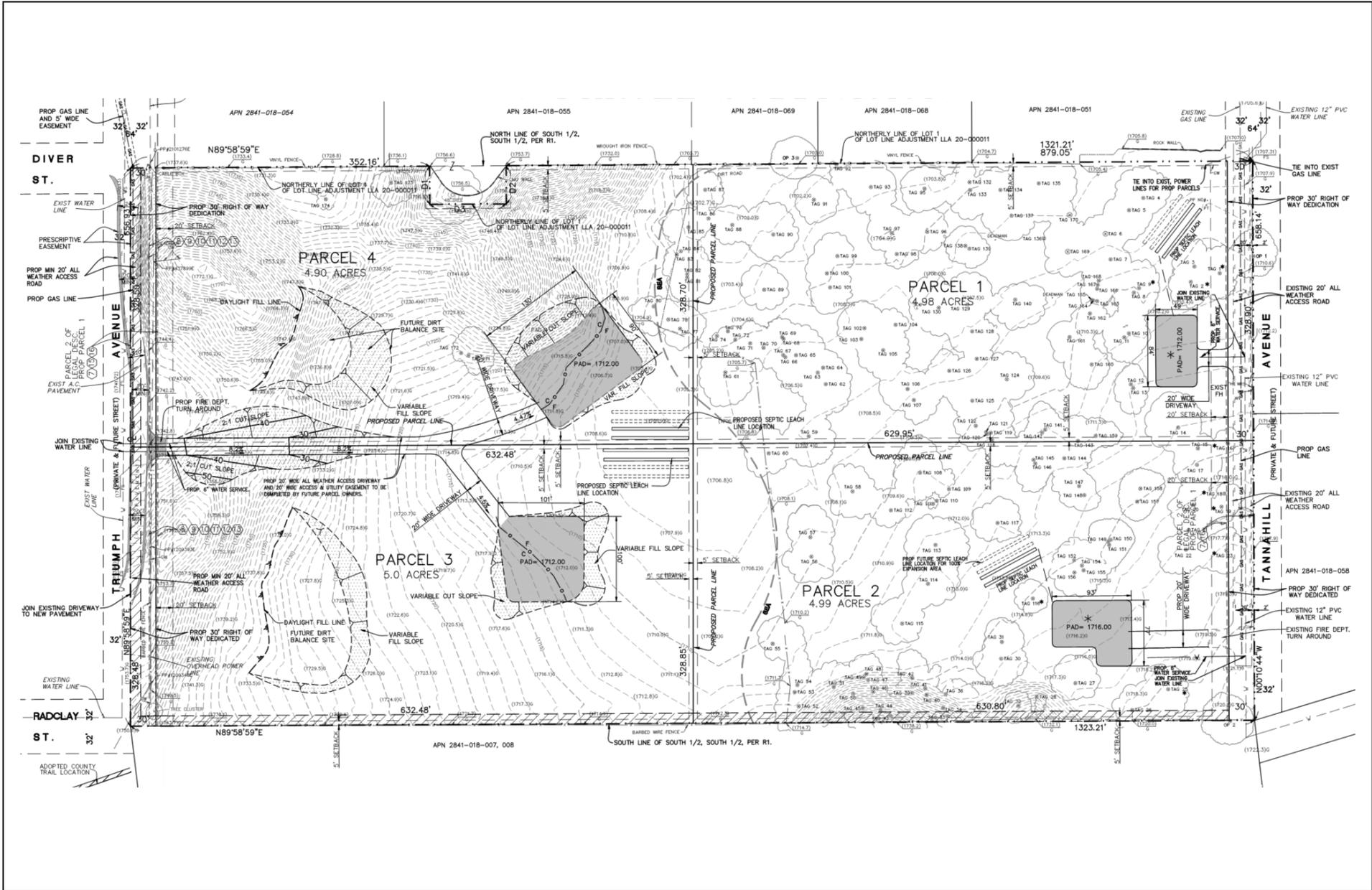
California Native American Consultation Yes, the City has conducted consultation. Refer to the discussion under Checklist Section XVIII, Tribal Cultural Resources.
Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1?



Source: Google Earth Pro, December 2023



Source: Google Earth Pro, December 2023



Source: CRC Enterprises, 2023

A. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

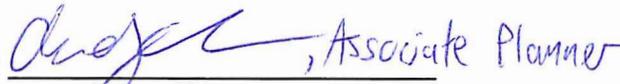
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or a "Less Than Significant Impact With Mitigation Incorporated" as indicated by the checklist on the following pages.

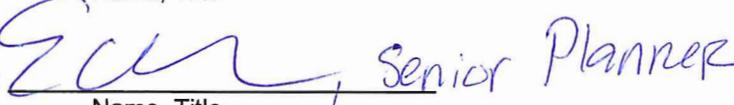
- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input checked="" type="checkbox"/> Geology /Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input type="checkbox"/> Hydrology / Water Quality | <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

B. DETERMINATION:

On the basis of this initial evaluation:

- I find that the 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 on the project have been made 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 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 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 ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: , Associate Planner 1/16/24
 Name, Title Date

Signature: , Senior Planner 1/16/24
 Name, Title Date

C. DISCUSSION OF ENVIRONMENTAL IMPACTS

I. AESTHETICS

<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 on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. In non-urbanized area, 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation of Checklist Responses

Pursuant to Senate Bill (SB) 743 (Public Resources Code [PRC] Section 21099[d]), “aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment.” The Project Site is not located on an infill site or within a transit priority area as defined by PRC Section 21099. As such, the Project’s aesthetic impacts are further evaluated below.

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

Less Than Significant Impact. A scenic vista is generally considered a publicly accessible, prominent vantage point that provides expansive views of highly valued landscapes or prominent visual elements, as defined by local plans or policies. These may include panoramic views that are associated with an urban skyline, valley mountain range, the ocean, or other water bodies. Scenic views and viewsheds are typically defined by physical features that frame the boundaries or context of scenic resources, such as natural open space, topographic formations, landscapes, water bodies, and/or large native trees. A region’s topography can lend aesthetic value through the creation of public view corridors of ridgelines, and through the visual backdrop created by mountains and hillsides. Viewsheds and scenic vistas may include views of both natural and built environments, and are also considered important scenic resources.

As described in the Conservation and Open Space Element of the General Plan, the Project Site is located in the Sand Canyon area, which runs northward from the steep slopes in the Angeles

National Forest to the Santa Clara River floodplain. The character of the canyon ranges from heavy woodland to large, rustic rural estates with abundant trees, while views from the upper reaches of the canyon include the valley floor. The Project Site is located in the eastern portion of the City where surrounding uses in the vicinity of the Project Site include residential uses and vacant land. The 19.87-acre Project Site is characterized by relatively flat topography with gentle hills and includes Coast Live Oak trees predominately in the eastern portion of the site.⁵ The overall site has an average slope of 8.4 percent, while the northwestern portion of the Project Site has an average slope of 16.2 percent. The Project Site and development of low-rise single-family homes would not impact a scenic vista because grading of the site would be balanced during construction and is situated at an overall lower elevation when compared to the surrounding vicinity. Beyond the private/gated community in which the Project Site is located, surrounding areas of the Sand Canyon area and the City provide higher publicly accessible elevations and vantage points where scenic vistas can provide distinctive and expansive landscaping views. Located within 2 miles of the Project Site, these include the Golden Valley Ranch open space to the west and southwest and the East Walker Ranch open space to the south. The Golden Valley Ranch open space includes over 900 acres of woodland along a Santa Clarita Valley ridgeline with various trails and lookout points, and the East Walker Ranch open space includes 140 acres of land with various trails and lookout points.⁶ Furthermore, the Project would provide a 12-foot wide trail easement along the western and southern edges of the Project Site, which would expand access to vantage points for the public. In addition, the Project would retain the onsite Coast Live Oak trees and preserve the existing visual character and quality of public views of the site and its surroundings. Therefore, the Project would not have a substantial adverse effect on a scenic vista, and impacts would be less than significant.

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

No Impact. The Project Site is not located along or within a designated state scenic highway.⁷ The Project Site is located approximately 5.4 miles northeast of a State Route 210 segment that is considered an eligible state scenic highway and 6.6 miles northeast of an Interstate 5 segment that is considered an eligible state scenic highway. The nearest officially designated state scenic highway is a segment of the Angeles Crest Highway (State Route 2), which is located approximately 16 miles southeast of the Project Site. As such, the Project Site is not visible from designated or eligible state scenic highways. The proposed Project would not require removal of, or impact views of, any scenic resources such as trees, rock outcroppings, or historic buildings within a state scenic highway or a locally designated scenic highway. Therefore, the Project would have no impact to scenic resources within a state scenic highway.

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

⁵ Trees, etc. (division of RDI & Associates, Inc.), Oak Tree Report prepared for the Project, revised January 15, 2021. See **Appendix A** of this IS/MND.

⁶ City of Santa Clarita Economic Development, Hike Santa Clarita, <https://visitsantaclarita.com/hiking/hike-santa-clarita/>, accessed October 19, 2023.

⁷ California Department of Transportation, California State Scenic Highway System Map, <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>, accessed August 21, 2023.

Less Than Significant Impact. According to CEQA Section 21071, an urbanized area is defined as an incorporated city that has a population of at least 100,000 persons. As the incorporated City of Santa Clarita has a population of over 220,000 persons, the Project Site would be considered an urbanized area.⁸ As detailed in response to Checklist Question XI.b, the Project would not conflict with the City's zoning for Non-Urban 4 (NU4) sites and provisions of SCMC Section 17.39.030 for new developments within the Sand Canyon Special Standards District area. In addition, the Project would retain and preserve in place the 162 existing Coast Live Oak trees located onsite. Also, with regard to landscaping, the Project would undergo Landscape Plan Review to ensure City's landscaping standards are met prior to issuance of a grading permit per SCMC Section 17.23.150. Therefore, the Project would not conflict with applicable zoning and other regulations governing scenic quality, and impacts would be less than significant.

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

Less Than Significant Impact. The two primary sources of light introduced by a project include those emanating from building interiors that pass through windows, and light from exterior sources, such as street lighting, building illumination, security lighting, and landscape lighting. Depending on the location of the light source and its proximity to adjacent light-sensitive uses, light introduction may become a nuisance, affecting adjacent areas and diminishing the view of the clear night sky. Light spillage is typically defined as unwanted illumination from light fixtures on adjacent properties.

The Project would involve the use of interior lighting that is typical of single-family residences. The lighting may be visible from surrounding areas during the nighttime; however, the internal lighting would not be directed outward from the buildings and would be consistent in type and intensity with existing sources of light within the vicinity, which includes other single-family residences. With regard to outdoor lighting, the Project and the future homeowners would be required to comply with SCMC Section 17.51.050, Outdoor Lighting Standards, such that all outdoor lighting would be directed downward to prevent off-site glare and the illuminating of other properties. Outdoor lighting would also be required to be screened and/or shielded from surrounding properties and streets. As a result, no light from the Project is expected to spill onto adjacent properties or be a substantial source of light from off-site locations.

Glare and glint refer to the unwanted reflection of the sun's rays or other forms of light by the face of a reflective surface. Glare is primarily a daytime occurrence caused by the reflection of sunlight or artificial light by highly polished surfaces such as window glass or reflective materials and, to a lesser degree, from broad expanses of light-colored surfaces. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources such as automobile headlights. Glare generation is typically related to either moving vehicles or sun angles. However, the proposed layout of the proposed residences, which would be spread out on the 19.87-acre Project Site, would prevent glare from causing significant impacts. In addition, while headlights from vehicles entering and exiting the Project's driveways would be visible to vehicles in the right-of-way, such lighting sources would be typical for the Project area and would not adversely affect views.

Therefore, the Project would result in a less than significant impact related to light and glare.

⁸ Southern California Association of Governments, Connect SoCal, 2020–2045 RTP/SCS, Demographics and Growth Forecast Technical Report, September 2020.

II. AGRICULTURE AND FOREST 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.</i></p> <p>Would the project:</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 nonagricultural use?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<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>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>d. Result in the loss of forest land or conversion of forest land to non-forest use?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to non-forest use?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation of Checklist Responses

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

No Impact. Based on the Farmland Mapping and Monitoring Program (FMMP), the Project Site is identified as Other Land, which is defined as land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.⁹ The Project would not be located on or near Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and no agricultural uses or operations occur on-site or within the vicinity of the Project Site. Therefore, the Project would not convert Farmland to a non-agricultural use, and no impact would occur.

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

No Impact. The Project Site is zoned Non-Urban 4 (NU4), which allows single-family homes, agriculture, equestrian uses, private recreation, and public and institutional facilities serving the local area, as stated in SCMC Section 17.32.040. As the Project would propose four single-family residences at the zone's allowed density, the Project would not conflict with the zone's allowed uses. In addition, the Project Site is not part of a Williamson Act contract or any other sort of deed or land use restriction intended to preserve or foster agricultural uses.¹⁰ Therefore, the Project would not conflict with existing zoning for agricultural use or a Williamson Act contract, and no impact would occur.

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

No Impact. As noted above, the Project Site is zoned NU4, which allows single-family homes, agriculture, equestrian uses, private recreation, and public and institutional facilities serving the local area, as stated in SCMC Section 17.32.040. The Project Site is undeveloped and does not include forestland or timberland. Surrounding uses in the vicinity of the Project Site include single-family residential uses and vacant undeveloped land that does not consist of forestland or timberland. Therefore, the Project would not conflict with existing zoning for forest or timberland or cause rezoning of forest or timberland, and no impact would occur.

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

No Impact. As described in response to Checklist Question II.c, the Project Site is undeveloped and does not include forestland or timberland. Therefore, the Project would not result in the conversion of forestland to non-forest use, and no impact would occur.

⁹ California Department of Conservation, California Important Farmland Finder, <https://maps.conservation.ca.gov/DLRP/CIFF/>, accessed April 1, 2023.

¹⁰ California Department of Conservation, California Williamson Act Enrollment Finder, <https://gis.conservation.ca.gov/portal/home/webmap/viewer.html?webmap=18f7488c0a9d4d299f5e9c33b312f312>, accessed April 1, 2023.

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

No Impact. The Project would be located within an area that includes single-family residential uses and vacant undeveloped land. There are no areas designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on or near the Project Site, and no forest lands exist within the vicinity of the project site. Therefore, the Project would not involve changes in the existing environment that could result in conversion of Farmland to nonagricultural use or the conversion of forest land to non-forest use. Therefore, no impact would occur.

III. AIR QUALITY

<i>Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:</i>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. 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 (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation of Checklist Responses

The following analysis is based in part on the information contained in the *Air Quality/Greenhouse Gas Emissions/Energy Data* prepared for the Project by Michael Baker International, which is included as **Appendix B** of this IS/MND.

REGULATORY FRAMEWORK

The South Coast Air Quality Management District (SCAQMD) provides guidance to lead agencies on how to evaluate project air quality impacts related to the following criteria: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any federal attainment plan.

The SCAQMD's *South Coast AQMD Air Quality Significance Thresholds* provides regional air quality significance thresholds for both construction and operation of projects within the SCAQMD jurisdictional boundaries. If the SCAQMD thresholds are exceeded, a potentially significant impact could result.¹¹ If a project generates emissions in excess of the established mass daily emissions thresholds, a significant air quality impact may occur, and additional analysis is warranted to fully assess the significance of impacts. **Table III-1**, SCAQMD Regional Air Quality Significance Thresholds, summarizes SCAQMD's regional thresholds.

¹¹ It is acknowledged that although these thresholds developed by the SCAQMD are available, ultimately, it is the Lead Agency under CEQA who determines the thresholds of significance for impacts.

**Table III-1
SCAQMD Regional Air Quality Significance Thresholds**

Air Pollutant ¹	Mass Daily Emission Threshold (lb/day)	
	Construction	Operation
NO _x	100	55
VOC	75	55
PM ₁₀	150	150
PM _{2.5}	55	55
SO _x	150	150
CO	550	550

Key: SCAQMD = South Coast Air Quality Management District; lb/day = pounds per day; NO_x = oxides of nitrogen; VOC = volatile organic compounds; PM₁₀ = directly emitted particulate matter with an aerodynamic diameter less than or equal to 10 microns; PM_{2.5} = directly emitted particulate matter with an aerodynamic diameter less than or equal to 2.5 microns; SO_x = oxides of sulfur; CO = carbon monoxide.

Notes:

1. SCAQMD also provides mass daily emission thresholds for lead of 3 lb/day for both construction and operation. However, lead is not a pollutant of concern in this study because the proposed Project would not produce substantial lead emissions.

Source: South Coast Air Quality Management District, *South Coast AQMD Air Quality Significance Thresholds*, <https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25>, revised March 2023.

a. Would the project 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 (Basin), which is governed by the South Coast Air Quality Management District (SCAQMD). In order to reduce emissions, the SCAQMD adopted the 2022 Air Quality Management Plan (2022 AQMP) which establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving State and Federal air quality standards. The AQMP is a regional and multi-agency effort including the SCAQMD, California Air Resources Board (CARB), the Southern California Association of Governments (SCAG), and the U.S. Environmental Protection Agency (EPA).

The 2022 AQMP pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG’s latest growth forecasts. SCAG’s latest growth forecasts were defined in consultation with local governments and with reference to local general plans. The SCAQMD considers projects that are consistent with the AQMP, which is intended to bring the Basin into attainment for all criteria pollutants, to also have less than significant cumulative impacts.

The SCAQMD established two criteria for determining consistency with the AQMP. The first criterion considers whether a project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay attainment of air quality standards. The second criterion considers whether a project would be consistent with the population, housing, and employment growth projections utilized by the AQMP.

Criteria for determining consistency with the AQMP are defined by the following indicators:

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 pertains to pollutant concentrations rather than to total regional emissions, an analysis of the Project's pollutant emissions relative to localized pollutant concentrations is used as the basis for evaluating project consistency. As discussed in response to Checklist Question III.d, below, localized contributions of CO, NO_x, and particulate matter (PM₁₀ and PM_{2.5}) from the project would be less than significant during project construction and operation. Therefore, the proposed Project would not result in an increase in the frequency or severity of existing air quality violations. Due to the role ROG's play in O₃ formation, ROG is classified as a precursor pollutant, and only a regional emissions threshold has been established. It is noted that the emission of ROG's as a result of the proposed Project would not exceed the regional emissions threshold; refer to response to Checklist Questions III.b and III.c, below. As such, the Project would not cause or contribute to localized air quality violations or delay the attainment of air quality standard or interim emissions reductions specified in the AQMP.

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

As discussed below in response to Checklist Questions III.b and III.c, the proposed Project would result in emissions that would be below the SCAQMD's thresholds for regional and localized emissions. Therefore, the proposed Project would not have the potential to cause or affect a violation of the ambient air quality standards.

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

The proposed Project would result in less than significant impacts with regard to localized concentrations during project construction and operations. As such, the proposed Project would not delay the timely attainment of air quality standards or 2022 AQMP emissions reductions.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the 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 proposed project exceeds the assumptions utilized in preparing the forecasts presented in the 2022 AQMP. Determining whether a project exceeds the assumptions reflected in the 2022 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?*

Growth projections included in the 2022 AQMP form the basis for the projections of air pollutant emissions and are based on General Plan land use designations and SCAG's 2020-2045 RTP/SCS demographics forecasts. The population, housing, and employment forecasts within the 2020-2045 RTP/SCS are based on local general plans as well as input from local governments, such as the City. The SCAQMD has incorporated these same demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment) into the 2022 AQMP.

The Project proposes construction of four single-family homes. The project site is designated Non-Urban 4 (NU 4) by the City's General Plan and Zoning Code, which allows single-family homes at a maximum density of one dwelling unit per two acres, agriculture, equestrian uses, private recreation, and public and institutional facilities serving the local area. The Project proposes four single-family homes on an approximately 20-acre site, which is equivalent to approximately one dwelling unit per five acres. Therefore, the Project would be consistent with the site's current land use designation and zoning and would not require a General Plan Amendment or Zone Change. In addition, the proposed Project would cause minimal population growth and would not induce substantial unplanned population growth exceeding existing local conditions and/or regional population projections. Therefore, the proposed Project would be consistent with the types, intensity, and patterns of land use envisioned for the Project area in the 2020-2045 RTP/SCS and 2022 AQMP.

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

The proposed Project would not require mitigation as it would result in less than significant air quality impacts; refer to response to Checklist Questions III.b through III.e. In addition, the Project would comply with all applicable SCAQMD rules and regulations, including Rule 402 and Rule 403 that require excessive fugitive dust emissions controlled by regular watering or other dust prevention measures, and Rule 1113 that regulates the VOC content of paint. As such, the proposed Project meets this AQMP consistency criterion.

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

Land use planning strategies set forth in the 2022 AQMP are primarily based on the 2020-2045 RTP/SCS. The Project would be located approximately 1.36 miles southeast of the Vista Canyon Metrolink Station and approximately two miles south from existing Santa Clarita Transit bus stops. Additionally, the Project would require new residential development to install listed raceway to accommodate branch circuits for electric vehicle chargers in accordance with the 2022 Title 24 standards and CALGreen Code. Thus, the Project would promote alternative transportation options and would not conflict with land use planning strategies set forth in the 2022 AQMP. As such the proposed Project would achieve this 2022 AQMP consistency criterion.

In conclusion, the determination of 2022 AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the Basin. The proposed Project would not result in a long-term impact on the region's ability to meet State and Federal air quality standards. Further, the proposed Project's long-term influence on air quality in the Basin would also be consistent

with the SCAQMD and SCAG's goals and policies and is considered consistent with the 2022 AQMP. Therefore, Project impacts would be less than significant.

- b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?**
- c. 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 (including releasing emissions that exceed quantitative thresholds for ozone precursors)?**

Less Than Significant Impact.

Criteria Pollutants

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 percent 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.

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 stratosphere (the "good" ozone 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.

Nitrogen Dioxide (NO₂). NO_x are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone 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.

Coarse Particulate Matter (PM₁₀). PM₁₀ refers to suspended particulate matter, which is smaller than 10 microns or ten 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 25).

Fine Particulate Matter (PM_{2.5}). Due to recent increased concerns over health impacts related to PM_{2.5}, 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 Basin as a nonattainment area for Federal PM_{2.5} standards. On June 20, 2002, the CARB adopted amendments for Statewide annual ambient particulate matter air quality standards. These standards were revised and 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.

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. SO₂ is often used interchangeably with SO_x. Exposure of a few minutes to low levels of SO₂ can result in airway constriction in some asthmatics.

Volatile Organic Compounds (VOC). 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 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 CO, CO₂, 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 SCAQMD uses the terms VOC and ROG interchangeably (see below).

Reactive Organic Gases (ROG). Similar to VOC, ROG 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 ROG and NO_x react in the presence of sunlight. ROG's are a criteria pollutant since they are a precursor to O₃, which is a criteria pollutant.

Short-Term Construction

The Project involves construction activities associated with grading, building construction, paving, roadway construction, and architectural coating. The Project would be constructed in a single phase, with construction anticipated to begin in late 2023 and be completed in early 2025. Exhaust emission factors for typical diesel-powered heavy equipment are based on the California Emissions Estimator Model version 2022.1.1(CalEEMod) program defaults. 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, weather conditions, number of construction personnel, and the amount of materials to be transported on- or off-site. The analysis of daily construction emissions has been prepared utilizing CalEEMod. Refer to **Appendix B** for the CalEEMod outputs and results. **Table III-2**, Short-Term Construction Emissions, presents the anticipated daily short-term construction emissions.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust emissions that may have a temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the project area. Fugitive dust emissions are primarily associated with land clearing, ground excavation, cut-and-fill, and truck travel on unpaved roadways. Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from construction is expected to be short-term and would cease upon project completion. It should be noted that most of this material is inert silicates, rather than the complex organic particulates released from combustion sources, which are more harmful to health.

**Table III-2
Short-Term Construction Emissions**

Construction Related Emissions	Pollutant (pounds/day) ^{1,2}					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Year 1	4.81	47.8	41.7	0.08	4.76	2.87
Year 2	1.21	11.2	13.2	0.02	0.59	0.46
Year 3	2.38	7.53	10.9	0.01	0.54	0.37
Maximum Daily Emissions	4.81	47.8	41.7	0.08	4.76	2.87
SCAQMD Thresholds	75	100	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
Notes:						
1. Emissions were calculated using CalEEMod, version 2022.1.1 Emissions represent a worst-case scenario and are therefore presented as a conservative analysis.						
2. The reduction/credits for construction emissions are based on adjustments to CalEEMod and are required by the SCAQMD Rules. The adjustments applied in CalEEMod include the following: properly maintain mobile and other construction equipment; replace the ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; and limit speeds on unpaved roads to 15 miles per hour.						
Source: Refer to Appendix B for detailed model input/output data.						

Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM₁₀ (particulate matter smaller than 10 microns) generated as a part of fugitive dust emissions. PM₁₀ poses a serious health hazard alone or in combination with other pollutants. PM_{2.5} is mostly produced by mechanical processes. These include automobile tire wear, industrial processes such as cutting and grinding, and re-suspension of particles from the ground or road surface by wind, and human activities such as construction or agriculture. PM_{2.5} is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_x and SO_x combining with ammonia. PM_{2.5} components from material in the earth's crust, such as dust, are also present, with the amount varying in different locations.

Construction activities would comply with SCAQMD Rule 402, which requires the implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site, and Rule 403, which requires excessive fugitive dust emissions controls like regular watering or other dust prevention measures. Adherence to SCAQMD Rule 402 and Rule 403 would greatly reduce PM₁₀ and PM_{2.5} concentrations. It should be noted that these estimated reductions were applied in CalEEMod. As depicted in **Table III-2**, total PM₁₀ and PM_{2.5} emissions would not exceed the SCAQMD thresholds during construction upon implementation of the SCAQMD Rules. Thus, construction-related fugitive dust impacts would be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions (e.g., NO_x and CO) from construction activities include emissions associated with the transport of machinery and supplies to and from the Project Site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to/from the site. As presented in **Table III-2**, construction equipment and worker vehicle exhaust emissions would be below the established SCAQMD thresholds. Therefore, air quality impacts from equipment and vehicle exhaust emission would be less than significant.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O₃ precursors. In accordance with the methodology prescribed by the SCAQMD, ROG emissions associated with paving and architectural coating have been quantified with the CalEEMod model. As required by SCAQMD Regulation XI, Rule 1113–*Architectural Coating*, all architectural coatings for the proposed structures would comply with specifications on painting practices as well as regulation on the ROG content of paint.¹² ROG emissions associated with the proposed Project would be below the SCAQMD significance thresholds and, therefore, less than significant; refer to **Table III-2**.

Total Daily Construction Emissions

In accordance with the SCAQMD Guidelines, CalEEMod was utilized to model construction emissions for ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. As indicated in **Table III-2**, criteria pollutant emissions during the construction of the proposed Project would not exceed the SCAQMD

¹² South Coast Air Quality Management District, *Rule 1113 Architectural Coatings*, <http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1113.pdf>, accessed April 3, 2023.

significance thresholds. Thus, total construction-related air emissions 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 the 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 Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (August 2000), serpentinite and ultramafic rocks are not known to occur within the Project area. Thus, there would be no impact in this regard.

Long-Term (Operational) Emissions

Long-term operational air quality impacts consist of mobile source emissions generated from Project-related traffic and emissions from stationary area and energy sources. Emissions associated with each source are detailed in **Table III-3**, Long-Term Operational Air Emissions, and discussed below.

Mobile Source Emissions

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_x, SO_x, PM₁₀, and PM_{2.5} are all pollutants of regional concern (NO_x and ROG react with sunlight to form O₃ [photochemical smog], and wind currents readily transport SO_x, PM₁₀, and PM_{2.5}); however, CO tends to be a localized pollutant, dispersing rapidly at the source. The mobile source emissions were calculated as a conservative estimate generated from the CalEEMod 2022.1.1 default. Based on CalEEMod default, the Project would generate approximately 38 trips during weekdays and on Saturdays, and 34 trips on Sundays. **Table III-3**, *Long-Term Operational Air Emissions*, presents the anticipated mobile source emissions. As shown in Table III-3, emissions generated by vehicle traffic associated with the Project would not exceed established SCAQMD thresholds. Impacts from mobile source emissions would be less than significant.

**Table III-3
Long-Term Operational Air Emissions**

Emissions Source	Pollutant (lbs/day) ¹					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Proposed Project Summer Emissions						
Area Source Emissions	1.23	0.09	2.26	0.01	0.29	0.28
Energy Emissions	<0.01	0.08	0.03	<0.01	0.01	0.01
Mobile Emissions ²	0.13	0.10	1.14	<0.01	0.09	0.02
Total Emissions³	1.37	0.26	3.44	0.01	0.39	0.30
SCAQMD Threshold	55	55	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
Proposed Project Winter Emissions						
Area Source Emissions	1.21	0.08	2.03	0.01	0.29	0.28
Energy Emissions	<0.01	0.08	0.03	<0.01	0.01	0.01
Mobile Emissions ²	0.13	0.11	1.05	<0.01	0.09	0.02
Total Emissions³	1.35	0.27	3.12	0.01	0.39	0.30
SCAQMD Threshold	55	55	550	150	150	55
Is Threshold Exceeded?	No	No	No	No	No	No
Notes:						
1. Emissions were calculated using CalEEMod, version 2022.1.1.						
2. Mobile emissions are based off the CalEEMod 2022.1.1 trip generation default.						
3. The numbers may not add up exactly due to rounding.						
Source: Refer to Appendix B , for detailed model input/output data.						

Area Source Emissions

Area source emissions include those generated by architectural coatings, consumer products, and landscape maintenance equipment associated with the development of the proposed Project. As shown in **Table III-3**, area source emissions during both summer and winter would not exceed established SCAQMD thresholds. Impacts would be less than significant in this regard.

Energy Source Emissions

Energy source emissions would be generated as a result of electricity and natural gas (non-hearth) usage associated with the proposed 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. As shown in **Table III-3**, energy source emissions from the proposed Project would not exceed SCAQMD thresholds for ROG, NO_x, CO, SO_x, PM₁₀, or PM_{2.5}.

Air Quality Health Impacts

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 [e.g., age, gender]). In particular, ozone 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, as such, translating Project-generated criteria pollutants to specific health effects or additional days of non-attainment would produce meaningless results. In other words,

the 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,¹³ 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),¹⁴ 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.

The SCAQMD acknowledges that health effects quantification from ozone, as an example, is correlated with the increases in the 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 nine parts per billion. As such, 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. As such, for the purpose of this analysis, since the Project would not exceed SCAQMD thresholds for construction and operational air emissions, the Project would have a less than significant impact on air quality health impacts as well.

Cumulative Conclusion

As indicated in **Table III-2** and **Table III-3**, the proposed Project would not result in short- or long-term air quality impacts, as emissions would not exceed the SCAQMD adopted construction or operational 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 proposed Project would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant. Therefore, the Project's incremental operational impacts would be less than cumulatively considerable, and impacts in this regard are less than significant.

d. 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, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under

¹³ South Coast Air Quality Management District, *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.

¹⁴ San Joaquin Valley Air Pollution Control District, *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.

14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The nearest sensitive receptors are single-family residences adjacent to the west, north, and east of the project site. In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing localized significance thresholds (LSTs) for construction and operations impacts (area sources only). The CO hotspot analysis, following the LST analysis, addresses localized mobile source impacts.

Localized Significance Thresholds

Local 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 air quality impacts. The SCAQMD provides the LST screening lookup tables for projects that disturb/grade one, two, or five acres per day emitting CO, NO_x, PM_{2.5}, or PM₁₀. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The SCAQMD recommends that any project disturbing over five acres per day should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors from area source emissions. For LST analysis purposes, SCAQMD is divided into 38 Source Receptor Areas (SRAs), each of which contains specific localized air quality emission thresholds for CO, NO_x, PM_{2.5}, and PM₁₀ to determine local air quality impacts. The project is located within the SRA 13 (Santa Clarita Valley).

Construction

The SCAQMD guidance on applying CalEEMod to LSTs specifies the number of acres a particular piece of equipment would likely disturb per day. SCAQMD provides LST mass rate screening thresholds for one-, two-, and five-acre site disturbance areas. The project would actively disturb approximately three acres per day during the grading phase of construction. Therefore, the LST screening thresholds for a two-acre site were utilized for the construction of LST analysis, per SCAQMD guidance. Further, the nearest sensitive receptors would be adjacent to the project site. LST screening thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. As the nearest sensitive receptors are adjacent to the project site, the LST values for 25 meters were used per SCAQMD guidance.

Table III-4, Localized Significance of Construction Emissions, shows the localized construction-related emissions. It is noted that the localized emissions presented in Table III-4 are less than those in Table III-2 because localized emissions include only on-site emissions (i.e., from construction equipment and fugitive dust) and do not include off-site emissions (i.e., from the worker, vendor, and hauling trips). As seen in Table III-4, emissions would not exceed the LST screening thresholds for SRA 13 (Santa Clarita Valley). Therefore, construction LST impacts would be less than significant.

**Table III-4
Localized Significance of Construction Emissions**

Maximum Emissions	Pollutant (pounds/day) ¹			
	NO _x	CO	PM ₁₀	PM _{2.5}
Year 1 (2023) ^{2,5}	37.3	31.4	3.98	2.42
Year 2 (2024) ^{3,5}	11.2	13.1	0.50	0.46
Year 3 (2025) ^{4,5}	7.45	9.98	0.35	0.32
Maximum Daily Emissions	37.3	31.4	3.98	2.42
<i>LST Screening Threshold⁶</i>	163	877	6	4
Thresholds Exceeded?	No	No	No	No

Note:

- Emissions were calculated using CalEEMod, version 2022.1.
- Highest levels of emissions for year 1 is during the grading phase.
- Highest levels of emissions for year 2 is during the building construction phase.
- Highest levels of emissions for year 3 is during the paving phase.
- The reduction/credits for construction emissions are based on adjustments to CalEEMod and are required by the SCAQMD Rules. The adjustments applied in CalEEMod include the following: properly maintain mobile and other construction equipment; replace the ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; and limit speeds on unpaved roads to 15 miles per hour.
- The LST Screening Threshold was determined using Appendix C of the SCAQMD *Final Localized Significant Threshold Methodology* guidance document for pollutants NO_x, CO, PM₁₀, and PM_{2.5}. The LST Screening Threshold was based on the anticipated daily acreage disturbance for construction (the thresholds for two-acre were used), the LST screening thresholds of 25 meters based on the distance to sensitive receptors, and the source receptor area (Santa Clarita Valley).

Operation

According to SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or transfer facilities). The proposed project does not include such uses. Thus, due to the lack of such emissions, no long-term localized significance threshold analysis is necessary. Operational LST impacts would be less than significant in this regard.

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (e.g., adversely affecting residents, school children, hospital patients, and the elderly).

The Basin is designated as an attainment/maintenance area for the Federal CO standards and an attainment area under State standards. There has been a decline in CO emissions even though vehicle miles traveled (VMT) on U.S. urban and rural roads have increased; estimated anthropogenic CO emissions have decreased 68 percent between 1990 and 2014. In 2014, mobile sources accounted for 82 percent of the nation’s total anthropogenic CO emissions.¹⁵ Three major control programs have contributed to the reduced per-vehicle CO emissions,

¹⁵ U.S. Environmental Protection Agency, *Carbon Monoxide Emissions*, https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=10, accessed April 3, 2023.

including exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

According to the SCAQMD CEQA Air Quality Handbook, a potential CO hotspot may occur at any location where the background CO concentration already exceeds 9.0 parts per million (ppm), which is the 8-hour California ambient air quality standard. The closest monitoring station to the project site that monitors CO concentration is Santa Clarita-Placerita station, which is located approximately 6.0 miles west of the project site. The maximum CO concentration at Santa Clarita-Placerita station was measured at 1.028 ppm in 2023.¹⁶ Given that the background CO concentration does not currently exceed 9.0 ppm, a CO hotspot would not occur at the project site. Therefore, CO hotspot impacts would be less than significant in this regard.

e. Would the project 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 *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 proposed project does not include any uses identified by the SCAQMD as being associated with odors.

Construction activities associated with the project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, construction-related odors would be short-term in nature and cease upon project completion. In addition, the project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimize the idling time of construction equipment either by requiring equipment to be shut off when not in use or limiting idling time to no more than five minutes. Compliance with these existing regulations would further reduce the detectable odors from heavy-duty equipment exhaust. The project would also be required to comply with the SCAQMD Regulation XI, Rule 1113 – *Architectural Coating*, which would minimize odor impacts from ROG emissions during architectural coating. Any odor impacts to existing adjacent land uses would be short-term and negligible. As such, the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Project impacts would be less than significant in this regard.

¹⁶ California Air Resources Board, *Air Quality and Meteorological Information*, <https://www.arb.ca.gov/aqmis2/aqdselect.php?tab=specialrpt>, accessed April 3, 2023.

IV. 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 US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Affect a Significant Ecological Area (SEA) or Significant Natural Area (SNA) as identified on the City of Santa Clarita ESA Delineation Map?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section is based, in part, on the Biological Resource Evaluation prepared for the Project by Pruet Biological Resource Consulting, which is included as **Appendix C** of this IS/MND.

Explanation of Checklist Responses

- a. **Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?**

Less Than Significant with Mitigation Incorporated. The Project Site is located within the vicinity of single-family homes, horse stables, outbuildings, landscaping, and open space. The Project Site has been maintained for fire suppression and other vegetation control and is impacted by pedestrian and horse traffic. The Project Site contains disturbed coast live oak woodland, and no undisturbed habitat is present on the site or adjacent parcels.

As discussed in the Biological Resource Evaluation, based on literature review and state and federal database queries, 27 special-status plant species were identified as potentially occurring within the vicinity of the Project Site (i.e., a standard 10-mile radius). Plant species meeting the criteria for Special Status Plants as defined in the California Department of Fish and Wildlife (CDFW) *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* were evaluated under CEQA Section 15380. Of the 27 species, the following species are federally and state listed as endangered: Marsh sandwort (*Arenaria paludicola*); Nevin's barberry (*Berberis nevinii*); Slender-horned spineflower (*Dodecahema leptoceras*); and California Orcutt grass (*Orcuttia californica californica*). The species San Fernando Valley spineflower (*Chorizanthe parryi var.fernandina*) is state-listed as endangered. The species Spreading navarretia (*Navarretia fossalis*) is listed as federally threatened. As described in the Biological Resource Evaluation, the aforementioned species are not expected to occur within the Project Site as no suitable habitat or soils exists, or the Project Site is beyond the published range of the species.

In addition, the California Native Plant Society (CNPS) developed the California Rare Plant Ranks (CRPRs), a ranking system to define and categorize rarity in the California flora. The CRPRs range from presumed extinct species (CRPR 1A) to limited distribution/watchlist species (CRPR 4). Marginal soils exist onsite for three of the 27 species, including Slender mariposa-lily (*Calochortus clavatus var. gracillis*; 1B.2), Palmer's mariposa-lily (*Calochortus palmeri var. palmeri*; CRPR 1B.2), and Plummer's mariposa lily (*Calochortus plummerae*; CRPR 4.2). However, as described in the Biological Resource Evaluation, these species are not federally or state-listed, or locally rare, and are not considered significant resources under CEQA. Therefore, even if these species did occur on the site, Project impacts related to these species would be less than significant.

Three CRPR species meet the definition of "locally rare" with between five and ten known occurrences drawn from the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) query for the County of Los Angeles. The three species ranked 1B.1 include San Gabriel dudleya (*Dudleya densiflora*), Newhall sunflower (*Helianthus inexpectus*), and Payne's bush lupine Lu (*Lupinus paynei*). According to the Biological Resource Evaluation, the aforementioned species are not expected to occur within the Project Site as no suitable habitat exists, or the Project Site is beyond the published range of the species. As such, focused surveys are not expected to significantly change the project impacts or results. In addition, although CEQA requires consideration for impacts to locally significant plant species, impacts to non-listed plant species are less than significant. No listed or otherwise special-status plant species were observed during the fieldwork, and no such species have been recorded as occurring within the Project Site.

Special-status animal species considered in the Biological Resource Evaluation included those that may occur in the Project vicinity that have statutory protections. This includes federal- and state-listed (rare, threatened, or endangered; fully protected) species and candidates for listing under the respective endangered species acts. Species that are of special concern to the CDFW or the USFWS are included in this evaluation. Special-status bird species that are afforded protection under the MBTA which may nest on or within an approximate 10-mile (16-kilometer)

radius of the project site are also evaluated. As discussed in the Biological Resource Evaluation, based on literature review and state and federal database queries, 48 special-status animal species were identified as potentially occurring within the vicinity of the Project Site (i.e., a standard 10-mile radius). Of these, 18 species (including invertebrate, fish, amphibian, and bird species) have federal-, and/or state-listing and are afforded protection under federal or state law. None of the mammal or reptile species evaluated have federal- and/or state-listing.

Of all the bird species considered in the Biological Resource Evaluation, the following are considered to have low or moderate probability of occurrence in the vicinity of the Project Site and have no suitable nesting habitat or typical associated habitat present: Grasshopper sparrow (*Ammodramus savannarum*), Bell's sage sparrow (*Artemisospiza belli belli*), Burrowing owl (*Athene cunicularia*), Golden eagle (*Aquila chrysaetos*), Swainson's hawk (*Buteo swainsoni*), Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), Southwestern willow flycatcher (*Empidonax traillii extimus*), California horned lark (*Eremophila alpestris actia*), Prairie falcon (*Falco mexicanus*), California condor (*Gymnogyps californianus*), Bald Eagle (*Haliaeetus leucocephalus*), and Least Bell's vireo (*Vireo belli pusillus*). As such, the Project would not result in direct impacts on individuals of these species because there no suitable nesting or associated habitats. The Biological Resource Evaluation also identified the Loggerhead shrike (*Lanius ludovicianus*) as a CDFW species of special concern with moderate probability of occurrence in the vicinity and suitable habitat on the Project Site.

As provided in the Biological Resource Evaluation, other bird species have low or moderate probability of occurrence in the vicinity of the Project Site and include the following nesting habitat descriptions. Cooper's hawk (*Accipiter cooperii*) is state watch-listed and has suitable nesting habitat onsite. White-tailed kite (*Elanus leucurus*) is CDFW fully protected and has suitable nesting habitat onsite and/or in the vicinity. Tricolored blackbird (*Agelaius tricolor*) is state-listed as threatened and a CDFW species of special concern and does not have suitable nesting habitat onsite. Southern California rufous-crowned sparrow (*Almophilia ruficeps canescens*) is state watch-listed and has suitable nesting habitat in the vicinity. In addition, Coastal California gnatcatcher (*Poliptila californica californica*) is identified as federally-listed as threatened and is a CDFW species of special concern; Designated Critical Habitat for the coastal California gnatcatcher (*Poliptila californica californica*) is located immediately southwest of the Project Site. In order to protect biological resources, including nesting birds, such as Cooper's hawk, White-tailed kite, and the coastal California gnatcatcher, mitigation measures will be implemented to avoid and minimize potential impact to general wildlife. Therefore, with implementation of **Mitigation Measure BIO-1** provided below, Project impacts to nesting or migratory birds would be less than significant.

As detailed in the Biological Resource Evaluation, no evidence of any listed animal species was observed during the field study. No evidence of otherwise special-status animal species, or animal species sign was observed during the field study. Focused surveys were deemed unnecessary and, thus, were not conducted as part of this effort.

The Project Site currently includes 162 coast live oak trees (*Quercus agrifolia*), predominately in the eastern portion of the site. The Project would retain all onsite coast live oak trees and would not have a substantial adverse effect on the coast live oak trees.

Direct impacts, in the form of "incidental take" of a threatened, endangered, or otherwise protected species, are not expected as a result of the development of the Project. Impacts related to Checklist Question IV.a would be less than significant with mitigation.

Mitigation Measure BIO-1: If project-related activities are to be initiated during the nesting season (February 15 to August 31), a pre-construction nesting bird clearance survey shall be conducted by a qualified biologist no more than three (3) days prior to the start of any vegetation removal or ground disturbing activities. The qualified biologist shall survey all suitable nesting habitat within the project impact area, and areas within a biologically defensible buffer zone surrounding the project impact area. If no active bird nests are detected during the clearance survey, project activities may begin, and no additional avoidance and minimization measures shall be required. If an active bird nest is found, the species shall be identified, and a “no-disturbance” buffer shall be established around the active nest. The size of the “no-disturbance” buffer shall be increased or decreased based on the judgement of the qualified biologist and level of activity and sensitivity of the species. The qualified biologist shall periodically monitor any active bird nests to determine if project-related activities occurring outside the “no-disturbance” buffer disturb the birds and if the buffer should be increased. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, project activities within the “no-disturbance” buffer may occur following an additional survey by the qualified biologist to search for any new bird nests in the restricted area.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

No Impact. The Project Site does not contain any wetland or riparian habitat as identified by the National Wetlands Inventory.¹⁷ The Project Site includes coast live oak woodland, a CDFW California Natural Community, which has been ranked by the CDFW as G5 (Secure—common, widespread and abundant) and S4 (Apparently Secure—Uncommon, but not rare in the state) and identified as having some cause for long-term concern due to declines or other factors. However, as previously described, the Project would retain all existing coast live oak trees within the Project Site. As discussed in the Biological Resource Evaluation, no other riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or as identified by the CDFW or the USFWS, exists on the Project Site. Therefore, the Project would have no impact on riparian habitat and other sensitive natural communities.

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. As discussed in the Biological Resources Evaluation, the Project would not result in any disturbance to wetland vegetation. No features recognized as wetland categories appear on the USFWS National Wetlands Inventory mapping within the Project Site.¹⁸ In addition, no wetland features or vegetation indicative of wetland conditions were observed during the field survey. Therefore, the Project would have no impact on state or federally protected wetlands.

¹⁷ US Fish and Wildlife Service, National Wetlands Inventory, Wetlands Mapper, <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>, accessed August 30, 2023.

¹⁸ US Fish and Wildlife Service, National Wetlands Inventory, Wetlands Mapper, <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>, accessed August 30, 2023.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant. The Project Site is located within the vicinity of single-family homes, horse stables, outbuildings, landscaping, and on one side, open space. No water bodies or wetlands are present. As such, and based on the Biological Resource Evaluation (**Appendix C** of this IS/MND), the Project would not result in impacts to native resident or migratory fish species, their movements, or with the use of any wildlife corridors, which are not present on the site. There are no known wildlife nursery sites, which are typically characterized as egret/heron roosts, bat roosts, or other areas used by large groups of wildlife for communal nesting. Therefore, the Project would not interfere substantially with the movement of native wildlife, the use of wildlife corridors, or the use of native wildlife nursery sites.

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

No Impact. As described above, the Project Site currently includes 162 coast live oak trees, all of which would be retained by the Project. Therefore, the Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and no impact would occur.

f. Would the project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The Project site is not located within any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, implementation of the Project would not conflict with these plans and there would be no impact.

g. Would the project affect a Significant Ecological Area (SEA) or Significant Natural Area (SNA) as identified on the City of Santa Clarita SEA Delineation Map?

Less Than Significant Impact with Mitigation Incorporated. Significant Ecological Areas (SEAs) are defined as ecologically important land and water systems that are valuable as plant or animal communities, often important to the preservation of threatened or endangered species, and conservation of biological diversity in the identified areas. The Project Site is located within the Santa Clara River SEA, which encompasses the entire Los Angeles County reach of the Santa Clara River. The Santa Clara River SEA covers the length of the river and with the watershed extensions encompasses a wide variety of topographic features and habitat types. The orientation and extent of the SEA also consists of the surface and subsurface hydrology of the Santa Clara River, from its headwater tributaries and watershed basin to the point at which it exits Los Angeles County.¹⁹ The Project is subject to the City's SEA requirements per SCMC Section 17.38.080, including a conformance review of specific development standards to control the types of land use, density, building location and size, roadways and other infrastructure, landscape, drainage, and other elements of a development in order to assure the protection of the critical and important plant and animal habitats of the SEA. The conformance review consists of the biological report prepared by the applicant. The results of this conformance review have been incorporated in this

¹⁹ City of Santa Clarita, General Plan, Conservation and Open Space Element, 2011.

IS/MND. The Project applicant has prepared a biological resources report (**Appendix C** of this IS/MND) that analyzes potential impacts and sets forth mitigation above in this Checklist Section IV for biological resources, and therefore, Project impacts related to a SEA would be less than significant with mitigation incorporated.

V. 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 CEQA Guidelines Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation of Checklist Responses

The following analysis is based in part on the information contained in the Cultural Resources Identification Memorandum prepared for the Project by Michael Baker International, which is included as **Appendix D** of this IS/MND.

a. **Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?**

No Impact. A historical resource is generally defined in CEQA Guidelines Section 15064.5(a) as a resource listed in or determined to be eligible for listing in the California Register of Historical Resources; a resource included in a local register of historical resources or identified as significant in a historical resource survey meeting certain requirements; or any object, building, structure, site, area, place, record, or manuscript determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Historical resources are further defined as being associated with significant events, important persons, or distinctive characteristics of a type, period, or method of construction; representing the work of an important creative individual; or possessing high artistic values.

Based on aerial records, a building was constructed in the eastern portion of the Project Site between 1978 and 1985. The United States Geological Survey (USGS) topographic map from 1988 is the first topographic map to identify the building within the Project Site. By 1992, the building is no longer visible in aerial imagery, and only a building foundation remains visible.

Based on a field survey of the Project Site, one new historic-period site (recorded as MBI-REX-MY-01) consisted of 26 Budweiser pull-tab beer cans, most of which were crushed or fragmented and ring tab cans that date to between 1965 and 1975. The identified site is along a hillside and is in poor condition due to the fragmented conditions of the artifacts and significant disturbances, including animal burrowing, pedestrian traffic, and horse trails. A California Office of Historic Preservation DPR 523 site record was prepared for this portion of the Project Site and is provided in Attachment 5 of the Cultural Resources Identification Memorandum. In addition, two historic period objects were identified during the survey—a 10-fluid-ounce glass Pepsi bottle and a

partially buried, modified Ford flatbed truck. No prehistoric resources or historic built environment resources were identified during the survey. Disturbances in the Project survey area included horse and walking trails, modern two-track roads, animal burrows, dirt push piles, and modern refuse.

The newly identified historic-period site was evaluated for eligibility in the California Register of Historical Resources based on significance criteria and whether integrity is retained. Based on the California Register evaluation, in accordance with CEQA Guidelines Section 15064.5(a)(2)-(3), MBI-REX-MY-01 does not possess an apparent association with the events significant to the broad patterns of California's history and cultural heritage. The identified site and its pull-tab beer cans do not represent the distinctive characteristics of a type, period, region, or method of construction. Because the pull tab can is a ubiquitous object common to the time period from which it dates, the artifact assemblage associated with the site does not represent significance in terms of the type of method of construction. The style of the can opening was not restricted to or representative of a particular region. Additionally, because the site only represents refuse associated with alcohol consumption, the site neither represents the work of an important creative individual nor possesses high artistic value. Furthermore, the identified site has not provided important information pertaining to significant events, people, or distinctive characteristics of a type, period, region, or method of construction. The Project Site was previously owned by William J. Rex and the Rexhall Company, and Rex was the founder of the motor home company Rexhall Industries and holder of patents related to vehicle inventions. However, the site of scattered historic cans does not demonstrate a meaningful association with the productive life of any person or business important in our past. Accordingly, since MBI-REX-MY-01 does not meet any of the California Register criteria, evaluating integrity would not be applicable. As MBI-REX-MY-01 lacks significance at the local, state, or national level, it is recommended ineligible for listing in the California Register. As such, MBI-REX-MY-01 is not a historical resource as defined by CEQA Section 15064.5(a).

The two historic isolate artifacts identified are not considered significant according to California Register criteria because isolated finds typically do not meet the minimum criteria for inclusion in the California Register. Isolates, by definition, lack integrity and are not considered significant.

Therefore, no historical resources as defined by CEQA Section 15064.5(a) were identified within the Project Site as a result of the South Central Coast Information Center (SCCIC) records search; literature, map, and aerial photo review; pedestrian survey; and California Register evaluations. As such, the Project would have no impact on historic resources.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

Less Than Significant with Mitigation Incorporated. An archaeological resource is generally defined in Section 15064.5(c) of the CEQA Guidelines as a site, area, or place determined to be historically significant as defined in Section 15064.5(a) or as a unique archaeological resource, which is defined in PRC Section 21083.2 as an artifact, object, or site that contains information needed to answer important scientific research questions of public interest, or that has a special and particular quality such as being the oldest or best example of its type, or that is directly associated with a scientifically recognized important prehistoric or historical event or person.

A California Historical Resources Information System Review records search at the SCCIC was conducted on October 18, 2021, for the Project Site and a surrounding 0.5-mile radius. As part of the records search and background research, the following federal and California inventories were

reviewed: National Register of Historic Places; California Inventory of Historic Resources; California Points of Historical Interest; California Historical Landmarks; Archaeological Determinations of Eligibility for Los Angeles County; Built Environment Resource Directory for Los Angeles County; and California Historical Resources listing. No historical or archaeological resources as defined by CEQA Section 15064.5(a) were identified within the Project Site.

As discussed in the Cultural Resources Identification Memorandum, SCCIC records indicate that of fourteen previous cultural resource investigations completed within 0.5 mile of the Project Site, one investigation (LA-01805) intersects the approximately 97 percent of the Project Site. LA-01805 was conducted in 1989 via an intensive pedestrian survey to identify surficial cultural resources; however, the investigation did not result in the documentation of any archaeological resources. In addition, no previously recorded cultural resources are documented within Project Site or search radius.

Furthermore, sensitivity for buried archaeological sites is considered low based on the steep slopes, the distance to reliable permanent water, lack of previously recorded archaeological sites within the Project Site and vicinity, and modern disturbances of the Project Site. Some soils within the project area contain clay-rich B horizons and steep slopes, which decrease the potential for archaeological preservation and deposition. Disturbances include the presence of modern trails and two-track roads, as well as animal burrowing. Historical maps show no natural perennial surface water within 1 mile of the project area. According to the SCCIC records search, no previously recorded cultural resources were identified within a half-mile of the project site. The literature review did not identify Native American villages or place names associated with the project area. Therefore, the buried site sensitivity for the project area is low. The historic-period archaeological data potential has been exhausted by the identification and recordation of site MBI-REX-MY-01. The project area has low sensitivity for significant prehistoric or historic-period archaeology sites due to topography, the distance to reliable permanent water, lack of previously recorded nearby sites, and modern disturbances. Nonetheless, **Mitigation Measure CUL-1** is included to require the proper handling and disposition of archaeological resources in the unexpected event that such resources are inadvertently discovered during Project construction. **Mitigation Measure CUL-1** would ensure that any impacts to archaeological resources would be less than significant.

Mitigation Measure CUL-1: Archaeological Resources Inadvertent Discovery. In the event that any subsurface cultural resources are encountered during earth-moving activities, all work within 50 feet shall be halted until an archaeologist can evaluate the findings and make recommendations. Prehistoric materials can include flaked-stone tools (e.g., projectile points, knives, choppers) or obsidian, chert, or quartzite toolmaking debris; culturally darkened soil (i.e., midden soil often containing heat-affected rock, ash, and charcoal, shellfish remains, and cultural materials); and stone milling equipment (e.g., mortars, pestles, handstones). Historical materials might include wood, stone, or concrete footings, walls, and other structural remains; debris-filled wells or privies; and deposits of wood, metal, glass, ceramics, and other refuse. The archaeologist shall evaluate the find in accordance with federal, state, and local guidelines, including those set forth in the California Public Resources Code Section 21083.2, to assess the significance of the find and identify avoidance or other measures as appropriate. If suspected prehistoric or historical archaeological deposits are discovered during construction, all work within the immediate area of the discovery shall be redirected and the find must be evaluated by a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983).

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

Less Than Significant. No evidence of any prior human burials or use as a burial ground was identified for the Project Site during the records search and background research conducted for the Cultural Resources Identification Memorandum and Native American consultation process conducted for the Project. Nonetheless, in the event that human remains are inadvertently discovered during Project construction, the Project would be required to comply with Health and Safety Code Sections 7050.5 through 7055, Government Code Section 27491, and PRC Section 5097.98. In accordance with these regulations, in the event that human skeletal remains are found, those remains require proper treatment. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are discovered during excavation of a site. As required by state law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code would be implemented, including notification of the County coroner, notification of the Native American Heritage Commission, and consultation with the individual identified by the Native American Heritage Commission to be the “most likely descendant.” If human remains are found during excavation, excavation must stop in the vicinity of the find and any area that is reasonably suspected to overlie adjacent remains until the County coroner has been called out, and the remains have been investigated and appropriate recommendations have been made for the treatment and disposition of the remains. Compliance with these regulations would ensure that any impacts would be less than significant.

VI. 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 construction of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation of Checklist Responses

The following analysis is based in part on the information contained in the Air Quality/Greenhouse Gas Emissions/Energy Modeling Results prepared for the Project by Michael Baker International, which is included as **Appendix B** of this IS/MND.

REGULATORY FRAMEWORK

State

California Building Energy Efficiency Standards (Title 24)

The 2022 California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, 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. The 2022 Title 24 standards encourage efficient electric heat pumps, establish electric-ready requirements for new homes, expand solar photovoltaic and battery storage standards, strengthen ventilation standards, and more.

California Green Building Standards (CALGreen)

The 2022 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as CALGreen, went into effect on January 1, 2023. CALGreen is the first-in-the-nation mandatory green buildings standards code. The California Building Standards Commission developed CALGreen to meet the State’s landmark initiative Assembly Bill (AB) 32 goals, which established a comprehensive program of cost-effective reductions of greenhouse gas (GHG) emissions to 1990 levels by 2020. CALGreen was developed to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, and healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the environmental directives of the administration. CALGreen requires that new buildings employ water efficiency and conservation, increase building system efficiencies (e.g., lighting, heating/ventilation and air conditioning [HVAC], and plumbing fixtures), divert construction waste from landfills, and incorporate electric vehicles charging infrastructure. There is growing

recognition among developers and retailers that sustainable construction is not prohibitively expensive, and that there is a significant cost-savings potential in green building practices and materials.²⁰

California Public Utilities Commission Energy Efficiency Strategic Plan

The California Public Utilities Commission (CPUC) prepared an *Energy Efficiency Strategic Plan* (Strategic Plan) in September 2008 with the goal of promoting energy efficiency and a reduction in GHGs. 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 plan includes four bold 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; and
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 Senate Bill (SB) 1389, which requires the California Energy Commission (CEC) to develop an Integrated Energy Policy Report (IEPR) every two 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 2021 integrated energy policy report (2021 IEPR) Volume I, Volume II, and Volume IV on February 1, 2022 and Volume III on February 24, 2022.²¹ The 2021 IEPR provides information and policy recommendations on advancing a clean, reliable, and affordable energy system for all Californian.²² Volume I of the 2021 IEPR addresses actions needed to reduce the GHG emissions related to the buildings in which California live and work, with an emphasis on energy efficiency; Volume II examines actions needed to increase the reliability and resiliency of California's energy system; Volume III looks at the evolving role of gas in California's energy system; and Volume IV reports on California's energy demand outlook, including a forecast to 2035 and long-term energy demand scenarios of 2050. The 2021 IEPR builds on the goals and work in response to AB 758 (Energy: energy audit), SB 350 (Clean Energy and Pollution Reduction Act), AB 3232 (Zero-emissions buildings and sources of heat energy), and the 2019 IEPR to further a comprehensive approach toward decarbonizing buildings in a cost-effective and

²⁰ U.S. Green Building Council, Green Building Costs and Savings, <https://www.usgbc.org/articles/green-building-costs-and-savings>, accessed April 3, 2023.

²¹ California Energy Commissions, 2021 Integrated Energy Policy Report, <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2021-integrated-energy-policy-report>, accessed April 3, 2023.

²² California Energy Commissions, Final 2021 Integrated Energy Policy Report Volume I Building Decarbonization, February 2022.

equitable manner. For the 2021 IEPR, the CEC extends the forecast timeframe to 15 years to coincide with several state goals that are planned for 2035 and improves methodologies to better quantify and predict the likelihood, severity, and duration of future extreme heat events.

Executive Order N-79-20

Executive Order N-79-20, issued September 23, 2020, directs the State to require all new cars and passenger trucks sold in the State to be zero-emission vehicles by 2035. Executive Order N-79-20 further states that all medium- and heavy-duty vehicles sold in the State will be zero-emission by 2045.

City of Santa Clarita

City of Santa Clarita General Plan

The City of Santa Clarita General Plan (General Plan) was adopted in June 2011. This General Plan has been prepared pursuant to California Government Code Sections 65300 *et. seq.*, which require that each city and county within the state “adopt a comprehensive, long-term general plan for the physical development of the county or city, and of any land outside its boundaries which in the planning agency’s judgment bears relation to its planning.” The General Plan includes the following elements: Land Use Element, Economic Development Element, Circulation Element, Noise Element, Conservation and Open Space Element, Safety Element, and Housing Element.

The following goals and policies related to energy efficiency and conservation are applicable to the proposed project:

Land Use Element

Goal LU 7: Environmentally responsible development through site planning, building design, waste reduction, and responsible stewardship of resources.

Objective LU 7.1: Achieve greater energy efficiency in building and site design.

Policy LU 7.1.2: Promote the use of solar panels and renewable energy sources in all projects.

Policy LU 7.1.3: Encourage development of energy-efficient buildings, and discourage construction of new buildings for which energy efficiency cannot be demonstrated.

Conservation and Open Space Element

Goal CO.1: A balance between the social and economic needs of Santa Clarita Valley residents and protection of the natural environment, so that these needs can be met in the present and in the future.

Objective CO 8.3: Encourage the following green building and sustainable development practices on private development projects, to the extent reasonable and feasible.

Policy CO 8.3.2: Promote construction of energy efficient buildings through requirements for LEED certification or through comparable alternative requirements as adopted by local ordinance.

Policy CO 8.3.4: Encourage new residential development to include on-site solar photovoltaic systems, or pre-wiring, in at least 50% of the residential units, in concert with other significant energy conservation efforts.

Policy CO 8.3.6: Require new development to use passive solar heating and cooling techniques in building design and construction, which may include but are not be limited to building orientation, clerestory windows, skylights, placement and type of windows, overhangs to shade doors and windows, and use of light-colored roofs, shade trees, and paving materials.

Policy CO 8.3.7: Encourage the use of trees and landscaping to reduce heating and cooling energy loads, through shading of buildings and parking lots.

Policy CO 8.3.8: Encourage energy-conserving heating and cooling systems and appliances, and energy-efficiency in windows and insulation, in all new construction.

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

Less Than Significant Impact. CEQA Guidelines Appendix F is an advisory document that assists in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. The analysis herein relies upon Appendix F of the CEQA Guidelines, which includes the following criteria to assist in determining whether this threshold of significance is met:

- **Criterion 1:** The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials maybe discussed.
- **Criterion 2:** The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- **Criterion 3:** The effects of the project on peak and base period demands for electricity and other forms of energy.
- **Criterion 4:** The degree to which the project complies with existing energy standards.
- **Criterion 5:** The effects of the project on energy resources.
- **Criterion 6:** The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

Quantification of the project's energy usage is presented and addresses **Criterion 1**. The discussion on construction-related energy use focuses on **Criteria 2, 4, and 5**. The discussion on operational energy use is divided into transportation energy demand and building energy demand. The transportation energy demand analysis discusses **Criteria 2, 4, and 6**, and the building energy demand analysis discusses **Criteria 2, 3, 4, and 5**.

Project-Related Sources of Energy Consumption

This analysis focuses on three sources of energy that are relevant to the proposed project: electricity, natural gas, and transportation fuel for vehicle trips and off-road equipment associated with project construction and operations. The analysis of operational electricity and natural gas usage is based on the California Emissions Estimator Model version 2022.1.1 (CalEEMod) modeling results for the project. The project's estimated electricity and natural gas consumption is based primarily on CalEEMod's default settings for Los Angeles County, and consumption factors provided by the Southern California Edison (SCE) and the Southern California Gas Company (SoCalGas), the electricity and natural gas providers for the City and the project site. The results of the CalEEMod modeling are included in **Appendix B**. The amount of operational fuel consumption was estimated using the CARB's EMFAC2021 website platform which provides projections for typical daily fuel usage in the County, and the project's annual vehicle miles traveled (VMT) outputs from CalEEMod. The estimated construction fuel consumption is based on the project's construction equipment list, timing/phasing, and hours of duration for construction equipment, as well as vendor, hauling, and construction worker trips.

The project's estimated energy consumption is summarized in **Table VI-1**, Project and Countywide Energy Consumption. As shown in **Table VI-1**, the project's energy usage would result in less than 0.0001 percent increase over Los Angeles County's typical annual electricity consumption and an approximate 0.0001 percent increase over Los Angeles County's typical annual natural gas consumption. The project's construction on-road, construction off-road, and operational vehicle fuel consumption would increase the County's consumption by 0.0001 percent, 0.0828 percent, and 0.0001 percent, respectively (**CEQA Appendix F - Criterion 1**).

Construction

During construction, the project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during grading, paving, roadway construction, building construction, and architectural coatings. Fuel energy consumed during construction would be temporary and would not represent a significant demand on energy resources. In addition, some incidental energy conservation would occur during construction through compliance with State requirements that heavy-duty diesel equipment not in use for more than five minutes be turned off. Project construction equipment would also be required to comply with the latest U.S. Environmental Protection Agency (EPA) and CARB engine emissions standards. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce fuel consumption. Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction (**CEQA Appendix F - Criterion 4**).

**Table VI-1
Project and Countywide Energy Consumption**

Energy Type	Project Energy Consumption¹	Los Angeles County Annual Energy Consumption²	Percentage Increase Countywide
Electricity Consumption ³	28 MWh/year	65,374,721 MWh/year	<0.0001%
Natural Gas Consumption ³	1,533 therms/year	2,880,994,891 therms/year	0.0001%
Fuel Consumption			
Construction Off-Road Fuel Consumption	33,831 gallons	40,835,655 gallons/year	0.0828%
Construction On-Road Fuel Consumption	2,679 gallons	4,530,411,359 gallons/year	0.0001%
Operational Automotive Fuel Consumption	6,427 gallons/year	4,448,480,145 gallons/year	0.0001%
Notes:			
1. As modeled in CalEEMod version 2022.1.1. Construction fuel consumption indicates total construction fuel consumption, which would cease after construction is completed. 2. The project's electricity and natural gas consumption are compared to the total consumption in Los Angeles County in 2021. The project's automotive fuel consumption is compared with the projected Countywide fuel consumption in 2025. Los Angeles County electricity consumption data source: California Energy Commission, <i>Electricity Consumption by County</i> , http://www.ecdms.energy.ca.gov/elecbycounty.aspx , accessed May 10, 2023. Orange County natural gas consumption data source: California Energy Commission, <i>Gas Consumption by County</i> , http://www.ecdms.energy.ca.gov/gasbycounty.aspx , accessed May 10, 2023. 3. Project fuel consumption calculated based on CalEEMod results. Countywide fuel consumption is from the California Air Resources Board EMFAC2021 model.			
Refer to Appendix B for assumptions used in this analysis.			

Substantial reductions in energy inputs for construction materials can be achieved by selecting green building materials composed of recycled materials that require less energy to produce than non-recycled materials.²³ The integration of green building materials can help reduce environmental impacts associated with the extraction, transport, processing, fabrication, installation, reuse, recycling, and disposal of these building industry source materials.²⁴ The project-related incremental increase in the use of energy bound in construction materials such as asphalt, 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. As indicated in **Table VI-1**, the project's fuel consumption from off-road construction would be approximately 33,831 gallons, which would increase fuel use in the County by 0.0828 percent. Also indicated in **Table VI-1**, the project's fuel consumption from on-road construction would be approximately 2,679 gallons, which would increase fuel use in the County by 0.0001 percent. As such, construction would have a nominal effect on the local and regional energy supplies (**CEQA Appendix F - Criterion 2**). It is noted that construction fuel use is temporary and would cease upon completion of construction activities. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or State (**CEQA Appendix F - Criterion 5**). Therefore, construction fuel consumption would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. As such, a less than significant impact would occur in this regard.

²³ California Department of Resources Recycling and Recovery, Green Building Materials, <https://www.calrecycle.ca.gov/greenbuilding/materials#Material>, accessed April 3, 2023.

²⁴ California Department of Resources Recycling and Recovery, Green Building Materials, <https://www.calrecycle.ca.gov/greenbuilding/materials#Material>, accessed April 3, 2023.

Operation

Transportation Energy Demand

Pursuant to the federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration is responsible for establishing additional vehicle standards and for revising existing standards. Compliance with federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. **Table VI-1** provides an estimate of the daily fuel consumed by vehicles traveling to and from the project site. Based on a conservative estimate generated by the CalEEMod 2022.1.1 default vehicle data, the proposed project would generate up to 38 average daily trips. As indicated in **Table VI-1**, project operational daily trips are estimated to consume approximately 6,427 gallons of fuel per year, which would increase the County's automotive fuel consumption by 0.0001 percent. The project does not propose any unusual features that would result in excessive long-term operational fuel consumption (**CEQA Appendix F - Criterion 2**).

The key drivers of transportation-related fuel consumption are job locations/commuting distance and many personal choices on when and where to drive for various purposes. Those factors are outside of the scope of the design of the proposed project. However, in compliance with CALGreen Code, new one- and two-family dwellings with attached private garages are required to install a listed raceway to accommodate a dedicated volt branch circuit for electric vehicle (EV) chargers. This project design feature would encourage and support the use of EVs within the proposed residential development and thus reduce the petroleum fuel consumption (**CEQA Appendix F - Criterion 4 and Criterion 6**).

Therefore, fuel consumption associated with vehicle trips generated by the project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. A less than significant impact would occur in this regard.

Building Energy Demand

The CEC developed 2020 to 2035 forecasts for energy consumption and peak demand in support of the 2021 IEPR for each of the major electricity and natural gas planning areas and the State based on the economic and demographic growth projections. CEC forecasts that the Statewide annual average growth rates of energy demand between 2021 and 2030 would be 1.3 percent to 2.3 percent for electricity and less than 0.1 percent to 0.8 percent increase for natural gas. As shown in **Table VI-1**, operational energy consumption of the project would represent approximately 0.0002 percent increase in electricity consumption and less than 0.0001 percent increase in natural gas consumption over the current Countywide usage, which would be significantly below CEC's forecasts and the current Countywide usage. Therefore, the project would be consistent with the CEC's energy consumption forecasts and would not require additional energy capacity or supplies (**CEQA Appendix F - Criterion 2**). The project would also consume energy during the same time periods as other residential development. As a result, the project would not result in unique or more intensive peak or base period electricity demand (**CEQA Appendix F - Criterion 3**).

The project would be required to comply with the most current version of the Title 24 Building Energy Efficiency Standards, which provide minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. The project would install high efficiency lighting, energy

efficient appliances, and solar photovoltaics panels. Compliance with the current 2022 Title 24 standards significantly reduces energy usage. The Title 24 Building Energy Efficiency Standards are updated every three years and become more stringent between each update. Compliance with 2022 Title 24 standards would also ensure the project would be consistent with General Plan Goals CO 8 (Policies CO 8.3.2, CO 8.3.4, CO 8.3.6, CO 8.3.7, and CO 8.3.8) and LU 7 (Policies LU 7.1.2 and LU 7.1.3), by incorporating sustainable building design features (**CEQA Appendix F - Criterion 4**).

Furthermore, the electricity provider, SCE, is subject to California's Renewables Portfolio Standard (RPS). The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020 and to 60 percent of total procurement by 2030. Renewable energy is generally defined as energy that comes from resources which are naturally replenished within a human timescale such as sunlight, wind, tides, waves, and geothermal heat. The increase in reliance of such energy resources further ensures that new development projects will not result in the waste of the finite energy resources. The project would install photovoltaics panels to support a future battery system on the proposed single-family residential buildings in compliance with 2022 Title 24 and CALGreen Code requirements (**CEQA Appendix F - Criterion 5**).

As demonstrated above, the Project would not cause wasteful, inefficient, and unnecessary consumption of building energy during Project operation, or preempt future energy development or future energy conservation. Therefore, impacts would be less than significant impact.

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

Less than Significant Impact. The City currently does not have a plan pertaining to renewable energy or energy efficiency. The applicable State plans and policies for renewable energy and energy efficiency include the 2022 Title 24 standards, the 2022 CALGreen Code, CPUC's Energy Efficiency Strategic Plan, and CEC's 2022 IEPR. The project would be required to comply with the latest Title 24 and CALGreen standards pertaining to building energy efficiency. Compliance with 2022 Title 24 standards and 2022 CALGreen Code would ensure the project incorporates energy-efficient windows, rooftop photovoltaic solar panels on every home, insulation, lighting, and ventilation systems, which are consistent with the Energy Efficiency Strategic Plan strategies, the IEPR building energy efficiency recommendations, and General Plan Policy LU 7.1 and Policy CO 8.3, as well as water-efficient fixtures and electric vehicles charging infrastructure. Additionally, per the RPS, the project would utilize electricity provided by SCE that is composed of 36 percent renewable energy as of 2018 and would achieve at least 60 percent renewable energy by 2030. Because the project's per capita energy consumption would be significantly less than the existing regional (County) level, the project would be consistent with per capita energy reduction targets identified in statewide plans and programs, such as the Energy Efficiency Strategic Plan and the IEPR.

Table VI-2, Project Energy Use General Plan Consistency Analysis, shows the project's consistency with the applicable General Plan energy efficiency goals and policies. As shown in **Table VI-2**, the project would be consistent with the General Plan. Therefore, the proposed 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.

**Table VI-2
Project Energy Use General Plan Consistency Analysis**

General Plan Goals and Policies	Consistency Analysis
Goal LU 7: Environmentally responsible development through site planning, building design, waste reduction, and responsible stewardship of resources.	
Policy LU 7.1.2: Promote the use of solar panels and renewable energy sources in all projects.	Consistent. The project would construct 4 single-family units which are required to install solar photovoltaic panels in accordance with the 2022 Title 24 standards and CALGreen code. Additionally, the single-family residential units would receive electricity from SCE that would achieve procurement from eligible renewable energy at least 60 percent of total procurement by 2030.
Policy LU 7.1.3: Encourage development of energy-efficient buildings, and discourage construction of new buildings for which energy efficiency cannot be demonstrated.	Consistent. The project would require the proposed single-family dwelling units to install a listed raceway to accommodate a circuit board to support electric vehicle chargers. Additionally, the new single-family units are required to install solar photovoltaic panels in accordance with the 2022 Title 24 standards and CALGreen code. Therefore, the project would leverage technology innovation and be energy efficient in the residential buildings. As such, the project would follow green building requirements, promote energy efficient development, and promote sustainable development practices.
Goal CO.1: A balance between the social and economic needs of Santa Clarita Valley residents and protection of the natural environment, so that these needs can be met in the present and in the future.	
Policy CO 8.3.2: Promote construction of energy efficient buildings through requirements for LEED certification or through comparable alternative requirements as adopted by local ordinance.	Consistent. The proposed project would construct 4 single-family dwelling units. The new single-family units are required to comply with the 2022 Title 24 standards and CALGreen code. As such, the project would be consistent with this policy.
Policy CO 8.3.4: Encourage new residential development to include on-site solar photovoltaic systems, or pre-wiring, in at least 50% of the residential units, in concert with other significant energy conservation efforts.	Consistent. The project would require the proposed single-family dwelling units to install a listed raceway to accommodate a circuit board to support electric vehicle chargers. Additionally, the new single-family units are required to install solar photovoltaic panels in accordance with the 2022 Title 24 standards and CALGreen code. Therefore, this project would leverage technology innovation and install energy efficient in the residential buildings. As such, this project would follow green building requirements and promote sustainable development practices outlined in the 2022 Title 24 standards and CALGreen code.

General Plan Goals and Policies	Consistency Analysis
<p>Policy CO 8.3.6: Require new development to use passive solar heating and cooling techniques in building design and construction, which may include but are not be limited to building orientation, clerestory windows, skylights, placement and type of windows, overhangs to shade doors and windows, and use of light colored roofs, shade trees, and paving materials.</p>	<p>Consistent. The project would follow this policy to utilize passive solar heating and cooling techniques. Additionally, the project would be mandated by the CALGreen Code and Title 24 Standards to follow standards placed for energy efficiency and up-to-date building designs and construction. As such, the project would be consistent with this policy.</p>
<p>Policy CO 8.3.7: Encourage the use of trees and landscaping to reduce heating and cooling energy loads, through shading of buildings and parking lots.</p>	<p>Consistent. This project is located in a rural area with a large number of trees surrounding the project site. Additionally, trees would be planted on the project site. As such, the project would be consistent with this policy.</p>
<p>Policy CO 8.3.8: Encourage energy-conserving heating and cooling systems and appliances, and energy-efficiency in windows and insulation, in all new construction.</p>	<p>Consistent. The project would adhere to the CALGreen Code and Title 24 Standards by installing energy efficient appliances and insulation systems. As such, the project would be consistent with this policy.</p>
<p>Source: City of Santa Clarita, <i>General Plan</i>, June 2011.</p>	

VII. 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 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2004), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Result in a change in topography or ground surface relief features	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Result in earth movement (cut and/or fill) of 10,000 cubic yards or more	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Involve development and or/grading on a slope greater than 10% natural grade?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. Result in the destruction, covering, or modification of any unique geologic or physical feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation of Checklist Responses

This section is based, in part, on the Preliminary Geotechnical Report and Percolation Feasibility Study prepared by AZ Geo Technics, Inc., which are included as **Appendix E** of this IS/MND.

a.i) Would the project directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving 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. The Alquist-Priolo Earthquake Fault Zoning Act of 1972 serves to mitigate the hazard of surface faulting to structures for human occupancy, and is intended to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The act requires the State Geologist to establish regulatory zones, known as Alquist-Priolo Earthquake Fault Zones, around the surface traces of active faults and to issue maps delineating these zones. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (typically 50 feet). The act defines active faults as those that have experienced surface displacement or movement during the last 11,000 years.

The Project Site is located at APN 2841-018-071 in the City of Santa Clarita and a seismically active region in Southern California near several fault systems. According to the California Geological Survey (CGS), the Project Site is not mapped within a state-designated Alquist-Priolo Earthquake Fault Zone.²⁵ In addition, the City's Safety Element does not identify the Project Site as being on an active or potentially active fault.²⁶ The proposed Project would be designed and constructed in compliance with the 2022 California Building Standards Code and other applicable local, state, and federal codes to minimize impacts related to fault rupture. As such, the Project would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. Therefore, impacts would be less than significant.

a.ii) Would the project directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Less Than Significant Impact. Ground shaking is the primary cause of structural damage during an earthquake. Magnitude, duration, and vibration frequency from earthquakes would vary greatly, depending on the fault and its distance from the Project Site. Although not located within an Alquist-Priolo Earthquake Fault Zone, the Project Site is located in the vicinity of active, conditionally active, and potentially active faults, according to the City's Safety Element. The nearest fault is the San Gabriel Fault zone, which is located approximately 1.5 miles south of the Project Site.²⁷ Seismic activity along this fault or on any other of the numerous faults in the Southern California area could cause seismic ground shaking in the City. The City requires the Project to be designed and constructed in accordance with the 2022 California Building Standards Code, which was adopted by the City by reference per SCMC Chapter 18.01. In addition, the

²⁵ California Department of Conservation, California Geological Survey, Earthquake Zones of Required Investigation, <https://maps.conservation.ca.gov/cgs/EQZApp/app/>, accessed August 14, 2023.

²⁶ City of Santa Clarita, General Plan, Safety Element, 2022.

²⁷ United States Geological Survey, Interactive Fault Map, <https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf>, accessed August 14, 2023.

Project would be required to implement site-specific geotechnical recommendations related to seismic criteria to minimize public exposure to seismic ground shaking to the extent feasible. Moreover, the Project would in no way exacerbate the risks of seismic ground shaking. As such, the Project would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Therefore, impacts would be less than significant.

a.iii) Would the project directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction occurs when loose, water-saturated sediments lose strength and fail during strong ground shaking. Liquefaction is defined as the transformation of granular material from a solid state into a liquefied state as a consequence of increased pore-water pressure. Liquefaction typically occurs during prolonged ground shaking events such as earthquakes, and the soil acquires mobility sufficient to permit both horizontal and vertical movements. Liquefaction potential is greatest in saturated, loose, and poorly graded sand. According to the CGS, all or a portion of the Project Site lies within a Liquefaction Zone of Required Investigation.²⁸ However, based on the borings conducted for the Project's Preliminary Geotechnical Report to a depth of 15 below grade, the site is underlain by light brown, fine to coarse, silty sand and sandy silt, roots and gravel to a depth of up to several feet. Below these materials are fine to coarse sand and gravel that are slightly moist and moderate dense to dense. Furthermore, based on the sample test borings in the Project Site, groundwater was not encountered during explorations that reached a depth of 15 feet. As described in the Project's Percolation Feasibility Study, groundwater is not anticipated to rise within 10 feet of the percolation trenches proposed at 5 feet below grade. Therefore, as determined in the Preliminary Geotechnical Report, based on the characteristics above, the potential for soil liquefaction is considered to be minor. Therefore, impacts related to liquefaction would be less than significant.

a.iv) Would the project directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Less Than Significant Impact. Landslides tend to occur in weak soil and rock on sloping terrain. According to the Safety Element, Santa Clarita Valley areas near rivers and floodplains are generally prone to earthquake-induced liquefaction, and hillsides are generally prone to earthquake-induced landslides. Large parts of the City are subject to these hazards, which are addressed through seismic design requirements and the Unified Development Code.²⁹ According to the CGS, the Project Site is not mapped within a Landslide Zone of Required Investigation.³⁰ In addition, the Project Site is characterized by relatively flat topography with gentle hills and is not located within a flood hazard area. The Project's Preliminary Geotechnical Report does not consider landslides to be a substantial geotechnical hazard concern. Moreover, the Project would not exacerbate any potential landslide hazards. As such, the Project would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving landslides. Therefore, Project impacts related to landslides would be less than significant.

²⁸ California Department of Conservation, California Geological Survey, *Earthquake Zones of Required Investigation*, <https://maps.conservation.ca.gov/cgs/EQZApp/app/>, accessed August 14, 2023.

²⁹ City of Santa Clarita, General Plan, Safety Element, 2022.

³⁰ California Department of Conservation, California Geological Survey, *Earthquake Zones of Required Investigation*, <https://maps.conservation.ca.gov/cgs/EQZApp/app/>, accessed August 14, 2023.

- b. Would the project result in substantial soil erosion or the loss of topsoil?**
- f. Would the project result in a change in topography or ground surface relief features?**
- g. Would the project result in earth movement (cut and/or fill) of 10,000 cubic yards or more?**

Less Than Significant Impact. The overall Project Site has an average slope of 8.4 percent, while the northwestern portion of the Project Site has an average slope of 16.2 percent. The Project would result in a change in topography or ground surface relief features, as site balancing would require a cut of 5,163 cubic yards and fill of 4,656 cubic yards of earthwork (i.e., less than 10,000 cubic yards).³¹ As such, development of the Project would require grading, excavation, and other construction activities that have the potential to disturb existing soils and expose soils to rainfall and wind, thereby potentially resulting in soil erosion. However, as the Project Site exceeds 1 acre, the Project would be required to obtain a National Pollutant Discharge Elimination System (NPDES) Construction General Permit from the Los Angeles Regional Water Quality Control Board (RWQCB). The Construction General Permit requires construction sites that disturb 1 or more acres of land to implement stormwater controls and to develop a stormwater pollution prevention plan (SWPPP). The measures identified in the SWPPP are intended to minimize the amount of sediment and other pollutants associated with construction sites from being discharged in stormwater runoff. The Project would be subject to the erosion control requirements of SCMC Chapter 10.04 (Stormwater and Urban Runoff Pollution Control) and Chapter 17.90 related to the SWPPP, erosion and sediment control plan, and best management practices (BMPs) designed to ensure that discharges of pollutants, including sediment, are effectively prohibited. Erosion control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap sediment once it has been mobilized. No construction activity would begin prior to receipt of written approval of such plan. Furthermore, the Project construction activities would be required to comply with SCAQMD Rule 403, which would reduce the potential for wind erosion by requiring the implementation of dust control measures during construction. Additionally, pursuant to SCMC Chapter 17.95, prior to issuance of grading permit, the Project applicant would be required to prepare and acquire City approval for an Urban Stormwater Mitigation Plan that incorporates appropriate post-construction BMPs, including those related to erosion. Therefore, the Project would not result in substantial soil erosion or the loss of topsoil, and impacts would be less than significant. As also described above, the Project Site is not located within a landslide or a flood hazard area. As such, the project's proposed changes to the site's topography and surface relief would not result in a significant impact.

- c. Would the project be located on a geologic unit 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?**
- h. Would the project involve development and/or grading on a slope greater than 10% natural grade?**

Less Than Significant Impact. The east side of the Project Site has a relatively flat topography with gentle rolling hills in the western portion of the Site. The average overall slope is 8.4 percent, while the northwestern portion the site has an average slope of 16.2 percent. The Project's site balancing would require a cut of 5,163 cubic yards and fill of 4,656 cubic yards of earthwork.³²

³¹ The difference between the cut and fill amounts is due to shrinkage/recompaction.

³² The difference between the cut and fill amounts is due to shrinkage/recompaction.

The Project Site is not located on a cliff, mountainside, bluff, or other geographic feature with stability concerns. As discussed above, the Project Site is not susceptible to landslides, and the potential for soil liquefaction is considered to be minor. Subsidence generally occurs when a large portion of land is displaced vertically, usually due to the rapid and intensive withdrawal of subterranean fluids such as groundwater or oil. No extraction of gas, oil, or geothermal energy is occurring or is planned at the Project Site.

Subsidence typically occurs over a long period of time and can result in structural impacts in developed areas, such as cracked pavement and building foundations, and dislocated wells, pipelines, and water drains. According to the Safety Element, no large-scale problems with ground subsidence have been reported in the City. Furthermore, based on the Preliminary Geotechnical Report, groundwater was not encountered during explorations that reached a depth of 15 feet and is not anticipated at any elevation that would affect the development, including the proposed percolation trenches. As such, Project impacts related to subsidence would be less than significant.

Collapsible soils consist of loose, relatively low-density materials that collapse and compact under the addition of sufficient water or excessive loading. These soils are generally of low density and low moisture content. As described in the Preliminary Geotechnical Report, based on a consolidation test on the dense soils encountered subsurface below a depth of 5 feet, the moisture content was found to be within of optimum moisture. The report, thus, concluded that soil collapse would not present an unusual risk for the Project Site. Soils and fill would be compacted, and grading and structural design of the Project would comply with recommendations of the final geotechnical report and the applicable standards of the California Building Standards Code. As such, Project construction activities would ensure that the proposed building foundations would provide a stable footing for each new building.

Therefore, the Project would not be located on a geologic unit that is unstable or that would become unstable as a result of the Project, and related impacts would be less than significant.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2004), creating substantial risks to life or property?

Less Than Significant Impact. As discussed in the Preliminary Geotechnical Report, the potential expansion characteristics of the near-surface soils are classified as low expansive in accordance with CBC Standards' Expansion Index Test. Nonetheless, the Preliminary Geotechnical Report does include grading and expansive soil design/test recommendations as it is possible that the soils that will directly affect the surrounding foundations may vary. Upon completion of rough pad grades, evaluation of foundation bearing materials would be made in accordance with CBC Standards with additional recommendations for construction. Therefore, with implementation of all final geotechnical recommendations, as required through the City's plan check process, the Project's impacts related to expansive soils would be less than significant.

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

Less Than Significant Impact. The Project would include four septic leaching fields—one for each residential parcel. As detailed in the Project's Percolation Feasibility Study and conducted in accordance with Los Angeles County Public Health/Environmental Health—Land Use Program, subsurface evaluation included percolation test pits to determine the soil's water absorption rate

for septic leach fields. Based on the evaluation, the Project would have soils capable of adequately supporting the use of septic system. Furthermore, in accordance with SCMC Chapter 17.83, as the Project would require grading in excess of 5,000 cubic yards, the grading permit application would require final geotechnical and engineering geology reports, including septic system information. In accordance with SCMC Chapter 16.13, the Project's septic system would undergo review and approval by the City Engineer and Los Angeles County Health Department. Therefore, Project compliance with code requirements would ensure that impacts would be less than significant.

- i. **Would the project result in the destruction, covering, or modification of any unique geologic or physical feature?**
- j. **Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

Less Than Significant with Mitigation Incorporated. The Project Site does not contain any unique physical feature or formation. As discussed previously, the Project Site is currently vacant and undeveloped with dirt roads/trails, Coast Live Oak trees, and vegetation. Geologic maps indicate the central and eastern portions of the Project Site are underlain by Quaternary alluvium, undivided (Holocene to late Pleistocene age), and the western portion of the Project Site is mapped as Miocene-aged Mint Canyon Formation.^{33,34} The four trenches conducted for the project's geotechnical report were located in those areas identified as alluvium which agrees with the sediment descriptions from the trench logs. As ground disturbance is planned for the west side of the Project Site, such activities will possibly encounter sandstones, siltstones, and claystones of the Mint Canyon Formation.

Based on a paleontological resources records search conducted by the Natural History Museum of Los Angeles County (NHMLAC), no fossil localities that lie directly within the proposed project are recorded, but fossil localities are located nearby from the same sedimentary deposits that occur in the Project Site either at the surface or at depth. Based on NHMLAC records there are numerous localities with vertebrate fossils reported from the Mint Canyon Formation within the vicinity of the Project Site, including one located approximately 3.5 miles northeast of the Project Site and 17 located at undetermined proximities to the Project Site.³⁵ The University of California Museum of Paleontology database also reports that fossils collected from the Mint Canyon Formation localities include pronghorns, tortoises, gomphotheres, rabbits, camels, multiple genera of horses, and several types of plants. The database records nine previously known localities from similarly aged formations (Miocene- to Pliocene-aged Fernando, Towsley, and Pico Formations) and older geologic formations (such as the Eocene-aged Juncal Formation) within 3 miles of the Project Site. Several invertebrates have been collected from these localities, as well as vertebrate such as dugongs, baleen whales, and walruses.

Based on the records and research, the Project Site is considered to have high sensitivity for fossils. The Mint Canyon Formation is known to contain many types of fossils, particularly vertebrate remains, and the alluvium in the area ranges from Holocene to late Pleistocene in age. Animal remains older than 5,000 years ago (middle to early Holocene) are considered

³³ Dibblee, T. W. and H. E. Ehrenspeck. 1996. Geologic map of the Mint Canyon quadrangle, Los Angeles County California. Map Scale 1:24,000. Dibblee Geological Foundation

³⁴ Campbell, R. H., C. J. Willis, P. J. Irvine, and B. J. Swanson. 2016. Preliminary geologic map of the Los Angeles 30 minute by 60 minute quadrangle, California: Version 2.1. 1:100:000. California Geological Survey.

³⁵ Natural History Museum of Los Angeles County, Paleontological Resources for the Rexhall Project, October 1, 2023. See **Appendix F** of this IS/MND.

scientifically important or significant to the Society of Vertebrate Paleontology. Therefore, **Mitigation Measures GEO-1, GEO-2, and GEO-3** are included to require full-time paleontological monitoring during ground disturbance in undisturbed geologic contexts that have the potential to contain significant paleontological resources. Ground disturbance refers to activities that would impact subsurface geologic deposits, such as grading, excavation, boring, etc. Activities taking place in current topsoil or within previously disturbed fill sediments (e.g., clearing and grubbing) or at the current topsoil surface (e.g., building renovations) do not require paleontological monitoring. **Mitigation Measures GEO-1, GEO-2, and GEO-3**, provided below, are included such that in the event of any discovery of unknown paleontological resources during earthwork, impacts to paleontological resources would be less than significant.

Mitigation Measure GEO-1: A Society of Vertebrate Paleontology (SVP) qualified paleontologist shall be retained to provide or supervise a paleontological sensitivity training (i.e. Workers Environmental Awareness Program or WEAP training) to all personnel planned to be involved with earth-moving activities prior to the beginning of ground-disturbing activities. The training session shall focus on how to identify paleontological resources, such as fossils, that may be encountered and the procedures to follow if identified. A SVP-qualified paleontologist is a professional with a graduate degree in paleontology, geology, or related field, with demonstrated experience in the vertebrate, invertebrate, or botanical paleontology of California, as well as at least one year of full-time professional experience or equivalent specialized training in paleontological research (i.e., the identification of fossil deposits, application of paleontological field and laboratory procedures and techniques, and curation of fossil specimens), and at least four months of supervised field and analytic experience in general North American paleontology as defined by the SVP.

Mitigation Measure GEO-2: Prior to grading or excavation in sedimentary deposits and/or sedimentary rock material other than topsoil, the applicant shall retain a SVP-qualified paleontologist to monitor or oversee monitoring of these activities. The paleontological monitor shall be on site for any ground-disturbing activities in the geologic formations underlying the project area, as identified in geologic maps (Mint Canyon Formation and Quaternary alluvium, undivided). If no fossils have been recovered after 50 percent of excavation has been completed, full-time monitoring may be modified to weekly spot-check monitoring at the discretion of the qualified paleontologist. The qualified paleontologist may recommend to the client to reduce paleontological monitoring based on observations of specific project area conditions during initial monitoring (e.g., if the geologic setting precludes the occurrence of fossils). The recommendation to reduce or discontinue paleontological monitoring in the project area shall be based on the professional opinion of the qualified paleontologist regarding the potential for fossils to be present after a reasonable extent of the geology and stratigraphy has been evaluated.

Mitigation Measure GEO-3: If any paleontological resources are encountered during construction or the course of any ground-disturbance activities, all such activities shall halt immediately in the vicinity of the find. At this time, the City shall consult with the qualified paleontologist to assess the significance of the find. The assessment shall follow SVP standards as delineated in the *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* (2010). If any find is determined to be significant, appropriate avoidance measures recommended by the qualified paleontologist and approved by the City must be followed unless avoidance is determined to be infeasible by the City. If avoidance is infeasible, other appropriate measures (e.g., data recovery, excavation) shall be instituted. The recommendations of the qualified paleontologist shall

be implemented with respect to the evaluation and recovery of fossils, after which the construction supervisor shall be notified and shall direct work to continue in the location of the fossil discovery. Any fossils recovered during mitigation shall be cleaned, identified, catalogued, and permanently curated with an accredited and permanent scientific institution with a research interest in the materials.

VIII. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation of Checklist Responses

The following analysis is based in part on the information contained in the Air Quality/Greenhouse Gas Emissions/Energy Data prepared for the Project by Michael Baker International, which is included as **Appendix B** of this IS/MND.

GLOBAL CLIMATE CHANGE

California is a substantial contributor of global greenhouse gases (GHGs), emitting over 418 million metric tons of carbon dioxide equivalent (MTCO_{2e}) per year.³⁶ Methane (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. As primary GHGs have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is mostly independent of the point of emission. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation will be required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

The impact of human activities on global climate change is apparent in the observational record. Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of CO₂, CH₄, and nitrous oxide (N₂O) from before the start of industrialization (approximately 1750), to over 650,000 years ago. For that period, it was found that CO₂ concentrations ranged from 180 to 300 parts per million (ppm). For the period from approximately 1750 to the present, global CO₂ concentrations increased from a pre-industrialization period concentration of 280 to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range. As of April 2023, the highest monthly average concentration of CO₂ in the atmosphere was recorded at 421.39 ppm.³⁷

³⁶ California Air Resources Board, California Greenhouse Gas Emissions for 2000 to 2020, https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/2000-2020_ghg_inventory_trends.pdf, accessed April 3, 2023.

³⁷ Scripps Institution of Oceanography, Carbon Dioxide Concentration at Mauna Loa Observatory, <https://scripps.ucsd.edu/programs/keelingcurve/>, accessed April 3, 2023.

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of GHGs at 400 to 450 ppm carbon dioxide equivalent (CO₂e)³⁸ concentration is required to keep global mean warming below 2 degrees Celsius (°C), which in turn is assumed to be necessary to avoid dangerous climate change.

REGULATORY FRAMEWORK

State

Various Statewide initiatives to reduce the State's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is under way, and there is a real potential for severe adverse environmental, social, and economic effects in the long term.

Assembly Bill 32 (California Global Warming Solutions Act of 2006). California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on Statewide GHG emissions. AB 32 requires that Statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then the California Air Resources Board (CARB) should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

Executive Order S-3-05. Executive Order S-3-05 set forth a series of target dates by which Statewide emissions of GHGs would be progressively reduced, as follows:

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

Senate Bill 32. Signed into law on September 2016, SB 32 codifies the 2030 GHG reduction target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030.

CARB Scoping Plan. On December 11, 2008, CARB adopted the original *Climate Change Scoping Plan* (Scoping Plan), which functioned as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. The Scoping Plan contained the main strategies California implemented to reduce GHG emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 million MTCO₂e under a business as usual (BAU)³⁹ scenario. This is a reduction of 42 million MTCO₂e, or almost ten percent, from 2002 to 2004 average emissions, but required the reductions in the face of population and economic growth through 2020.

³⁸ Carbon Dioxide Equivalent (CO₂e) – A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

³⁹ "Business as Usual" refers to emissions that would be expected to occur in the absence of GHG reductions; refer to <http://www.arb.ca.gov/cc/inventory/data/bau.htm>. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.

AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan identified the actions California had already taken to reduce GHG emissions and focused on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. The Scoping Plan update also looked beyond 2020 toward the 2050 goal, established in Executive Order S-3-05, and observed that “a mid-term statewide emission limit will ensure that the State stays on course to meet our long-term goal.”

On January 20, 2017, CARB released the proposed Second Update to the Scoping Plan, which identified the State’s post-2020 reduction strategy. The Second Update was finalized in November 2017 and approved on December 14, 2017 and reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. The 2017 Scoping Plan Update established a new Statewide emissions limit of 260 million MTCO_{2e} for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.

On December 15, 2022, CARB adopted the *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan), which identifies the strategies achieving carbon neutrality by 2045 or earlier. The 2022 Scoping Plan contains the GHG reductions, technology, and clean energy mandated by statutes. The 2022 Scoping Plan was developed to achieve carbon neutrality by 2045 through a substantial reduction in fossil fuel dependence, while at the same time increasing deployment of efficient non-combustion technologies and distribution of clean energy. The plan would also reduce emissions of short-lived climate pollutants (SLCPs) and would include mechanical CO₂ capture and sequestration actions, as well as emissions and sequestration from natural and working lands and nature-based strategies. Under 2022 Scoping Plan, by 2045, California aims to cut GHG emissions by 85 percent below 1990 levels, reduce smog-forming air pollution by 71 percent, reduce the demand for liquid petroleum by 94 percent compared to current usage, improve health and welfare, and create millions of new jobs. This plan also builds upon current and previous environmental justice efforts to integrate environmental justice directly into the plan, to ensure that all communities can reap the benefits of this transformational plan.

Regional and Local

2020-2045 Regional Transportation Plan/ Sustainable Communities Strategy

On September 3, 2020, the Regional Council of the Southern California Association of Governments (SCAG) formally adopted the *Connect SoCal: 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy* (2020-2045 RTP/SCS). The SCS portion of the 2020-2045 RTP/SCS highlights strategies for the region to reach the regional target of reducing GHGs from autos and light-duty trucks by 8 percent per capita by 2020, and 19 percent by 2035 (compared to 2005 levels). Specially, these strategies are to:

- Focus growth near destinations and mobility options;
- Promote diverse housing choices;
- Leverage technology innovations;
- Support implementation of sustainability policies; and
- Promote a green region.

Furthermore, the 2020-2045 RTP/SCS discusses a variety of land use tools to help achieve the State-mandated reductions in GHG emissions through reduced per capita vehicle miles traveled

(VMT). Some of these tools include center focused placemaking, focusing on priority growth areas, job centers, transit priority areas, as well as high quality transit areas and green regions.

City of Santa Clarita General Plan

The City of Santa Clarita General Plan (General Plan) was adopted in June 2011. This General Plan has been prepared pursuant to California Government Code Sections 65300 et. seq., which require that each city and county within the state “adopt a comprehensive, long-term general plan for the physical development of the county or city, and of any land outside its boundaries which in the planning agency’s judgment bears relation to its planning.” The General Plan includes the following elements: Land Use Element, Economic Development Element, Circulation Element, Noise Element, Conservation and Open Space Element, Safety Element, and Housing Element.

The following goals and policies related to GHG emissions are applicable to the proposed project:

Conservation and Open Space Element

Goal CO 8: Development designed to improve energy efficiency, reduce energy and natural resource consumption, and reduce emissions of greenhouse gases.

Objective CO 8.3: Encourage the following green building and sustainable development practices on private development projects, to the extent reasonable and feasible.

Policy CO 8.3.2: Promote construction of energy efficient buildings through requirements for LEED certification or through comparable alternative requirements as adopted by local ordinance.

Policy CO 8.3.4: Encourage new residential development to include on-site solar photovoltaic systems, or pre-wiring, in at least 50% of the residential units, in concert with other significant energy conservation efforts.

Policy CO 8.3.6: Require new development to use passive solar heating and cooling techniques in building design and construction, which may include but are not be limited to building orientation, clerestory windows, skylights, placement and type of windows, overhangs to shade doors and windows, and use of light colored roofs, shade trees, and paving materials.

Policy CO 8.3.7: Encourage the use of trees and landscaping to reduce heating and cooling energy loads, through shading of buildings and parking lots.

Policy CO 8.3.8: Encourage energy-conserving heating and cooling systems and appliances, and energy-efficiency in windows and insulation, in all new construction.

- a) **Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**
- b) **Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

Less Than Significant Impact. The City has not adopted a numerical significance threshold for assessing impacts related to GHG emissions. Similarly, the SCAQMD, CARB, or any other state or regional agency has not yet adopted a numerical significance threshold for assessing GHG emissions that applies to the project. Since there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the project's impacts related to GHG emissions focuses on its consistency with statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This evaluation of consistency with such plans is the sole basis for determining the significance of the project's GHG-related impacts on the environment.

Notwithstanding, for informational purposes, the analysis also calculates the amount of GHG emissions that would be attributable to the project using recommended air quality models, as described below. The primary purpose of quantifying the project's GHG emissions is to satisfy State CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The estimated emissions inventory is also used to determine if there would be a reduction in the project's incremental contribution of GHG emissions as a result of compliance with regulations and requirements adopted to implement plans for the reduction or mitigation of GHG emissions. However, the significance of the project's GHG emissions impacts is not based on the amount of GHG emissions resulting from the project.

Project-Related Sources of Greenhouse Gases

Project-related GHG emissions would include emissions from construction activities, area sources, mobile sources, and refrigerants, while indirect sources include emission from energy consumption, water demand, and solid waste generation. The most recent version of the California Emissions Estimator Model (CalEEMod), version 2022.1.1, was used to calculate project-related GHG emissions. **Table VIII-1**, Estimated Greenhouse Gas Emissions, presents the estimated GHG emissions of the proposed project. CalEEMod outputs are contained within **Appendix B**.

Direct Project-Related Sources of Greenhouse Gases

Construction Emissions. Construction GHG emissions are typically summed and amortized over the lifetime of the project (assumed to be 30 years), then added to the operational emissions.⁴⁰ As shown in Table VIII-1, the proposed project would result in 15.54 MTCO₂e per year construction emissions when amortized over 30 years (or a total of 466.2 MTCO₂e in 30 years).

⁴⁰ The project lifetime is based on the standard 30-year assumption of the South Coast Air Quality Management District (South Coast Air Quality Management District, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, October 2008).

**Table VIII-1
Estimated Greenhouse Gas Emissions**

Source	CO ₂	CH ₄	N ₂ O	Refrigerants	CO ₂ e
	Metric Tons/year ¹				
Direct Emissions					
Construction (amortized over 30 years)	15.44	<0.01	<0.01	<0.01	15.54
Area Source	1.31	<0.01	<0.01	-	1.34
Mobile Source	42.00	<0.01	<0.01	0.07	42.70
Refrigerants	-	-	-	0.01	0.01
<i>Total Direct Emissions²</i>	58.75	<0.01	<0.01	0.08	59.59
Indirect Emissions					
Energy	22.9	<0.01	<0.01	-	23.00
Solid Waste	0.28	0.03	0.00	-	0.99
Water Demand	0.29	<0.01	<0.01	-	0.45
<i>Total Indirect Emissions²</i>	23.47	0.03	<0.01	0.00	24.44
Total Project-Related Emissions²	84.03 MTCO₂e/year				
Notes:					
1. Emissions calculated using California Emissions Estimator Model Version 2022.1.1 (CalEEMod) computer model.					
2. Totals may be slightly off due to rounding.					
Refer to Appendix B , for detailed model input/output data.					

Area Source. Area source emissions were calculated using CalEEMod and project-specific land use data. Project-related area sources include natural gas consumption for space heating and exhaust emissions from landscape maintenance equipment, such as lawnmowers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the site. The project would directly result in 1.34 MTCO₂e per year from area source emissions; refer to Table VIII-1.

Mobile Source. The mobile source emissions were calculated as a conservative estimate generated from the CalEEMod 2022.1.1 default. Based on CalEEMod default, the proposed project would generate up to approximately 38 daily trips and up to 334 vehicle miles traveled (VMT) per day. The project would result in approximately 42.70 MTCO₂e per year of mobile source generated GHG emissions; refer to Table VIII-1.

Refrigerants. Refrigerants are substances used in equipment for air conditioning and refrigeration. Most of the refrigerants used today are HFCs or blends thereof, which can have high GWP values. All equipment that uses refrigerants has a charge size (i.e., quantity of refrigerant the equipment contains), and an operational refrigerant leak rate, and each refrigerant has a GWP that is specific to that refrigerant. CalEEMod quantifies refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime, and then derives average annual emissions from the lifetime estimate. The proposed project would result in 0.01 MTCO₂e per year of GHG emissions from refrigerants; refer Table VIII-1.

Indirect Project-Related Sources of Greenhouse Gases

Energy Consumption. Energy consumption emissions were calculated using CalEEMod and project-specific land use data. Southern California Edison (SCE) would provide electricity to the project site. The project's proposed four single-family homes would be required to install solar

panels; however, as a conservative analysis, this project design feature was not modeled. The project would indirectly result in 23.00 MTCO_{2e} per year due to energy consumption; refer to **Table VIII-1**.

Solid Waste. Solid waste disposal associated with operations of the proposed project would result in 0.99 MTCO_{2e} per year; refer to **Table VIII-1**.

Water Demand. The project operations would result in a demand of approximately 149,095 gallons of water per year. Emissions from indirect energy impacts due to water supply would result in 0.45 MTCO_{2e} per year; refer to **Table VIII-1**.

Total Project-Related Sources of Greenhouse Gases

As shown in **Table VIII-1**, the total amount of project-related GHG emissions from direct and indirect sources combined would total 84.03 MTCO_{2e} per year.

Consistency with Applicable GHG Plans, Policies, or Regulations

Consistency with the 2022 CARB Scoping Plan

The 2022 Scoping Plan identifies reduction measures necessary to achieve the goal of carbon neutrality by 2045 or earlier. Actions that reduce GHG emissions are identified for each AB 32 inventory sector. Provided in **Table VIII-2**, Consistency with the 2022 Scoping Plan: AB 32 GHG Inventory Sectors, is an evaluation of applicable reduction actions/strategies by emissions source category to determine how the project would be consistent with or exceed reduction actions/strategies outlined in the 2022 Scoping Plan.

Consistency with the SCAG 2020-2045 RTP/SCS

On September 3, 2020, the Regional Council of SCAG formally adopted the 2020-2045 RTP/SCS. The 2020-2045 RTP/SCS includes performance goals that were adopted to help focus future investments on the best-performing projects, as well as different strategies to preserve, maintain, and optimize the performance of the existing transportation system. The SCAG 2020-2045 RTP/SCS is forecast to help California reach its GHG reduction goals by reducing GHG emissions from passenger cars by 8 percent below 2005 levels by 2020 and 19 percent by 2035 in accordance with the most recent CARB targets adopted in March 2018. Five key SCS strategies are included in the 2020-2045 RTP/SCS to help the region meet its regional VMT and GHG reduction goals, as required by the State. **Table VIII-3**, Consistency with the 2020-2045 RTP/SCS, shows the project's consistency with these five strategies found within the 2020-2045 RTP/SCS. As shown therein, the proposed project would be consistent with the GHG emission reduction strategies contained in the 2020-2045 RTP/SCS.

**Table VIII-2
Consistency with the 2022 Scoping Plan: AB 32 Inventory Sectors**

Actions and Strategies	Project Consistency Analysis
Smart Growth / Vehicles Miles Traveled (VMT)	
Reduce VMT per capita to 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045	Consistent. The project would be required to install listed raceways to accommodate branch circuits for electric vehicle chargers in accordance with the 2022 Title 24 standards and CALGreen Code, which would promote alternative mode of transportation to reduce mobile source GHG emissions. Additionally, the project would be near public transportation stops, including the Vista Canyon Metrolink station 1.36 miles away. As such, the project would be consistent with this action.
New Residential and Commercial Buildings	
All electric appliances beginning 2026 (residential) and 2029 (commercial), contributing to 6 million heat pumps installed statewide by 2030	Consistent. The project is expected to consist of natural gas heating and/or cooking on-site. The City of Santa Clarita has not adopted an ordinance or program limiting the use of natural gas for on-site cooking and/or heating. However, if adopted, the project would comply with the applicable goals or policies limiting the use of natural gas equipment in the future. As such, the project would be consistent with this action.
Construction Equipment	
Achieve 25% of energy demand electrified by 2030 and 75% electrified by 2045	Consistent. The City of Santa Clarita has not adopted an ordinance or program requiring electricity-powered construction equipment. However, if adopted, the project would comply with the applicable goals or policies requiring the use of electric construction equipment in the future. As such, the project would be consistent with this action.
Non-combustion Methane Emissions	
Divert 75% of organic waste from landfills by 2025	Consistent. SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The law establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025. The project would comply with local and regional regulations and recycle or compost 75 percent of waste by 2025 pursuant to SB 1383. As such, the project would be consistent with this action.
Source: California Air Resources Board, <i>2022 Scoping Plan</i> , November 16, 2022.	

**Table VIII-3
Consistency with the 2020-2045 RTP/SCS**

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
Focus Growth Near Destinations and Mobility Options		
<ul style="list-style-type: none"> • Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations • Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets • Plan for growth near transit investments and support implementation of first/last mile strategies • Promote the redevelopment of underperforming retail developments and other outmoded nonresidential uses • Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods • Encourage design and transportation options that reduce the reliance on and number of solo car trips (this could include mixed uses or locating and orienting close to existing destinations) • Identify ways to “right size” parking requirements and promote alternative parking strategies (e.g. shared parking or smart parking) 	<p>Center Focused Placemaking, Priority Growth Areas (PGA), Job Centers, High Quality Transit Areas (HQTAs), Transit Priority Areas (TPA), Neighborhood Mobility Areas (NMAs), Livable Corridors, Spheres of Influence (SOIs), Green Region, Urban Greening.</p>	<p>Consistent. The City of Santa Clarita’s General Plan land use map. Zoning, and Specific Plans target growth near transit opportunities. Examples include the Regional Commercial (CR) zoning for the Valencia Town Center area, which allows the highest density of commercial and residential densities in the City; the Downtown Newhall Specific Plan, which targets growth around the Jan Heidt Metrolink Station; and the Vista Canyon Specific Plan, which targets growth around the Vista Canyon Metrolink Station. The project site is located within an area that is planned for residential uses, with uses to the north, west, and east presently developed with single-family residential uses. The project site is currently vacant, and the development of single-family dwelling units would develop underutilized land. The proposed project would be located approximately 1.36 miles southeast of the Vista Canyon Metrolink Station and 2 miles from existing transit bus stops. Therefore, the City focuses growth near destinations and mobility options and the project is consistent with the City’s land use plans.</p>
Promote Diverse Housing Choices		
<ul style="list-style-type: none"> • Preserve and rehabilitate affordable housing and prevent displacement • Identify funding opportunities for new workforce and affordable housing development • Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply • Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions 	<p>PGA, Job Centers, HQTAs, NMA, TPAs, Livable Corridors, Green Region, Urban Greening.</p>	<p>Consistent. The City’s land use plans promote a diversity of housing choices. For example, the Housing Element of the City’s General Plan, which has been certified by the California Department of Housing and Urban Development, includes numerous goals, policies, actions, and objectives centered around preserving and expanding the diversity of the City’s housing stock to provide housing opportunities for residents of all income levels.</p>

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
		<p>Consistent with the City’s land use plans, the project would involve development of single-family dwelling units located approximately 1.36 miles southeast of the Vista Canyon Metrolink Station and 2 miles from existing transit bus stops, which would support increasing housing supply and supporting reduction of GHG emissions. Therefore, the project would be consistent with this reduction strategy.</p>
Leverage Technology Innovations		
<ul style="list-style-type: none"> • Promote low emission technologies such as neighborhood electric vehicles, shared rides hailing, car sharing, bike sharing and scooters by providing supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space • Improve access to services through technology—such as telework and telemedicine as well as other incentives such as a “mobility wallet,” an app-based system for storing transit and other multi-modal payments • Identify ways to incorporate “micro-power grids” in communities, for example solar energy, hydrogen fuel cell power storage and power generation 	<p>HQTA, TPAs, NMA, Livable Corridors.</p>	<p>Consistent. The project would require new single-family development to install listed raceways to accommodate dedicated branch circuits to support electric vehicle chargers in accordance with the 2022 Title 24 standards and CALGreen Code. Additionally, new single-family dwelling units would be required to install solar photovoltaics panels. Therefore, the proposed project would leverage technology innovations and help the City, County, and State meet its GHG reduction goals. The project would be consistent with this reduction strategy.</p>
Support Implementation of Sustainability Policies		
<ul style="list-style-type: none"> • Pursue funding opportunities to support local sustainable development implementation projects that reduce greenhouse gas emissions • Support statewide legislation that reduces barriers to new construction and that incentivizes development near transit corridors and stations • Support local jurisdictions in the establishment of Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), or other tax increment or value capture tools to finance sustainable infrastructure and development projects, including parks and open space • Work with local jurisdictions/communities to identify opportunities and assess barriers to 	<p>Center Focused Placemaking, Priority Growth Areas (PGA), Job Centers, High Quality Transit Areas (HQTAs), Transit Priority Areas (TPA), Neighborhood Mobility Areas (NMAs), Livable Corridors,</p>	<p>Not Applicable. This Reduction Strategy is directed at government agencies to support the implementation of sustainability policies, rather than being directed at specific projects. Nonetheless, the project would implement certain sustainability policies. For example, as previously discussed, the proposed project would be located approximately 1.36 miles southeast of the Vista Canyon Metrolink Station and 2 miles from existing transit bus stops, which would promote alternative modes of transportation. Additionally, new residential development would be required to install listed raceways to</p>

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
implement sustainability strategies <ul style="list-style-type: none"> • Enhance partnerships with other planning organizations to promote resources and best practices in the SCAG region • Continue to support long range planning efforts by local jurisdictions • Provide educational opportunities to local decisions makers and staff on new tools, best practices and policies related to implementing the Sustainable Communities Strategy 	Spheres of Influence (SOIs), Green Region, Urban Greening.	accommodate dedicated branch circuits to support electric vehicle chargers. The project would include private outdoor areas with landscaped planters, trees, and seating. Further, the project would comply with sustainable practices included in the CALGreen Code and 2022 Title 24 standards. Thus, the project would be consistent with this reduction strategy.
Promote a Green Region		
<ul style="list-style-type: none"> • Support development of local climate adaptation and hazard mitigation plans, as well as project implementation that improves community resiliency to climate change and natural hazards • Support local policies for renewable energy production, reduction of urban heat islands and carbon sequestration • Integrate local food production into the regional landscape • Promote more resource efficient development focused on conservation, recycling and reclamation • Preserve, enhance and restore regional wildlife connectivity • Reduce consumption of resource areas, including agricultural land Identify ways to improve access to public park space	Green Region, Urban Greening, Greenbelts and Community Separators.	Consistent. The proposed project involves development of a residential community on a disturbed vacant lot and would therefore not interfere with regional wildlife connectivity or concert agricultural land. The project would be required to comply with CALGreen Code and 2022 Title 24 standards, which would help reduce energy consumption and reduce GHG emissions. Thus, the project would support efficient development that reduces energy consumption and GHG emissions. The project would be consistent with this reduction strategy.
Source: SCAG, 2020-2045 RTP/SCS – Connect SoCal, September 3, 2020.		

Consistency with the City of Santa Clarita General Plan

The General Plan Open Space and Conservation Element includes goals and policies that promote GHG reduction within the City. The project’s consistency with these goals and policies is discussed in Section VI, Energy. As demonstrated in **Table VIII-4, Consistency with the City of Santa Clarita General Plan**, the proposed Project would be consistent with the General Plan.

Conclusion

In summary, the project’s characteristics render it consistent with Statewide, regional, and local climate change mandates, plans, policies, and recommendations. More specifically, the GHG plan consistency analysis provided above demonstrates that the project complies with the regulations and GHG reduction goals, policies, actions, and strategies outlined in the 2022 Scoping Plan, 2020-2045 RTP/SCS, and the City’s General Plan. Consistency with these plans would reduce the impact of the project’s incremental contribution of GHG emissions. 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, and Project-specific impacts with regard to GHG emissions would be less than significant.

IX. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. Expose people to existing sources of potential health hazards (e.g., electrical transmission lines, gas lines, oil pipelines)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation of Checklist Responses

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

Less Than Significant Impact. Typical of construction activities for development projects, during on-site clearance, grading, and building construction, hazardous materials such as fuel and oils associated with construction equipment, as well as coatings, paints, adhesives, and cleaners, would be routinely used on the Project Site. However, all potentially hazardous materials used during Project construction would be used and disposed of in accordance with applicable regulations, as well as manufacturers' specifications and instructions, thereby reducing the risk of hazardous materials use. In addition, the Project would comply with all applicable federal, state, and local requirements concerning the use, storage, and management of hazardous materials, including but not limited to the Resource Conservation and Recovery Act, California Hazardous Waste Control Law, federal and state Occupational Safety and Health Acts, SCAQMD rules, and permits. These existing regulations are aimed at limiting the amount of hazardous materials used, accident prevention, protection from exposure to specific chemicals, and the proper storage and disposal of hazardous materials. Any associated risk would be adequately reduced to a less-than-significant level through compliance with these standards and regulations. Accordingly, Project construction activities 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 during construction. Therefore, impacts related to the routine transport, use, or disposal of hazardous materials during construction would be less than significant.

During operations, the proposed uses would involve the use of equipment and materials that are standard in the general operation of residential and landscaping uses. Small amounts of commercially available hazardous materials may be used for regular cleaning and maintenance activities, which would neither require the storage, use, or disposal of substantial amounts of hazardous materials nor generate significant quantities of hazardous waste, and would thus not be subject to any special handling or permitting requirements. Therefore, this Project's operations would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and impacts would be less than significant.

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

Less Than Significant Impact. The Project Site is currently vacant and undeveloped, with remnants of one building foundation associated with a building that was constructed between 1978 and 1985 and demolished by 1992. As detailed below in Checklist Question IX.d, the Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No aboveground storage tanks were identified during the pedestrian survey of the Project Site.⁴¹ There are no underground storage tanks within the Project Site, and no oil/gas wells are within the Project Site or adjoining properties.⁴² The Project Site is not observed to

⁴¹ Based on the Cultural Resources Identification Memorandum prepared for the Project by Michael Baker International and included as **Appendix D** of this IS/MND.

⁴² SWRCB, GeoTracker, List of Leaking Underground Storage Tank Sites, https://geotracker.waterboards.ca.gov/map/?global_id=T0607302824, accessed August 18, 2023; U.S. Environmental Protection Agency, UST Finder, <https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=b03763d3f2754461adf86f121345d7bc>, accessed

contain subsurface structures or facilities used to process, store, or discharge petroleum or hazardous substances.

Due to the age of the one building foundation to be removed from the Project Site, hazardous materials such as lead-based paint (LBP) and/or asbestos-containing materials (ACM) could be present. In the event that LBP is found within areas proposed for demolition, suspect materials would be removed in accordance with procedural requirements and regulations for the proper removal and disposal of LBP prior to construction activities, including standard handling and disposal practices pursuant to Occupational Safety and Health Administration regulations. Example procedural requirements include the use of respiratory protection devices while handling lead-containing materials; containment of lead or materials containing lead on the Project Site or at locations where construction activities are performed; and certification of all consultants and contractors conducting activities involving LBP or lead hazards. In the event that ACM are found on-site during construction, suspect materials would be removed by a certified asbestos abatement contractor in accordance with applicable regulations. In addition, Project development would include the use of commercially sold construction materials without ACM. With compliance with applicable regulations and requirements, Project construction activities would not expose people to a substantial risk resulting from the release of asbestos fibers into the environment.

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 impacts would be less than significant.

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

No Impact. There are no schools located within 0.25 miles of the Project Site. The schools nearest to the Project Site include Fair Oaks Ranch Community School, located approximately 1.45 miles northwest; Sulphur Springs Community School, located approximately 1.5 miles to the north; and Golden Oak Community School, located approximately 1.8 miles southwest. As such, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school. Therefore, no impacts would occur.

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

No Impact. As previously discussed, the Project Site is currently vacant and undeveloped, with remnants of one building foundation associated with a building that was constructed between 1978 and 1985 and demolished by 1992. The Project Site is not listed on any of the following list of facilities and sites compiled pursuant to Section 65962.5 of the Government Code: DTSC EnviroStor database of hazardous waste clean-up sites; list of solid waste disposal sites identified by the State Water Resources Control Board (SWRCB) with waste constituents above hazardous waste levels outside the waste management unit; SWRCB database of leaking underground storage tanks sites and cleanup program sites; list of sites with active cease and desist orders

August 18, 2023. California Department of Conservation, Well Finder CalGEM GIS, <https://maps.conservation.ca.gov/calGEM/wellfinder/v2/>, accessed April 5, 2023.

(CDO) and cleanup or abatement orders (CAO) identified by the SWRCB.⁴³ Therefore, the Project would have no impacts related to listed hazardous material sites.

- e. **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?**
- f. **For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

No Impact. The Project Site is not located within an airport land use plan area or within 2 miles of a public airport or public use airport. The Project is also not located within the vicinity of a private airstrip. The nearest airports are the Agua Dulce Airpark, approximately 9.1 miles to the northeast, and the Whiteman Airport, approximately 9.4 miles to the south. Therefore, the Project would not result in impacts related to airport-related safety hazards or excessive noise.

- g. **Would the project be impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

Less Than Significant Impact. Construction activities associated with the Project could include intermittent disruptions of roadways in the vicinity of the Project Site that could be used by emergency providers, including the LACFD and the LASD. However, access would be maintained through the duration of construction. The nearest disaster routes include Sand Canyon Road, located approximately 0.25 miles to the west, and State Route 14, located approximately 2 miles to the north of the Project Site.⁴⁴ As described in the City's Safety Element, during the development review process, emergency access is evaluated for all pending development projects; two means of ingress and egress are required for all major development projects, including subdivisions.⁴⁵ The Project would be required to comply with the California Fire Code and LACFD conditions requiring fire apparatus access roads, fire lanes, and firefighter access walkways with adequate dimensions, clearances, turning radius, loads, and slope. The Project would adhere to conditions of approval as provided by the LACFD Fire Prevention Unit and included as **Appendix G** of this IS/MND. The conditions would include requirements related to final map submittals, access, water system and fire flow, and fuel modification. Verification for compliance of the Fire Department access related conditions of approval would be performed during the architectural plan review prior to the issuance of building permits. Furthermore, the Project would not preclude the LACFD from implementing California's Strategic Fire Plan and addressing emergency operations, public service, and organizational effectiveness.⁴⁶ Therefore,

⁴³ California Environmental Protection Agency, Cortese List Background and History, <https://calepa.ca.gov/sitecleanup/corteselist/background/>, accessed August 18, 2023. California Department of Toxic Substances Control, EnviroStor database, <https://www.envirostor.dtsc.ca.gov/public/>, accessed August 18, 2023. California Environmental Protection Agency, Sites Identified with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit, <https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/SiteCleanup-Corteselist-CurrentList.pdf>, accessed August 18, 2023. SWRCB, GeoTracker, List of Leaking Underground Storage Tank Sites, https://geotracker.waterboards.ca.gov/map/?global_id=T0607302824, accessed August 18, 2023. California Environmental Protection Agency, Cortese List: Section 65962.5(c), List of "active" and CDO and CAO, <https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5c/>, accessed August 18, 2023.

⁴⁴ Los Angeles County Public Works, Disaster Routes Map, City of Santa Clarita.

⁴⁵ City of Santa Clarita, General Plan, Safety Element, 2022.

⁴⁶ City of Santa Clarita, General Plan, Safety Element, 2022.

the Project 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.

h. Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less Than Significant Impact. According to CalFire, the Project Site is located within a Very High Fire Hazard Severity Zone (VHFHSZ) and Local Responsibility Area (LRA).⁴⁷ As discussed in Checklist Sections XV.a.i and XX, the Project would adhere to conditions of approval as provided by the Fire Prevention Unit of the LACFD. During Project construction activities, access to and along Diver Street, Triumph Avenue, and Tannahill Avenue adjacent to the Project Site would remain unobstructed and would remain accessible to emergency vehicles. During operation, the Project would be required to comply with the California Fire Code and LACFD conditions requiring fire apparatus access roads, fire lanes, and firefighter access walkways with adequate dimensions, clearances, turning radius, loads, slope. In addition, to ensure that residents that would have adequate fire water protection, the Project would install fire hydrants with proper pressure and flow rates in accordance with code requirements. Due to the Project Site's location within a VHFHSZ, the Project would be required to prepare and submit a Fuel Modification Plan for approval by the LACFD Fuel Modification Unit. A Fuel Modification Plan would provide a landscape plan showing all proposed and existing-to-remain vegetation on the property. The plan would ensure that vegetation, which can fuel and spread fires, is modified appropriately to protect structures, people, and land. Therefore, the Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, and impacts would be less than significant.

i. Would the project expose people to existing sources of potential health hazards (e.g., electrical transmission lines, gas lines, oil pipelines)?

Less Than Significant Impact. Hazards associated with overhead transmission lines range from exposure to electrical magnetic fields to live wires and flashovers when a person or equipment gets too close to an overhead line. Surface or subsurface-level natural gas or other fuel lines can pose risks when improper contact is made, resulting in leaks, fire, and/or explosions.

The Project Site is currently undeveloped with no existing on-site electricity infrastructure. Existing electrical infrastructure in the area includes overhead electrical power lines along the Triumph Avenue. Similarly, as there are no existing structures on the Project Site requiring natural gas service, there is no natural gas infrastructure located within the Project Site. The U.S. Department of Transportation's National Pipeline Mapping System shows that the nearest natural gas transmission line is located approximately 1.25 miles north of the Project Site, and the nearest hazardous liquid pipeline is located approximately 5.20 miles southwest of the Project Site.⁴⁸ Potential hazards related to utility connections and lines and the overhead electrical powerline would be reduced with standard construction precautions, such as identifying the location of utility lines before any Project-related ground disturbance takes place. Therefore, the Project would not expose people to existing sources of potential health hazards, and impacts would be less than significant.

⁴⁷ California Department of Forestry and Fire Protection, Fire Hazard Severity Zones Maps, FHSZ Viewer, <https://egis.fire.ca.gov/FHSZ/>, accessed April 5, 2023.

⁴⁸ U.S. Department of Transportation, National Pipeline Mapping System, <https://pvnpm.phmsa.dot.gov/PublicViewer/>, accessed August 21, 2023.

X. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j. [Result in] inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
k. Result in changes in the rate of flow, currents, or the course and direction of surface water and/or groundwater?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
l. [Result in] other modification of a wash, channel creek, or river?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
m. Impact stormwater management in any of the following ways?				
i) Potential impact of project construction and project post-construction activity on stormwater runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Potential discharges from areas for materials storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Significant environmentally harmful increase in the flow velocity or volume of stormwater runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Significant and environmentally harmful increases in erosion of the Project Site or surrounding areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v) Stormwater discharges that would significantly impair or contribute to the impairment of the beneficial uses of receiving waters or areas that provide water quality benefits (e.g., riparian corridors, wetlands, etc.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
vi) Cause harm to the biological integrity of drainage systems, watersheds, and/or water bodies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
vii) Does the Proposed Project include provisions for the separation, recycling, and reuse of materials both during construction and after project occupancy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation of Checklist Responses

a. Would the project violate any water quality standards or waste discharge requirements?

f. Would the project otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. As discussed below, the Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Surface Water Quality

The Project Site is located within the Los Angeles Regional Water Quality Control Board's region. Since the Project would disturb 19.87 acres of land, the Project would be required to comply with the NPDES 2022 Construction Stormwater General Permit (ORDER WQ 2022-0057-DWQ,

effective September 1, 2023) and implement a Storm Water Pollution Prevention Plan (SWPPP). In accordance with the requirements of the NPDES Construction General Permit, the Project would prepare and implement a site-specific SWPPP adhering to the California Stormwater Quality Association Best Management Practices Handbook. The SWPPP would set forth best management practices (BMPs) for stormwater and non-stormwater discharges, including, but not limited to, sandbags, storm drain inlets protection, stabilized construction entrance/exit, wind erosion control, and stockpile management, to minimize the discharge of pollutants in stormwater runoff during construction. The SWPPP would be carried out in compliance with the requirements of the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB). All construction and grading activities would be required to comply with applicable laws and regulatory documents, including all applicable city ordinances and the City's permit regulating discharges into and from the storm drain system. Prior to issuance of grading permit by the City, the applicant would be required to receive approval of the SWPPP by the City of Santa Clarita Engineering Department. With the implementation of these regulatory compliance requirements, the Project would reduce or eliminate the discharge of potential pollutants from stormwater runoff. Therefore, construction of the Project would not result in discharge that would violate any water quality standard or waste discharge requirements or otherwise substantially degrade surface water quality. Thus, temporary construction-related impacts on surface water quality would be less than significant.

Under Section 303(d) of the Clean Water Act, states are required to identify water bodies that do not meet their water quality standards. Biennially, the LARWQCB prepares a list of impaired waterbodies and the specific pollutant(s) in the region referred to as the 303(d) list. All waterbodies on the 303(d) list are subject to the development of a Total Maximum Daily Load (TMDL). The Project Site is located within and drains into the Santa Clara River Watershed,⁴⁹ which includes constituents of concern under California Clean Water Act Section 303(d) List (including indicator bacteria, pesticides, selenium, iron, boron, ammonia, dissolved oxygen, chloride, sulfates, trash).⁵⁰ Project operations are not anticipated to increase concentrations of the constituents of concern for the Santa Clara River Watershed but would introduce sources of potential water pollution that are typical of residential uses (e.g., sediment, nutrients, pesticides from runoff from landscaping areas, metals, pathogens, trash and debris, oil and grease). As a development with one acre or greater of disturbed area that adds more than 10,000 square feet of impervious surface, the Project would be considered a development planning priority project under the City's NPDES Municipal Stormwater Permit. Pursuant to SCMC Chapter 17.95, prior to issuance of grading permit, the Project applicant would be required to prepare an Urban Stormwater Mitigation Plan (USMP) that incorporates appropriate post-construction BMPs and acquire City approval.

As described in the Project's Hydrology Report (**Appendix H** of this IS/MND), under existing conditions, the Project Site's impervious area is approximately 1 percent, and storm water generally sheet flows to the north. To quantify the runoff generated by the site, a broader view of the topography is considered since most of the runoff leaving the site comes from the upstream properties to the south (i.e., outside the Project Site), and such additional area had to be accounted for to evaluate the site hydrology pre- and post-development. The runoff from the Project Site leaves the site and drains to Sand Canyon Creek, and ultimately onto the Santa Clara River further downstream. Since the site is not a sump location, a 25-year storm event has been

⁴⁹ County of Los Angeles Department of Public Works, Santa Clara River Watershed map, http://www.ladpw.org/wmd/watershed/sc/docs/SantaClaraRiver_wtrshed.pdf.

⁵⁰ Los Angeles Regional Water Quality Control Board, Final 2018 California Integrated Report, Appendix A—2018 303(d) List of Impaired Waters, https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2018_integrated_report.htm, accessed November 28, 2023.

analyzed instead of the 50-year storm in order to determine peak stormwater flow rates. The Hydrology Report determined that under proposed conditions, the Project Site's impervious area would increase from approximately 1 percent to approximately 5 percent, and drainage would follow the same pattern as the existing conditions and leaves the site via surface flow at the northerly end of the site. In addition, the 25-year flow runoff rate and volume would increase by 6.84 cubic feet per second and 14,178 cubic feet, respectively. Pursuant to regulatory requirements, the Project applicant would prepare a Low Impact Development (LID) Plan such that the Project would be designed to control pollutants, pollutant loads, and runoff volume to the maximum extent feasible by minimizing impervious surface area and controlling runoff from impervious surfaces through infiltration, evapotranspiration, bioretention and/or rainfall harvest, and use, the design of which would require approval by the City Engineer. Based on the above, with compliance with regulatory requirements, Project impacts to surface water quality during operation would be less than significant.

Groundwater

There are no existing groundwater wells within the Project Site or vicinity.⁵¹ In addition, based on the sample test borings at the Project Site, groundwater was not encountered during explorations that reached a depth of 15 feet, and no evidence of seepage was encountered. As described in the Preliminary Geotechnical Report, groundwater is located at a depth of approximately 50 feet.

The Project would include four septic leaching fields—one for each residential parcel. As detailed in the Project's Percolation Feasibility Study and conducted in accordance with Los Angeles County Public Health/Environmental Health—Land Use Program, subsurface evaluation determined that the Project would have soils capable of adequately supporting the use of septic system. Furthermore, in accordance with SCMC Chapter 17.83, as the Project would require grading in excess of 5,000 cubic yards, the grading permit application would require final geotechnical and engineering geology reports, including septic system information. In accordance with SCMC Chapter 16.13, the Project's septic system would undergo review and approval by the City Engineer and Los Angeles County Health Department. Additionally, groundwater is not anticipated to rise within 10 feet of the bottom of the proposed percolation trench throughout the year. Therefore, based on the above, and as the Project does not propose below-grade development for its residential structures, the Project is not expected to encounter groundwater and temporary dewatering is not anticipated.

The most prominent type of operational activities from a development project that affect groundwater quality are typically spills of hazardous materials and leaking storage facilities and tanks. Surface spills from the handling of hazardous materials most often involve small quantities and are cleaned up in a timely manner in accordance with applicable regulatory requirements, thereby resulting in little threat to groundwater. Other types of risks such as leaking underground storage tanks have a greater potential to affect groundwater. As discussed above in Checklist Section IX and in the Phase I ESA, there are no underground storage tanks within the Project Site. Furthermore, as discussed above, the Project's septic system would comply with relevant wastewater requirements and would be required to undergo review and approval by the City Engineer and Los Angeles County Health Department.

⁵¹ California Water Boards, GAMA Groundwater Information System, <https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/>, accessed November 28, 2023.

Based on the above, the Project would not result in discharges that would violate any groundwater quality standard or waste discharge requirement associated with groundwater protection. Therefore, Project impacts related to groundwater quality would be less than significant.

- b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?**

- k. Would the project result in changes in the rate of flow, currents, or the course and direction of groundwater?**

Less Than Significant Impact. The Project Site is located within the Santa Clara River Valley East Groundwater Subbasin (East Subbasin).⁵² A Groundwater Sustainability Plan (GSP) for the East Subbasin was adopted in January 2022. Managed by the Santa Clarita Valley Groundwater Sustainability Agency, the two local aquifers that comprise the East Subbasin are the primary sources of all local groundwater for prime farmland and hundreds of thousands of people living and working in the Santa Clara River Valley.⁵³ Under the Sustainable Groundwater Management Act (SGMA) passed in 2015, specific local water agencies are required to develop a detailed road map for maintaining or bringing their groundwater basin into a healthy balance (i.e., a sustainable condition) within the next 20 years.⁵⁴ As discussed above, there are no existing groundwater wells within the Project Site or vicinity, and the Project construction activities would not require dewatering or other withdrawals of groundwater. With buildout of the Project, the Project Site's impervious area would increase from approximately 1 percent to approximately 5 percent. As required by existing stormwater regulations, the Project applicant would prepare a LID Plan to control runoff from impervious surfaces through infiltration, evapotranspiration, bioretention and/or rainfall harvest, and use, the design of which would require approval by the City Engineer. Furthermore, in accordance with SCMC Chapter 16.13, the Project's septic system would undergo review and approval by the City Engineer and Los Angeles County Health Department and would not affect groundwater. Lastly, the Project would not involve installation or operation of water/extraction wells. Therefore, the Project would not decrease groundwater supplies or interfere substantially with groundwater recharge, and impacts would be less than significant.

- c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river in a manner which would result in substantial erosion or siltation on- or off-site?**

- m.iv) Would the project impact stormwater management in any of the following ways: significant and environmentally harmful increases in erosion of the Project Site or surrounding areas?**

Less Than Significant Impact. The Project Site is not crossed by any water courses or rivers. During Project construction, stormwater runoff from precipitation events could cause exposed and stockpiled soils to be subject to erosion and convey sediments into municipal storm drain systems. Thus, as detailed above in Checklist Question X.a, in accordance with the requirements of the

⁵² Santa Clarita Valley Groundwater Sustainability Agency, <https://scvgsa.org/>, accessed November 29, 2023.

⁵³ Santa Clarita Valley Groundwater Sustainability Agency, Santa Clara River Valley East Groundwater Subbasin Groundwater Sustainability Plan, January 2022.

⁵⁴ Santa Clarita Valley Groundwater Sustainability Agency, Santa Clara River Valley East Groundwater Subbasin Groundwater Sustainability Plan, January 2022.

NPDES Construction General Permit, the Project would prepare and implement a site-specific SWPPP that sets forth BMPs for stormwater and non-stormwater discharges, including, but not limited to, sandbags, storm drain inlets protection, stabilized construction entrance/exit, wind erosion control, and stockpile management. The SWPPP would be carried out in compliance with the requirements of the SWRCB and RWQCB. All construction and grading activities would be required to comply with applicable laws and regulatory documents, including all applicable city ordinances and the City's permit regulating discharges into and from the storm drain system. Prior to issuance of grading permit by the City, the applicant would be required to receive approval of the SWPPP by the City of Santa Clarita Engineering Department. Additionally, pursuant to SCMC Chapter 17.95, prior to issuance of grading permit, the Project applicant would be required to prepare an USMP that incorporates appropriate post-construction BMPs and acquire City approval. With the implementation of regulatory compliance requirements, the Project would not substantially alter the Project Site drainage patterns in a manner that would result in substantial erosion or siltation on- or off-site, and the Project would not impact stormwater management with significant and environmental harmful increases in erosion of the Project Site or surrounding areas. Therefore, such impacts would be less than significant.

- d. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site?**
- e. Would the project 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?**
- k. Would the project result in changes in the rate of flow, currents, or the course and direction of surface water?**
- m.i) Would the project impact stormwater management in any of the following ways: potential impact of project construction and project post-construction activity on stormwater runoff?**
- m.iii) Would the project impact stormwater management in any of the following ways: significant environmentally harmful increase in the flow velocity or volume of stormwater runoff?**

Less Than Significant Impact. As described above in Checklist Question X.a and the Project's Hydrology Report (**Appendix H** of this IS/MND), most of the runoff leaving the site comes from the upstream properties to the south (i.e., outside the Project Site). The runoff from the Project Site leaves the site and drains to Sand Canyon Creek and ultimately onto the Santa Clara River further downstream. During construction, in accordance with the requirements of the NPDES Construction General Permit, the Project would prepare and implement a site-specific SWPPP that includes BMPs for stormwater discharges. The SWPPP would be carried out in compliance with the requirements of the SWRCB and RWQCB. All construction and grading activities would be required to comply with applicable laws and regulatory documents, including all applicable City ordinances and the City's permit regulating discharges into and from the storm drain system. Prior to issuance of grading permit by the City, the applicant would be required to receive approval of the SWPPP by the City of Santa Clarita Engineering Department. During operation, as determined by the Hydrology Report, the Project Site's impervious area would increase from approximately 1 percent to approximately 5 percent, and drainage would follow the same pattern as the existing

conditions, leaving the site via surface flow at the northerly end of the site. As indicated above, the 25-year flow runoff rate and volume would increase by 6.84 cubic feet per second and 14,178 cubic feet, respectively. Pursuant to regulatory requirements, the Project applicant would prepare a LID plan such that the Project would be designed to control pollutants, pollutant loads, and runoff volume, the design of which would require approval by the City Engineer. The Project would comply with regulatory requirements to ensure that the Project would not be anticipated to substantially alter the existing drainage pattern of the site or area in a manner which would substantially impede, alter or redirect flood flows. In addition, based on the above, the Project would not be anticipated to substantially alter the existing drainage pattern of the site or area in a manner which would: substantially increase the rate or amount of surface run-off in a manner which would result in flooding on- or off-site, or 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. Similarly, the Project would not impact stormwater management with significant environmentally harmful increases in the flow velocity or volume of stormwater runoff or substantial construction and post-construction effects related to stormwater runoff. As such, such impacts would be less than significant.

- g. Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**
- h. Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?**
- i. Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?**
- j. Would the project result in inundation by seiche, tsunami, or mudflow?**

No Impact. According to the Federal Emergency Management Agency (FEMA), the Project Site is not located within a special flood hazard area. The Project Site is located within Zone X (500-year floodplains), which has at least a 0.2 percent annual chance of flooding.⁵⁵ There are no water courses or rivers within the Project Site; 300 feet to the east are areas mapped as special flood hazard areas that have a 1 percent annual chance of flooding (i.e., areas in which flood insurance is required for structures that have a federally-backed mortgage).

A tsunami is a sea wave, commonly referred to as a tidal wave, generated by an underwater seismic disturbance, such as sudden faulting or landslide activity. According to the California Department of Conservation mapping system for tsunami hazard areas, as the City of Santa Clarita is an inland community (approximately 25 miles northeast nearest portion of the Pacific Ocean), the City would not be susceptible to experiencing tsunamis.⁵⁶

Seiches are earthquake-induced waves in enclosed bodies of water, such as lakes or reservoirs, and are similar to the sloshing of water in a bucket or bowl when shaken or jarred. In reservoirs,

⁵⁵ Los Angeles County Department of Public Works, LA County FEMA MAP (FIRM) Viewer, Map 06037C0845G, <https://apps.gis.lacounty.gov/dpw/m/?viewer=floodzone>, accessed November 29, 2023.

⁵⁶ California Department of Conservation, Tsunami Hazard Area Maps, https://maps.conservation.ca.gov/cgs/informationwarehouse/ts_evacuation/?extent=-13249590.3641%2C3986280.7635%2C-13132183.0887%2C4038410.8168%2C102100&utm_source=cgs+active&utm_content=losangeles, accessed November 30, 2023.

dams can often be overtopped, sending large volumes of water on downstream areas. According to the City's Safety Element, within the Santa Clarita region, the Bouquet and Castaic Reservoirs may be subjected to seiches. The Project Site itself is located approximately 12.6 miles south of the Bouquet Reservoir and 13.2 miles southeast of the Castaic Reservoir. As such, due to the distance and development of urban areas with flood control infrastructure, the Project Site would not be at substantial risk of inundation from a seiche. Therefore, the Project would not risk release of pollutants due to inundation from seiches.

The Project would not result in impacts related to the checklist questions above.

I. Would the project result in other modification of a wash, channel creek, or river?

No Impact. The project's development activities would be limited to the boundaries of the Project Site. As described above, the Project Site is not crossed by any water courses or rivers. Therefore the Project would not result in other modification of a wash, channel creek, or river, and no impact would occur.

m.ii) Would the project impact stormwater management in any of the following ways: potential discharges from areas for materials storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas?

Less Than Significant Impact. The Project proposes the development of four single-family homes within the Project Site. As described in Checklist Question X.a, typical of construction activities for such uses, during on-site clearance, grading, and building construction, hazardous materials such as fuel and oils associated with construction equipment, as well as coatings, paints, adhesives, and cleaners, would be routinely used on the Project Site. However, all potentially hazardous materials used during Project construction would be used and disposed of in accordance with applicable regulations, as well as manufacturers' specifications and instructions, thereby reducing the risk of hazardous materials use. In addition, the Project would comply with all applicable federal, state, and local requirements concerning the use, storage, and management of hazardous materials during construction. During operation, the Project would be anticipated to result in limited use and storage of materials typical of single-family residential and landscaping uses. Small amounts of commercially available hazardous materials may be used for regular cleaning and maintenance activities, which would neither require the storage, use, or disposal of substantial amounts of hazardous materials nor generate significant quantities of hazardous waste, and would thus not be subject to any special handling or permitting requirements. Therefore, the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and the Project would not impact stormwater management with potential discharges from such materials. As such, Project impacts would be less than significant.

m.v) Would the project impact stormwater management in any of the following ways: Stormwater discharges that would significantly impair or contribute to the impairment of the beneficial uses of receiving waters or areas that provide water quality benefits (e.g., riparian corridors, wetlands, etc.)?

m.vi) Would the project impact stormwater management in any of the following ways: Cause harm to the biological integrity of drainage systems, watersheds, and/or water bodies?

No Impact. As described above, the Project Site is not crossed by any water courses or rivers. As detailed under Checklist Questions IV.b through IV.d, the Project Site does not contain any wetland or riparian habitat, and the Project would not result in any disturbance to wetland vegetation. In addition, no wetland features or vegetation indicative of wetland conditions were observed during the field survey conducted for the Biological Resource Evaluation. Furthermore, as detailed above, construction and operation activities of the Project would be required to comply with regulatory requirements related to stormwater discharges, erosion and pollutants control, and runoff. Accordingly, the Project would not result in stormwater discharges that would significantly impair or contribute to the impairment of the beneficial uses of receiving waters or areas that provide water quality benefits such as riparian corridors and wetlands, and the Project would not impact stormwater management such that harm would be caused to the biological integrity of drainage systems, watersheds, and/or water bodies. No related impact would occur.

**m.vii) Would the project impact stormwater management in any of the following ways:
Does the proposed project include provisions for the separation, recycling, and reuse
of materials both during construction and after project occupancy?**

No Impact. As described under Checklist Questions XIX.f and XIX.g, the Project would comply with City diversion requirements by recycling a minimum of 65 percent of all inert materials and 65 percent of all other materials during construction and demolition. In addition, as of July 1, 2023, with implementation of the City's contract with Burrtec Waste Industries to provide residential and commercial waste services in the City, Santa Clarita residents were provided with new bins to separate garbage, recycling, and organic waste.⁵⁷ Once operational, the Project would also be subject to such requirements and waste management practices. Non-hazardous solid waste generated from the Project Site (e.g., plastic and glass bottles and jars, paper, newspaper, metal containers, cardboard) would be recycled per local and State regulations, with a diversion goal of 75 percent, in compliance with the Integrated Waste Management Act (Assembly Bill 939). Accordingly, as the Project would comply with adopted programs and regulations pertaining to solid waste and City waste diversion goals, the Project would not result in stormwater management impacts related to solid waste provisions.

⁵⁷ City of Santa Clarita, City News, Trash Transition, June 8, 2023, <https://www.santa-clarita.com/Home/Components/News/News/10980/>, accessed August 14, 2023.

XI. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Conflict with any applicable habitat conservation plan, natural community conservation plan, and/or policies by agencies with jurisdiction over the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation of Checklist Responses

a. Would the project physically divide an established community?

No Impact. The Project Site is currently vacant and undeveloped with dirt roads/trails, 162 Coast Live Oak trees, and vegetation. The proposed uses would be consistent with the existing surrounding uses. Specifically, as detailed below, the Project’s uses would be consistent with the uses permitted by the Non-Urban 4 (NU4) Zone of the SCMC and the corresponding General Plan Land Use designation. In addition, all proposed development would occur within the boundaries of the Project Site and the Project would have no effect on existing vehicular or non-motorized travel routes in the Project area. Therefore, the Project would not physically divide an established community, and no impact would occur.

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

Less Than Significant Impact. The following discussion addresses the Project’s consistency with the requirements and policies of the various local plans and regulatory documents that guide development in the City and that were adopted at least in part to avoid or reduce the environmental effects of development, including the General Plan, SCMC, and SCAG 2020-2045 RTP/SCS.

The Project Site is designated as Non-Urban 4 in the City’s General Plan and is zoned Non-Urban 4 (NU4).⁵⁸ Per the Santa Clarita General Plan and SCMC Section 17.32.040, the NU4 designation provides for the maintenance and expansion of rural communities that are distinguished by large lot sizes (generally two acres or greater), agricultural and equestrian uses, and an absence of urban services. Uses in this designation could include single-family homes at a maximum density of one dwelling unit per two acres, agriculture, equestrian uses, private recreation, and public and institutional facilities serving the local area. The Project would be consistent with such provisions

⁵⁸ City of Santa Clarita General Plan, Land Use Element, 2011.

by providing four single-family dwelling units on 19.82 acres, which would be within the density permitted for Non-Urban Residential per the General Plan and the NU4 zoning. In addition, pursuant to SCMC Section 17.32.040, NU4 zones are subject to 20-foot front yard setbacks, 15-foot rear yard setbacks, 5-foot side yard setbacks, and 20-foot side yard setbacks for reverse corner lots. Furthermore, pursuant to SCMC Section 17.39.030, new developments within the Sand Canyon Special Standards District area, within which the Project Site is located, are required to provide riding/hiking trails per the Sand Canyon Backbone Trails exhibit on file with the City's Parks, Recreation, and Community Services Department, as approved by the Department Director. Accordingly, the Project would comply with the setback requirements and provide a 12-foot wide trail easement along the western and southern edges of the Project Site.

With regard to landscaping, the Project would undergo Landscape Plan Review to ensure City's landscaping standards are met prior to issuance of a grading permit per SCMC Section 17.23.150. As the Project would retain and preserve the 162 existing Coast Live Oak trees onsite, the Project would not conflict with the City's Oak Tree Ordinance.

Overall, with City approval of the Project's discretionary actions, the Project would be consistent with all applicable provisions of the General Plan and SCMC adopted for the purpose of avoiding or mitigating an environmental effect.

In addition, as detailed in Checklist Section VIII, Greenhouse Gas Emissions, of this IS/MND, the Project would comply with the plans, policies, regulations and GHG reduction actions/strategies outlined in SCAG's 2020-2045 RTP/SCS, CARB's 2022 Scoping Plan, and the City's General Plan. As detailed below in response to Checklist Question XVII.b, Project impacts related to VMT would be less than significant. Furthermore, the Project would comply with sustainable practices required by the 2022 Title 24 standards and CALGreen Code and may include the use of all electric landscape maintenance equipment, high-efficiency lighting, energy-efficient appliances, low-flow fixtures, and water-efficient irrigation.

With regard to historical resources, as concluded under Checklist Question V.a, no historical resources as defined by CEQA Section 15064.5(a) were identified within the Project Site as a result of the SCCIC records search; literature, map, and aerial photo review; historical society consultation; pedestrian survey; and California and City Register evaluations. As such, the Project would not conflict with applicable regulations adopted for the purposes of avoiding or mitigating effects related to historical resources.

Based on the above analysis, the Project would not 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. Impacts in this regard are less than significant.

c. Would the project conflict with any applicable habitat conservation plan, natural community conservation plan, and/or policies by agencies with jurisdiction over the project?

No Impact. As described in response to Checklist Question IV.f, the Project Site is not located within any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, implementation of the Project would not conflict with such plans. As described in response to Checklist Question IV.e, the Project Site currently includes 162 coast live oak trees, all of which would be retained and preserved in place by the Project. Therefore, the Project would not conflict with such plan and policies or ordinances protecting biological resources. No impact would occur.

XII. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Would the project use nonrenewable resources in a wasteful and inefficient manner?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation of Checklist Responses

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

No Impact. The Project Site is not located within an existing Mineral Extraction Area or a Mineral Resource Zone, as identified on the City of Santa Clarita General Plan Conservation and Open Space Element’s Exhibit CO-2 (Mineral Resources). According to the City’s General Plan, as well as the California Geologic Energy Management Division (CalGEM) Well Finder database, there are no producing, idle, or abandoned oil or natural gas wells, or any other types of mineral extraction activities within the Project Site.⁵⁹ Furthermore, the Project Site is governed by the provisions of the NU4 zone, which does not permit mineral recovery uses. Therefore, the Project would not 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, and no impact would occur.

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

No Impact. As discussed above, the Project Site is not located within an existing Mineral Extraction Area or a Mineral Resource Zone. In addition, the Project Site is governed by the provisions of the NU4 zone, which does not permit mineral recovery uses. Therefore, the Project Site is not a mineral resource recovery site, and no impact would occur.

c. Would the project use nonrenewable resources in a wasteful and inefficient manner?

Less Than Significant Impact. The Project would utilize a variety of building materials and energy resources during construction and would consume energy over the long-term operation of the Project. Many of the resources utilized for construction are nonrenewable, including sand, gravel, soils, metals, and hardscape materials, along with petroleum-based fuels to power construction machinery and

⁵⁹ California Department of Conservation, Well Finder CalGEM GIS, <https://maps.conservation.ca.gov/doggr/wellfinder/>, accessed April 5, 2023.

vehicles. A highly competitive construction economy encourages the efficient use of materials and manpower during construction, to be cost effective and meet financial goals. The Project would not require any unique construction methods or materials that would consume nonrenewable resources in an unusually intensive manner. Therefore, this Project is not expected to consume nonrenewable resources during construction in a wasteful or inefficient manner.

In addition, the Project would commit energy and water resources as a result of the long-term operation and maintenance of the development. Water resources are considered to be renewable through the natural hydrological cycle, although in Southern California, fresh water can be a scarce resource during periodically prolonged drought conditions. Portions of the electrical energy that would be utilized on-site would be generated through off-site combustion of nonrenewable fossil fuels at distant power generation facilities; however, renewable energy sources, such as solar and wind, are being utilized more each year by energy providers. Accordingly, Southern California Edison, which provides electricity service to the Project Site, sources 31.4 percent of its supplied energy from renewable resources in its standard power mix, with options for end users to choose energy plans comprising approximately 65 percent renewable energy resources and 100 percent renewable energy resources.⁶⁰ Furthermore, the share of renewable energy delivered by energy providers can be expected to increase as California moves toward a target of providing 100 percent renewable energy for all California electric retail sales by 2045, pursuant to California SB 100.⁶¹ Additionally, the Project would be required to comply with California Code of Regulations, Title 24, the California Building Standards Code, which includes the California Building Energy Efficiency Standards and the California Green Building Standards (CALGreen) Code. Title 24, Part 6, the California Energy Code, also known as the California Energy Efficiency Standards for Residential and Nonresidential Buildings, was created to reduce California's energy consumption. It addresses issues concerning design, construction, alteration, installation, or repair of building envelopes, space-conditioning systems, water-heating systems, indoor lighting systems of buildings, outdoor lighting and signage, and certain equipment designed to enhance building efficiency. Therefore, with mandatory compliance with energy efficiency measures, an increasing concentration of renewable energy sources used by electricity providers, and with general market conditions encouraging the efficient use of materials and energy for cost-savings purposes, the Project would not use nonrenewable resources in a wasteful or inefficient manner, and impacts would be less than significant. For additional information see the discussion of Project-related impacts associated with consumption of energy resources during construction and operation as included in Section VI, Energy, above.

⁶⁰ Southern California Edison, 2021 Power Content Label.

⁶¹ California Energy Commission, 2021 SB 100 Joint Agency Report, Achieving 100 Percent Clean Electricity in California: An Initial Assessment, September 2021.

XIII. NOISE

<i>Would the project result in:</i>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. For a project located within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation of Checklist Responses

The following analysis is based on field noise measurements collected on-site, hereinafter referred to as the Noise Data, and included as **Appendix I** of this IS/MND.

NOISE FUNDAMENTALS

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air and 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 (is reduced) 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 a rate between 6 dBA and about 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. Similarly, Community Noise Equivalent Level (CNEL) is a measure of 24-hour noise levels that incorporates a 5-dBA penalty for sounds occurring between 7:00 p.m. and 10:00 p.m. and a 10-dBA penalty for sounds occurring between 10:00 p.m. and 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.

REGULATORY FRAMEWORK

State of California

State Office of Planning and Research

The State Office of Planning and Research's *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 *Noise Element Guidelines* contain a recommended land use compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the CNEL. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

Local

City of Santa Clarita

City of Santa Clarita General Plan

The City of Santa Clarita General Plan (General Plan), adopted in June 2011, includes the City's Noise Element. The following goals and policies from the General Plan Noise Element are applicable to the project.

Goal N 1: A healthy and safe noise environment for Santa Clarita Valley residents, employees, and visitors.

Objective N 1.1: Protect the health and safety of the residents of the Santa Clarita Valley by the elimination, mitigation, and prevention of significant existing and future noise levels.

Policy N 1.1.1: Use the Noise and Land Use Compatibility Guidelines contained on Exhibit N-8 (**Table XIII-1**, Noise and Land Use Compatibility Guidelines), which are consistent with State guidelines, as a policy basis for decisions on land use and development proposals related to noise.

Policy N 1.1.2: Continue to implement the adopted Noise Ordinance and other applicable code provisions, consistent with state and federal standards, which establish noise impact thresholds for noise abatement and attenuation, in order to reduce potential health hazards associated with high noise levels.

Policy N 1.1.3: Include consideration of potential noise impacts in land use planning and development review decisions.

Policy N 1.1.4: Control noise sources adjacent to residential, recreational, and community facilities, and those land uses classified as noise sensitive.

Goal N 2: Protect residents and sensitive receptors from traffic-generated noise.

Objective N 2.1: Prevent and mitigate adverse effects of noise generated from traffic on arterial streets and highways through implementing noise reduction standards and programs.

Policy N 2.1.1: Encourage owners of existing noise-sensitive uses, and require owners of proposed noise sensitive land uses, to construct sound barriers to protect users from significant noise levels, where feasible and appropriate.

Policy N 2.1.2: Encourage the use of noise absorbing barriers, where appropriate.

Goal N 3: Protect residential neighborhoods from excessive noise.

Objective N 3.1: Prevent and mitigate significant noise levels in residential neighborhoods.

Policy N 3.1.1: Require that developers of new single-family and multi-family residential neighborhoods in areas where the ambient noise levels exceed 60 CNEL provide mitigation measures for the new residences to reduce interior noise levels to 45 CNEL, based on future traffic and railroad noise levels.

Policy N 3.1.2: Require that developers of new single-family and multi-family residential neighborhoods in areas where the projected noise levels exceed 65 CNEL provide mitigation measures (which may include noise barriers, setbacks, and site design) for new residences to reduce outdoor noise levels to 65 CNEL, based on future traffic conditions. This requirement would apply to rear yard areas for single-family developments, and to private open space and common recreational and open space areas for multi-family developments.

Policy N 3.1.3: Through enforcement of the applicable Noise Ordinance, protect residential neighborhoods from noise generated by machinery or activities that produce significant discernable noise exceeding recommended levels for residential uses.

Policy N 3.1.4: Require that those responsible for construction activities develop techniques to mitigate or minimize the noise impacts on residences, and adopt standards that regulate noise from construction activities that occur in or near residential neighborhoods.

The State of California has recommended guidelines for acceptable noise levels in various land use categories. The City of Santa Clarita and the County of Los Angeles have adopted these guidelines in a modified form as a basis for planning decisions based on noise considerations. The modified guidelines are shown in **Table XIII-1**, Noise and Land Use Compatibility Guidelines. Modifications were made to eliminate overlap between categories in the table, in order to make the guidelines easier for applicants and decision makers to interpret and apply to planning decisions.

**Table XIII-1
Noise and Land Use Compatibility Guidelines**

Land Use Category	Normally Acceptable¹ (dBA CNEL/L_{dn})	Conditionally Acceptable² (dBA CNEL/L_{dn})	Normally Unacceptable³ (dBA CNEL/L_{dn})	Clearly Unacceptable⁴ (dBA CNEL/L_{dn})
Residential, Low Density Single Family, Duplex, Mobile Homes	Up to 60	61-70	71-75	76 and higher
Residential, multi-family	Up to 60	66-70	71 and higher	76 and higher
Transient Lodging – Motels, Hotels	Up to 60	66-70	71 and higher	81 and higher
Schools, Libraries, Churches, Hospitals, Nursing Homes	Up to 60	66-70	71 and higher	81 and higher
Auditoriums, Concert Halls, Amphitheatres	--	Up to 65	--	66 and higher
Sports Arena, Outdoor Spectator Sports	--	Up to 75	--	76 and higher
Playgrounds Neighborhood Parks	Up to 65	--	66-75	76 and higher
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Up to 75	--	75 and higher	--
Office Buildings, Business Commercial and Professional	Up to 70	71-75	76 and higher	--
Industrial, Manufacturing, Utilities, Agricultural	Up to 75	76-80	81 and higher	--

Notes:

1. Normally acceptable means that specified land uses are satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without and special noise insulation requirements.
2. Possibly acceptable means that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed Noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems/air conditioning will normally suffice.
3. Normally unacceptable means that new construction or development should generally be discouraged. If new construction or development does proceed a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Sound walls, window upgrades, and site design modifications may be needed in order to achieve City standards.
4. Clearly unacceptable means that the new construction or development should generally not be undertaken.

Source: City of Santa Clarita, General Plan, Noise Element Exhibit N-8, June 2011.

Santa Clarita Municipal Code

The City of Santa Clarita Noise Ordinance is contained within the *Santa Clarita Municipal Code* (Municipal Code) Chapter 11.44, Noise Limits. The Noise Ordinance contains performance standards for the purpose of prohibiting unnecessary, excessive, and annoying noises from all sources subject to its police power. At certain levels, noises are detrimental to the health and welfare of the citizenry, and, in the public interests, such noise levels shall be systematically proscribed.

The following sections of the Municipal Code are applicable to the proposed project.

11.44.040 — Noise Limits

A. It shall be unlawful for any person within the City to produce or cause or allow to be produced noise which is received on property occupied by another person within the designated region, in excess of the following levels, except as expressly provided otherwise herein:

**Table XIII-2
City of Santa Clarita Noise Limits**

Region	Time	Sound Level dB
Residential Zone	Day	65
Residential Zone	Night	55
Commercial and Manufacturing	Day	80
Commercial and Manufacturing	Night	70

At the boundary line between a residential property and a commercial and manufacturing property, the noise level of the quieter zone shall be used.

B. Corrections to Noise Limits. The numerical limits given in subsection (A) of this section shall be adjusted by the following corrections, where the following noise conditions exist:

<u>Noise Condition</u>	<u>Correction (in dB)</u>
1) Repetitive Impulsive noise	-5
2) Steady whine, screech or hum	-5
The following corrections apply to day only:	
3) Noise occurring more than 5 but less than 15 minutes per hour	+5
4) Noise occurring more than 1 but less than 5 minutes per hour	+10
5) Noise occurring less than 1 minute per hour	+20

11.44.070 Special Noise Sources—Machinery, Fans and Other Mechanical Devices.

Any noise level from the use or operation of any machinery, equipment, pump, fan, air conditioning apparatus, refrigerating equipment, motor vehicle, or other mechanical or electrical device, or in repairing or rebuilding any motor vehicle, which exceeds the noise limits as set forth in Municipal Code Section 11.44.040 at any property line, or, if a condominium or rental units, within any condominium unit or rental unit within the complex, shall be a violation of this chapter.

11.44.080 Special Noise Sources – Construction and Building.

No person shall engage in any construction work which requires a building permit from the City on sites within three hundred (300) feet of a residentially zoned property except between the hours of seven a.m. to seven p.m., Monday through Friday, and eight a.m. to six p.m. on Saturday. Further, no work shall be performed on the following public holidays: New Year's Day, Independence Day, Thanksgiving, Christmas, Memorial Day and Labor Day.

The Department of Community Development may issue a permit for work to be done "after hours"; provided, that containment of construction noises is provided.

EXISTING CONDITIONS

The project area is located within a rural area. The site vicinity consists of residential uses to the north, east, and west with undeveloped land located to the south. The primary sources of stationary noise in the site vicinity are heating, ventilation, and air conditioning (HVAC) units. The noise associated with these sources may represent a single-event or a continuous occurrence and occur intermittently during both daylight and nighttime hours.

The majority of the existing mobile source noise in the project area is generated from vehicles traveling along Tannahill Avenue, Diver Street, and Triumph Avenue.

Noise Measurements

In order to quantify existing ambient noise levels in the vicinity of the project site, two noise measurements were taken on April 26, 2023; refer to **Table XIII-3**, Noise Measurements. The noise measurement sites were representative of typical existing noise exposure within and immediately adjacent to the project site. Ten-minute measurements were taken between 10:00 a.m. and 11:00 a.m. Short-term (L_{eq}) measurements are considered representative of the noise levels throughout the day.

**Table XIII-3
Noise Measurements**

Site No.	Location	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	Peak (dBA)	Time
1	East of Diver Street and Triumph Avenue.	48.2	38.7	62.7	87.1	10:23 a.m.
2	In front of 26754 Tannahill Avenue	43.8	33.0	62.2	84.5	10:43 a.m.

Notes: dBA = A-weighted decibels, L_{eq} = Equivalent Sound Level; L_{min} = Minimum Sound Level; L_{max} = Maximum Sound Level, Peak = Highest Instantaneous Sound Level

Source: Michael Baker International, April 26, 2023.

Meteorological conditions were clear sunny skies, warm temperatures, with light wind speeds (0 to 5 miles per hour), and low humidity. Noise monitoring equipment used for the ambient noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a Type 4189 pre-polarized microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute (ANSI) for sound level meters. The results of the field measurements are included in **Appendix I** of this IS/MND.

Noise Sensitive Receptors

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as natural-setting parks, historic sites, and cemeteries areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest sensitive receptors are single-family residential uses located adjacent to the project site to the north, west, and east.

- a. **Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Less Than Significant.

It is difficult to specify noise levels that are generally acceptable to everyone; what is annoying to one person may be unnoticed by another. Standards may be based on documented complaints in response to documented noise levels, or based on studies of the ability of people to sleep, talk, or work under various noise conditions. However, all such studies recognize that individual responses vary considerably. Standards usually address the needs of the majority of the general population.

As stated above, the project site is located in the City of Santa Clarita. Therefore, regulations controlling unnecessary, excessive, and annoying noise from the City of Santa Clarita's Municipal Code and General Plan are applicable to the project.

Construction Noise Impacts

Construction activities generally are temporary and have a short duration, resulting in periodic increases in the ambient noise environment. Construction activities would occur over approximately 17 months and would include the following phases: grading, building construction, paving, roadway construction, and architectural coating. The highest levels of ground-borne noise and other types of construction-related noise impacts would typically occur during the grading phase. Typical noise levels generated by construction equipment are shown in **Table XIII-4**, Maximum Noise Levels Generated by Typical Construction Equipment.

Construction noise impacts generally happen when construction activities occur in areas immediately adjoining noise-sensitive land uses, during noise-sensitive times of the day, or when construction durations last over extended periods of time. The closest existing sensitive receptors are single-family homes adjacent to the north, west, and east of the planned construction area. As indicated in **Table XIII-4**, typical L_{max} , or highest construction noise levels occurring over a given time period, would range from approximately 89 to 104 dBA at 10 feet. It should be noted that the noise levels identified in **Table XIII-4** are maximum sound levels (L_{max}), which are the highest individual sound occurring at an individual time period. Although L_{max} is important in evaluating an interference caused by a single noise event, L_{max} could not be totaled into a one-hour or a 24-hour cumulative measure of impact as CNEL or L_{dn} could. Operating cycles for these

**Table XIII-4
Maximum Noise Levels Generated by Typical Construction Equipment**

Type of Equipment	Acoustical Use Factor ¹	L _{max} at 50 Feet (dBA)	L _{max} at 10 Feet (dBA)
Backhoe	40	78	92
Concrete Mixer Truck	40	79	93
Concrete Saw	20	90	104
Crane	16	81	95
Dozer	40	82	96
Excavator	40	81	95
Forklift	20	75	89
Generator	50	81	95
Grader	40	85	99
Loader	40	79	93
Paver	50	77	91
Roller	20	80	94
Tractor	40	84	98
Water Truck	40	75	89
General Industrial Equipment	50	85	99
Note: 1. Acoustical Use Factor (percent): Estimates the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.			
Source: Federal Highway Administration, Roadway Construction Noise Model (FHWA-HEP-05-054), January 2006.			

types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be due to random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). It should also be noted that construction noise levels would intermittently occur for a few days when construction equipment is operating closest to these residential uses. The remainder of the time, the construction noise levels would be much less because the equipment would be working in a large area farther away from the existing sensitive uses.

Human response to sound is highly individualized. Annoyance is the most common issue regarding community noise. However, many factors influence people’s response to noise. The factors can include the character of the noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the occurrence. Additionally, non-acoustical factors, such as the person’s opinion of the noise source, the ability to adapt to the noise, the attitude towards the source and those associated with it, and the predictability of the noise, all influence people’s response. As such, response to noise varies widely from one person to another and with any particular noise, individual responses will range from “not annoyed” to “highly annoyed”.

The City has established noise standards for construction activity in Municipal Code Section 11.44.080 Special Noise Sources – Construction and Building. Pursuant to Municipal Code Section 11.44.080, construction noise is prohibited between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, 6:00 p.m. and 8:00 a.m. on Saturday, and/or any time on Sunday or a federal holiday. The City does not establish noise level threshold for construction activities, as construction activities are short-term and temporary, and construction noise during daytime is considered a normal part of daily urban activities. As long as construction activities comply with

the allowed hours, the project is considered consistent with the Municipal Code and resulting in less than significant construction noise impacts. As such, as the project construction activities would occur within the allowable hours specified by the Municipal Code, a less than significant impact would occur in this regard.

Long-Term Operational Noise Impacts

Mobile Noise

Operation of the proposed project would result in additional traffic on adjacent roadways, thereby increasing vehicular noise in the vicinity of existing and proposed land uses. Future development generated by the proposed project would result in limited additional vehicle trips on adjacent roadways, thereby potentially increasing vehicular noise in the vicinity of existing and proposed land uses. The most prominent source of mobile traffic noise in the project vicinity is along Diver Street, Triumph Avenue, and Tannahill Avenue. Based on the City's General Plan Noise Chapter, these roadways are not considered a major roadway and no noise contours were provided.

According to the California Emissions Estimator Model Version 2022.1.1 (CalEEMod) (i.e., the air emissions model used for the project) program default trip generation rates, the project would generate approximately 38 daily trips on weekdays, 38 daily trips on Saturdays, and 34 daily trips on Sundays; refer to Checklist Section III, Air Quality, and **Appendix B** of this IS/MND. These trips would be dispersed onto the adjacent roads (e.g., initially split onto Triumph Avenue and Tannahill Avenue) and spread over the course of the day, such that only several trips, at most, would be predicted to be added to any roadway segment in any given hour. The estimated daily trips from the proposed project would represent a nominal increase in daily traffic compared to existing traffic conditions on the surrounding roadways. According to the California Department of Transportation (Caltrans), a doubling of traffic (100 percent increase) on a roadway would result in a perceptible increase in traffic noise levels (3 dBA).⁶² As such, the project-related increase in traffic volume along surrounding roadways would be nominal compared to existing traffic, as the project would not result in a perceptible increase traffic noise level (less than 100 percent). Thus, a less than significant impact would occur in this regard.

Stationary Noise Impacts

Stationary noise sources associated with the proposed project would include mechanical equipment, slow-moving trucks, parking activities, and outdoor gathering area. These noise sources are typically intermittent and short in duration. Noise has a decay rate due to distance attenuation, which is calculated based on the Inverse Square Law. Based upon the Inverse Square Law, sound levels decrease by 6 dBA for each doubling of distance from the source.⁶³ All stationary noise activities would be required to comply with the City's Noise Ordinance and the California Building Code requirements pertaining to noise attenuation. Furthermore, such noise sources would be typical of residential uses and consistent with the existing noise sources at the surrounding residential properties. Such residential noise is not a significant effect on the environment and impacts in this regard are less than significant.

⁶² California Department of Transportation, Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013.

⁶³ Cyril M. Harris, Noise Control in Buildings, 1994.

Mechanical Equipment

Heating Ventilation and Air Conditioning (HVAC) units typically generate noise levels of approximately 66 dBA L_{eq} at 3 feet from the source.⁶⁴ HVAC units could be included on the side of the proposed buildings. The proposed dwelling unit being constructed on the northwest portion of the project site would be the closest building to the nearest sensitive receptors. Potential HVAC units of the dwelling units would be located as close as 200 feet from the nearest sensitive receptors to the north. At this distance, potential noise from HVAC units would be approximately 40 dBA and would not exceed the City's exterior daytime (i.e., 65 dBA) and nighttime (i.e., 55 dBA) noise standards for residential uses. Furthermore, noise levels would not be audible above existing ambient noise levels; refer to **Table XIII-3**. Therefore, the nearest sensitive receptors would not be directly exposed to substantial noise from on-site mechanical equipment and impacts would be less than significant.

Slow-Moving Trucks

The project proposes a residential development that would necessitate occasional trash pickup. Typically, a medium 2-axle truck used to make deliveries can generate a maximum noise level of 79 dBA at a distance of 50 feet.⁶⁵ These are levels generated by a truck that is operated by an experienced "reasonable" driver with typically applied accelerations. Higher noise levels may be generated by the excessive application of power. Lower levels may be achieved but would not be considered representative of a normal truck operation. The proposed project is not anticipated to require a significant number of truck trips, and all anticipated truck trips would be those typical of residential neighborhoods (e.g., garbage trucks and delivery trucks). Garbage trucks currently service the surrounding area, and thus would not introduce a new source of noise to the site vicinity. As such, impacts would be less than significant in this regard.

Parking Areas

Traffic associated with parking activities is typically not of sufficient volume to exceed community noise standards, which are based on a time-averaged scale such as the CNEL scale. However, the instantaneous maximum sound levels generated by a car door slamming, engine starting up and car pass-byes may be an annoyance to adjacent noise-sensitive receptors. Estimates of the maximum noise levels associated with some parking lot activities are presented in **Table XIII-5**, Typical Noise Levels Generated by Parking Lots.

**Table XIII-5
Typical Noise Levels Generated by Parking Lots**

Noise Source	Maximum Noise Levels at 50 Feet from Source
Car door slamming	61 dBA L_{eq}
Car starting	60 dBA L_{eq}
Car idling	53 dBA L_{eq}
Source: Kariel, H. G., Noise in Rural Recreational Environments, Canadian Acoustics 19(5), 3-10, 1991.	

⁶⁴ Berger, Elliott H., et al., Noise Navigator Sound Level Database with Over 1700 Measurement Values, June 26, 2015.

⁶⁵ Elliot H. Berger, Rick Neitzel, and Cynthia A. Kladden, Noise Navigator Sound Level Database with Over 1700 Measurement Values, July 6, 2010.

The proposed project would provide driveways and parking spaces for the dwelling units. As shown in **Table XIII-5**, parking activities can result in noise levels up to 61 dBA at a distance of 50 feet. It is noted that parking lot noise are instantaneous noise levels compared to noise standards in the CNEL scale, which are averaged over time. As a result, actual noise levels over time resulting from parking activities would be far lower than what is identified in **Table XIII-5**. The proposed project would have intermittent parking activities noise due to the movement of vehicles. The nearest sensitive receptors would be located approximately 200 feet from parking areas associated with the proposed dwelling unit on the northwest portion of the project site. At this distance, noise levels from parking activities would range from 24 to 41 dBA. As such, driveway parking noise levels would not exceed the City's exterior daytime (i.e., 65 dBA) and nighttime (i.e., 55 dBA) noise standards for residential uses and would be lower than existing ambient noise levels near the site; refer to **Table XIII-3**. Further, parking activity noise currently exists within the adjacent residential neighborhoods and would not represent a new source of noise. Impacts would be less than significant in this regard.

Outdoor Gathering Area

The proposed project includes private open spaces for the dwelling units. The open space has the potential to be occasionally accessed by groups of people intermittently for private gatherings, etc. Noise generated by groups of people (i.e., crowds) is dependent on several factors including vocal effort, impulsiveness, and the random orientation of the crowd members. Crowd noise is estimated at 60 dBA at one meter (3.28 feet) away for raised normal speaking.⁶⁶ This noise level would have a +5 dBA adjustment for the impulsiveness of the noise source, and a -3 dBA adjustment for the random orientation of the crowd members.⁶⁷ Therefore, crowd noise would be approximately 62 dBA at one meter from the source (i.e., the outdoor gathering areas).

The nearest sensitive receptors would be the residential uses to the north of the project site, located approximately 200 feet from the proposed dwelling unit. Therefore, crowd noise at the nearest sensitive receptor would be 26 dBA, which would not exceed the City's noise standards for residential uses (i.e., 65 dBA for daytime and 55 dBA for nighttime) and would be lower than existing ambient noise levels near the site; refer to **Table XIII-3**. As such, project noise associated with outdoor gathering area would not introduce an intrusive noise source over the existing condition. Furthermore, such noise sources would be typical of residential uses and consistent with the existing potential noise sources at the surrounding residential properties. Such residential activity noise is not a significant effect on the environment. Thus, a less than significant impact would occur in this regard.

b. Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Project construction can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of some heavy-duty construction 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

⁶⁶ M.J. Hayne, et al, Prediction of Crowd Noise, Acoustics, November 2006.

⁶⁷ M.J. Hayne, et al, Prediction of Crowd Noise, Acoustics, November 2006.

perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

The types of construction vibration impact include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. The Federal Transit Administration’s (FTA) Transit Noise and Vibration Impact Assessment Manual identifies various vibration damage criteria for different building classes. This evaluation uses the FTA architectural damage threshold for continuous vibrations at engineered concrete and masonry buildings of 0.2 inch-per-second PPV. As the nearest structures to project construction areas are residential structures, this threshold is considered appropriate. The vibration produced by construction equipment is illustrated in Table XIII-6, Typical Vibration Levels for Construction Equipment.

The nearest structure is the single-family residential structure located 50 feet to the north of the project site. As shown in **Table XIII-6**, at the distance of 50 feet, the maximum vibration velocities would be approximately 0.027 inch-per-second PPV, which would not exceed the FTA significance threshold (i.e., 0.2 inch-per-second PPV). Therefore, groundborne vibration impacts during project construction would be less than significant.

**Table XIII-6
Typical Vibration Levels for Construction Equipment**

Equipment	Reference peak particle velocity at 25 feet (inch per second)	Approximate peak particle velocity at 50 feet (inch per second)¹
Large bulldozer	0.089	0.032
Loaded trucks	0.076	0.027
Small bulldozer	0.003	0.001
Notes: 1. Calculated using the following formula: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$ where: PPV (equip) = the peak particle velocity in inch-per-second of the equipment adjusted for the distance PPV (ref) = the reference vibration level in inch-per-second from Table 7-4 of the FTA <i>Transit Noise and Vibration Impact Assessment Manual</i> D = the distance from the equipment to the receiver		
Source: Federal Transit Administration, <i>Transit Noise and Vibration Impact Assessment Manual</i> , September 2018.		

c. Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. As discussed in the response to response to Checklist Question XIII.a above, noise generated during Project construction and operation would be below applicable noise thresholds. Accordingly, the project would not result in substantial temporary or permanent increases in ambient noise levels in the project vicinity above levels existing without the project. Therefore, the Project would result in less than significant impacts on noise.

- e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
- f. For a project located within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The proposed project is not located within an airport land use plan. The closest airport is the Agua Dulce Airport located approximately 9.1 miles to the northeast of the project site. Therefore, the proposed project would not expose people residing or working in the area to excessive noise levels. In addition, there are no private airstrips within two miles of the project site. Therefore, no impacts would occur.

XIV. 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere (especially affordable housing)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation of Checklist Responses

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

Less Than Significant Impact. The Project includes the development of four single-family homes. As discussed in Section XI, Land Use and Planning, of this IS/MND, the proposed residential uses would be consistent with the permitted land uses on-site. While the Project would install septic leaching fields and require connections to existing utility infrastructure, development would be confined to the boundaries of the Project Site. Similar to other construction projects in the region, the Project construction workers are expected to be drawn from the large, available regional labor force, who would commute to the Project Site during the construction period. As such, the Project would not induce construction employees to move to the Project vicinity. During operation, based on an average household size of 2.973 persons per household, the Project would generate approximately 12 residents.⁶⁸ As discussed above, SCAG is regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development, and the environment. With regard to future growth, SCAG has prepared the 2020–2045 RTP/SCS, which provides population, housing, and employment projections for cities under its jurisdiction through 2045. According to SCAG 2020–2045, the City of Santa Clarita would have an estimated 77,448 households in 2023 and 79,062 household in 2025 (the Project’s buildout year). In addition, the City would have a forecasted population of 228,000 residents in 2023 and 230,800 residents in 2025.⁶⁹ As such, the Project’s four single-family homes and 12 residents would represent 0.25 percent and 0.43 percent of the projected growth in the City, respectively. As such, the Project would be consistent with the population growth projections in the updated 2020-2045

⁶⁸ Southern California Association of Governments, Connect SoCal, 2020–2045 RTP/SCS, Demographics and Growth Forecast Technical Report, September 2020.

⁶⁹ Southern California Association of Governments, Pre-certified Local Housing Data for Santa Clarita, April 2021, page 12.

RTP/SCS. Therefore, the Project would not induce substantial unplanned population growth in the City, and impacts would be less than significant.

- b. Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere (especially affordable housing)?**
- c. Would the project displace substantial numbers of existing people, necessitating the construction of replacement housing elsewhere?**

No Impact. The Project Site does not currently provide housing, and no persons reside onsite. The Project would provide single-family homes as allowed by the site's NU4 zoning. Neither construction nor operation of the Project would not displace any people or housing. Thus, the Project would not necessitate the construction of replacement housing elsewhere, and no impact would occur.

XV. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation of Checklist Responses

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

Less Than Significant Impact. The City of Santa Clarita contracts with the Los Angeles County Fire Department (LACFD) for urban and wildland fire protection services, fire prevention services, emergency medical services, hazardous materials services, and urban search and rescue services. LACFD provides fire protection and life safety services to over four million residents within its jurisdiction of 60 incorporated cities and all 122 unincorporated areas of the County.⁷⁰ LACFD also operates as a unit of the CAL FIRE and has the responsibility of implementing California's Strategic Fire Plan in Los Angeles County and addressing emergency operations, public service, and organizational effectiveness.⁷¹ The LACFD participates in the Rescue Emergency Mutual Aid System based on a mutual aid agreement among emergency responders to provide assistance across jurisdictional boundaries, in cases where an emergency response exceeds capabilities of local resources.⁷² The nearest stations are LACFD Station 123, which is located 0.75 miles southeast of the Project Site, and LACFD Station 107, which is located 2.10

⁷⁰ LACFD, 2021 County of Los Angeles Fire Department Annual Report, 2021.

⁷¹ City of Santa Clarita, General Plan, Safety Element, 2022.

⁷² County of Los Angeles, *Los Angeles County Fire Department 2022 Strategic Fire Plan*, 2021.

miles northwest of the Project Site. According to CalFire, the Project Site is located within a Very High Fire Hazard Severity Zone (VHFHSZ) and Local Responsibility Area (LRA).⁷³ The Project would adhere to conditions of approval as provided by the LACFD Fire Prevention Unit and included as **Appendix G** of this IS/MND. The conditions include requirements related to final map submittals, access, water system and fire flow, and fuel modification.

During construction of the Project, staging would occur within the Project Site. Access to and along Diver Street, Triumph Avenue, and Tannahill Avenue adjacent to the Project Site would remain unobstructed and would remain accessible to emergency vehicles. During operation, as discussed above, the Project would consist of four residences with approximately 12 residents.⁷⁴ As such, the Project would have an increased demand of fire protection services when compared to existing conditions. However, the Project would be required to comply with the California Fire Code and LACFD conditions requiring fire apparatus access roads, fire lanes, and firefighter access walkways with adequate dimensions, clearances, turning radius, loads, slope. In addition, to ensure that residents that would have adequate fire water protection, the Project would install fire hydrants with proper pressure and flow rates in accordance with code requirements. Due to the Project Site's location within a VHFHSZ, the Project would be required to prepare and submit a Fuel Modification Plan for approval by the LACFD Fuel Modification Unit. A Fuel Modification Plan would provide a landscape plan showing all proposed and existing-to-remain vegetation on the property. The plan would ensure that vegetation, which can fuel and spread fires, is modified appropriately to protect structures, people, and land.

Adequate fire protection services can be provided to the Project with the existing fire stations and facilities in the area. The Project is not anticipated to affect fire protection demands to the extent that new or physically altered fire facilities would be required. Furthermore, in *City of Hayward v. Board of Trustees of California State University Ruling* (2015) 242 Cal. App. 4th 833, the court found that Section 35 of Article XIII of the California Constitution requires local agencies to provide public safety services, including fire protection, and that it is reasonable to conclude that the City will comply with that provision to ensure that public safety services are provided.⁷⁵ Therefore, impacts on fire protection services are less than significant.

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

Less Than Significant Impact. The City of Santa Clarita is served by the Los Angeles County Sheriff's Department (LASD), which covers a service area of 656 square miles. The LASD's Santa Clarita Valley Station is located at 26201 Golden Valley Road and serves the Angeles National Forest, Bouquet Canyon, Canyon Country, Castaic, Gorman, Hasley Canyon, Newhall, Neenach, Sand Canyon, Santa Clarita, Saugus, Six Flags Magic Mountain, Sleepy Valley, Southern Oaks, Stevenson Ranch, Sunset Point, Tesoro del Valle, Valencia, Val Verde, West Hills, Westridge. The Santa Clarita Valley Sheriff's Station serves an estimated resident population of 310,000 persons. The station has been staffed by 205 sworn personnel and 34 civilian employees, but

⁷³ California Department of Forestry and Fire Protection, Fire Hazard Severity Zones Maps, FHSZ Viewer, <https://egis.fire.ca.gov/FHSZ/>, accessed April 5, 2023.

⁷⁴ Southern California Association of Governments, Connect SoCal, 2020–2045 RTP/SCS, Demographics and Growth Forecast Technical Report, September 2020.

⁷⁵ *City of Hayward v. Board of Trustees of the California State University* (2015) 242 Cal. App. 4th 833, 843, 847.

staffing levels and standards vary based on needs, performance level, and service modeling.⁷⁶ Average response times from the Santa Clarita Valley Sheriff's Station for the 2020-2021 fiscal year were 74.5 minutes for routine calls, 13.9 minutes for priority calls, and 6.45 minutes for emergency calls, which would be longer for routine calls and shorter for priority and emergency calls when compared to industry standards.⁷⁷

During construction, the Project Site would implement temporary security measures, such as fencing, lighting, and locked entry to secure the site. During operation, the Project would generate approximately 12 residents. As such, the Project would introduce permanent service population to the Project Site, which is currently vacant. However, the Project would have a marginal effect on the ratio of officers per residents, which would remain approximately 0.66 officers per 1,000 residents with and without the Project's added residents.⁷⁸ In addition, the Project's future residents of the four single-homes would be anticipated to install private surveillance security devices and/or safety lighting in interior and exterior areas of the Project. Furthermore, as with other projects, the Project would be required to pay any development fees (in accordance with SCMC Section 17.51.010.B) and local taxes, which would support any expansion of law enforcement services that may be required based on growth within the City. Moreover, in *City of Hayward v. Board of Trustees of California State University Ruling* (2015) 242 Cal. App. 4th 833, the court found that Section 35 of Article XIII of the California Constitution requires local agencies to provide public safety services, including police protection, and that it is reasonable to conclude that the City will comply with that provision to ensure that public safety services are provided.⁷⁹ Therefore, the Project is not anticipated to affect police protection demands to the extent that new or physically altered police protection facilities would be required. Impacts on police protection services are anticipated to be less than significant.

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

Less Than Significant Impact. The Project Site is located within the attendance boundaries of the Sulphur Springs Community School (grades Kindergarten to 6), Sierra Vista Junior High School (grades 7–8); Canyon High School (grades 9–12).⁸⁰ Sulphur Springs Community School had an enrollment of 595 students, Sierra Vista Junior High School had an enrollment of 991 students, and Canyon High School had an enrollment of 1,946 students.⁸¹ The Project's 12 residents would include an estimated 4 school students, including 2 elementary school students, 1 middle school student, and 1 high school student.⁸² As such, the Project's potentially generated students would account for less than 1 percent of the current enrollment at any of the schools.

⁷⁶ City of Santa Clarita, General Plan, Safety Element, 2022.

⁷⁷ $(205 \div 310,000) \times 1000 = 0.66129$; $(205 \div 310,0012) \times 1000 = 0.66126$.

⁷⁸ City of Santa Clarita, General Plan, Safety Element, 2022.

⁷⁹ *City of Hayward v. Board of Trustees of the California State University* (2015) 242 Cal. App. 4th 833, 843, 847.

⁸⁰ Sulphur Springs Union School District, School Locator, <https://www.myschoollocation.com/sulphurspringsUSD/>, accessed August 15, 2023; William S. Hart Union High School District, School Site Locator, <https://portal.schoolsiteregister.com/apps/ssl/?districtcode=06345>, accessed August 15, 2023.

⁸¹ California Department of Education, DataQuest, 2022-23 Enrollment Report, <https://dq.cde.ca.gov/dataquest/>, accessed August 15, 2023.

⁸² Based on a generation rate of 0.2609 elementary school students per detached single-family home, according to the Sulphur Springs Union School District's 2022 Developer Fee Justification Study; based on a generation rate of 0.0962 middle school students and 0.1941 high school students per detached single-family home, according to the William S. Hart Union High School District, 2018 School Facilities Needs Analysis.

Furthermore, the Project would be subjected to levied developer fees applicable to both new construction and reconstruction projects, pursuant to Education Code Section 17620, to support school facilities. The Project is not anticipated to create demands on public school facilities to the extent that new or physically altered facilities would be required. Therefore, impact would be less than significant.

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

Less Than Significant Impact. Parks and recreational facilities in the vicinity of the Project Site are operated and maintained by the City of Santa Clarita. Nearby parks and recreational facilities include Fair Oaks Park at 17468 Honey Maple Street (0.95 miles northwest); Canyon Country Park at 17615 Soledad Canyon Road (1.78 miles northwest); Canyon Country Community Center at 18410 Sierra Highway (2.25 miles northwest); Oak Spring Canyon Park at 28920 Oak Spring Canyon Road (2.36 miles northeast); Begonias Lane Park at 14911 Begonias Lane (3.26 miles northeast); North Oaks Park at 27824 Camp Plenty Road (3.57 miles northwest); and Todd Longshore Park at 28151 Whites Canyon Road (3.65 miles northwest).⁸³

As described above, the Project Site would be subdivided into four parcels to accommodate a single-family building pad home on each parcel of the following sizes: 4.98 acres, 4.99 acres, 5.00 acres, and 4.90 acres. According to SCMC Section 17.51.010.E.(2), “it is found and determined that the public interest, convenience, health, welfare, and safety require that a minimum of three (3) acres of property for each one thousand (1,000) persons residing within this City be devoted to neighborhood and community park recreational purposes.” The SCMC acknowledges that, in the Conservation and Open Space Element, the City’s goal is to provide parks at a ratio of five acres per 1,000 residents with use of funding sources such as park impact fees. The Conservation and Open Space Element states that the City offers approximately 1.5 to 2 acres of developed parkland per 1,000 residents, with 246 acres of developed park space and about 173 acres of passive park land.⁸⁴ In generating only approximately 12 residents, the Project would have a negligible demand on usage of parks and effect on the City’s parkland ratio. Each of the Project’s single-family homes would have sufficient land on its own parcel to utilize as open space. Furthermore, in accordance with SCMC Section 17.51.010.E, the Project would be required to dedicate parkland or pay any in-lieu fees for the acquisition or development of park land, improvements, or rehabilitation of existing park or recreational facilities. Overall, the Project is not anticipated to create new or additional demands to the extent that new or physically altered parks would be required. Therefore, impacts would be less than significant.

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

⁸³ City of Santa Clarita, City Parks & Facilities, <https://www.santa-clarita.com/residents/parks-and-city-facilities>, accessed August 15, 2023.

⁸⁴ City of Santa Clarita, General Plan, Conservation and Open Space Element, 2011.

Less Than Significant Impact. The City of Santa Clarita is served by the Santa Clarita Public Library system, which consists of three libraries: Canyon Country Jo Anne Darcy Library (18601 Soledad Canyon Road) approximately 2.4 miles northwest of the Project Site; Old Town Newhall Library (24500 Main Street) approximately 6.1 miles southwest of the Project Site; and Valencia Library (23743 W. Valencia Boulevard) approximately 7.3 miles northwest of the Project Site.⁸⁵ As discussed in Checklist Question XIV, the Project would generate 12 residents, which would represent approximately 0.43 percent of the projected growth in the City. As such, the Project's residents would be anticipated to have a marginal effect on the physical library facilities. Furthermore, as described in the Santa Clarita Public Library's 2020-2023 Strategic Plan, the library system intends to develop a plan and coordinate the implementation of mobile and digital library solutions, which would allow patrons to use library services even when not visiting the physical locations.⁸⁶ Moreover, as with other residential development projects, the Project would be required to pay development fees specifically for the support of library facilities and technology in the City, pursuant to SCMC Section 17.51.010.C. Therefore, the Project is not anticipated to create new or additional demands to the extent that new or physically altered libraries would be required, and impacts would be less than significant.

⁸⁵ City of Santa Clarita Public Library, Hours & Locations, <https://www.santaclaritalibrary.com/contact-us/hours-locations/>, accessed August 16, 2023.

⁸⁶ City of Santa Clarita Public Library, Strategic Plan, <https://www.santaclaritalibrary.com/about/strategic-plan/>, accessed August 16, 2023.

XVI. RECREATION

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation of Checklist Responses

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

Less Than Significant Impact. As described above for Checklist Question XV.a.iv, the Project is anticipated to generate only approximately 12 residents, the Project would have a negligible demand on usage of parks and effect on the City's current parkland ratio. Each of the Project's single-family homes would have sufficient open space on its own parcel to utilize as open space. Furthermore, in accordance with SCMC Section 17.51.010.E, the Project would be required to dedicate parkland or pay any in-lieu fees for the acquisition or development of park land, improvements, or rehabilitation of existing park or recreational facilities. Thus, the Project would not increase the use of existing parks and recreational facilities such that substantial physical deterioration of facilities would occur or be accelerated. Therefore, impacts would be less than significant.

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

Less Than Significant Impact. Pursuant to SCMC Section 17.39.030, new developments within the Sand Canyon Special Standards District area are also required to provide riding/hiking trails per the Sand Canyon Backbone Trails exhibit on file with the City's Parks, Recreation, and Community Services Department, as approved by the Department Director. To comply with the Sand Canyon Backbone Trails Corridor Extension and SCMC Section 17.39.030, the Project would provide a 12-foot wide trail easement along the western and southern edges of the Project Site. The proposed trail improvements would be completed in compliance with code requirements, would occur within the Project Site boundaries, and would not result in an adverse physical effect on the environment. Therefore, impacts would be less than significant.

XVII. TRANSPORTATION

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation of Checklist Responses

- a. Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

Less Than Significant Impact. The Project was reviewed in accordance with the *Transportation Analysis Updates in Santa Clarita*, dated May 19, 2020. The analysis of impacts related to vehicle miles traveled (VMT) is provided below in response to Checklist Question XVII.b. As concluded therein, Project impacts related to VMT would be less than significant. According to the *Transportation Analysis Updates in Santa Clarita*, projects generating less than 50 peak hour trips are not required to complete a Local Transportation Assessment. Based on trip generation factors from the Institute of Transportation Engineers (ITE) 10th Edition Trip Generation Manual, the Project's four single-family detached homes would generate an estimated 3 AM peak hour trips and 4 PM peak hour trips, which are both less than 50 peak hour trips. Therefore, a Local Transportation Assessment with LOS analysis is not required.

According to the *Transportation Analysis Updates in Santa Clarita*, the Project Site is located approximately 1.36 miles southeast of the Vista Canyon Metrolink Station and 2 miles from

existing transit bus stops.⁸⁷ As such, development and operation of the Project would not obstruct the transit stops or impede operation of the City's transit options.

According to the City of Santa Clarita's Non-Motorized Transportation Plan, the trail and bike facilities near the Project Site include a multi-use trail and Class III bike route proposed along Sand Canyon Road (approximately 0.25 miles to the west) and a proposed multi-use trail approximately 0.10 miles to the south.⁸⁸ No existing or proposed bike or trail facilities are located adjacent to the Project Site. As the Project construction staging would be limited to the Project Site, the Project would not impede the planning or construction of the bicycle or trail facilities referenced in the City's Non-Motorized Transportation Plan during the Project's construction activities. To comply with the Sand Canyon Backbone Trails Corridor Extension and SCMC Section 17.39.030, the Project would provide a 12-foot wide trail easement along the western and southern edges of the Project Site. This would be implemented in accordance with City code requirements and would not conflict with the SCMC. In addition, the Project's new driveways along Triumph Avenue and Tannahill Avenue would provide adequate widths for vehicle access and would not have any visual or physical obstructions that would impede vehicle and pedestrian safety.

Therefore, the Project would not conflict with programs, plans, ordinances, or policies addressing the circulation system, and impacts would be less than significant.

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

Less Than Significant Impact. Based on the *Transportation Analysis Updates in Santa Clarita*, dated May 19, 2020, if a project meets at least one of three screening criteria, a vehicle miles traveled (VMT) analysis would not be required. Under the project size screening criterion, projects that generate less than 110 daily trips may be screened from conducting a VMT analysis. Under the low VMT area screening criterion, residential and office projects located within a low VMT generating area may be presumed to have a less than significant impact, as long as the new development in the TAZ is similar to the development already in the TAZ if there is no substantial evidence to the contrary. Under transit priority area (TPA) screening criterion, projects located within TPAs may also be exempt from VMT analysis. The Project would not meet the low VMT area or TPA area screening criteria. However, the Project would meet the project size screening criterion. As described in response to Checklist Question III.c, based on the CalEEMod modeling, the Project would generate approximately 38 trips during weekdays and on Saturdays and 34 trips on Sundays. As such, the Project would generate less than 110 daily trips and would be screened from conducting a VMT analysis. Therefore, Project impacts related to VMT would be less than significant.

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

Less Than Significant Impact. Impacts regarding the potential increase of hazards due to a geometric design feature generally relate to the design of access points to and from a site, and may include safety, operational, or capacity impacts. Impacts can be related to vehicle/vehicle,

⁸⁷ City of Santa Clarita, *Transportation Analysis Updates in Santa Clarita*, May 2020.

⁸⁸ City of Santa Clarita, *Non-Motorized Transportation Plan, Non-Motorized Transportation Plan Recommendations*, 2020.

vehicle/bicycle, or vehicle/pedestrian conflicts as well as to operational delays caused by vehicles slowing and/or queuing to access a site. These conflicts may be created by the driveway configuration or through the placement of driveway(s) in areas of inadequate visibility, adjacent to bicycle or pedestrian facilities, or too close to busy or congested intersections.

Vehicular access to the two proposed homes within the western parcels would be available via a proposed 20-foot wide driveway along Triumph Avenue. Vehicular access to the two proposed homes within the eastern parcels would have individual 20-foot wide driveways along Tannahill Avenue. All Project driveways would provide adequate widths for vehicle access and proper placement for clear visibility to ensure the safety of pedestrians and vehicles. Furthermore, the proposed uses would be consistent with the surrounding residential uses and would not introduce hazards due to incompatible uses. Therefore, based on the above, the Project would not substantially increase hazards due to a geometric design feature or incompatible uses, and impacts would be less than significant.

d. Would the project result in inadequate emergency access?

Less Than Significant Impact. Construction activities associated with the Project could include intermittent disruptions of roadways in the vicinity of the Project Site that could be used by emergency providers, including the LACFD and the LASD. However, access would be maintained through the duration of construction. The nearest disaster routes would include Sand Canyon Road, located approximately 0.25 miles to the west, and State Route 14, located approximately 2 miles to the north of the Project Site.⁸⁹ As described in the City's Safety Element, during the development review process, emergency access is evaluated for all pending development projects; two means of ingress and egress are required for all major development projects, including subdivisions.⁹⁰ The Project would be required to comply with the California Fire Code and LACFD conditions requiring fire apparatus access roads, fire lanes, and firefighter access walkways with adequate dimensions, clearances, turning radius, loads, and slope. Verification for compliance of the Fire Department access related conditions of approval would be performed during the architectural plan review prior to the issuance of building permits. Therefore, the Project would not result in inadequate emergency access, and impacts would be less than significant.

⁸⁹ Los Angeles County Public Works, Disaster Routes Map, City of Santa Clarita.

⁹⁰ City of Santa Clarita, General Plan, Safety Element, 2022.

XVIII. 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation of Checklist Responses

- a. **Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place or object with cultural value to a California Native American tribe, and that is 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 Impact. As discussed above for Checklist Question V.a and evaluated in the Cultural Resources Identification Memorandum (**Appendix D** of this IS/MND), no sites or resources listed or eligible for listing in the California Register of Historical Resources were identified within the Project Site as a result of the SCCIC records search; literature, map, and aerial photo reviews; historical society consultation; pedestrian survey; and California and City Register evaluations. As such, there are no known tribal cultural resources that exist on the site that are eligible for listing on the California Register of Historical Resources or in a local register. Therefore, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources. Impacts would be less than significant.

- b. **Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion**

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

Less Than Significant Impact with Mitigation Incorporated. In compliance with AB 52 (PRC 21074), which requires tribal consultation as part of the CEQA process, the City initiated consultation in August 2023. Consultation occurred with the Fernandeño Tataviam Band of Mission Indians as documented in **Appendix J** of this IS/MND. The Fernandeño Tataviam Band of Mission Indians assert that the area has a low sensitivity for tribal cultural resources based on ethnographic and historical documentation of past Native American use; however, while the Project Site is not located in a central area of activity, the inadvertent discovery of tribal cultural resources could occur. As a result, **Mitigation Measure TCR-1** would be implemented such that in the event of any discovery of unknown tribal cultural resources during Project construction activities, impacts would be reduced to a less-than-significant level. Consultation with the Fernandeño Tataviam Band of Mission Indians concluded on January 11, 2024, as documented in **Appendix J** of this IS/MND.

Mitigation Measure TCR-1: If cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior Standards retained by the Project Applicant shall assess the find. Work on the portions of the Project outside of the buffered area may continue during this assessment period. The Fernandeño Tataviam Band of Mission Indians shall be contacted about any pre-contact and/or post-contact finds and be provided information after the archaeologist makes their initial assessment of the nature of the find, to provide tribal input with regards to significance and treatment. The Lead Agency and/or applicant shall, in good faith, consult with the Fernandeño Tataviam Band of Mission Indians on the disposition and treatment of any tribal cultural resource encountered during all ground-disturbing activities.

XIX. 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. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation of Checklist Responses

a. Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

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

Less Than Significant Impact. The Project would not affect the City's sanitary sewer collection system managed by the Santa Clarita Valley Sanitation District, which operates the Saugus and Valencia Water Reclamation Plants. Rather, as discussed in Checklist Question VII.e, the Project would include four septic leaching fields—one for each proposed residential parcel. Based on the subsurface and percolation evaluation, the Project would have soils capable of adequately supporting the use of septic system. Furthermore, in accordance with SCMC Chapter 17.83, as

the Project would require grading in excess of 5,000 cubic yards, the grading permit application would require final geotechnical and engineering geology reports, including septic system information. In accordance with SCMC Chapter 16.13, the Project's septic system would undergo review and approval by the City Engineer and Los Angeles County Health Department. Additionally, the Project would adhere to all necessary requirements for the onsite septic system in accordance with County of Los Angeles Health Code, Chapter 11.38, Part 5, Requirements for Onsite Wastewater Treatment Systems. Future homeowners on the Project Site would be responsible for maintaining their respective septic systems and employing, as needed, sewage pumping vehicle operators that are registered per Los Angeles County Health Code requirements. Therefore, Project compliance with code requirements would ensure that Project impacts related to wastewater facilities would be less than significant.

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

Less Than Significant Impact. The Project would involve removal of one building foundation to accommodate four single-family residences. Given the increase in intensity of uses, the Project would result in an increase in water demand and wastewater generation, as well as an increase in demand on other utilities, such as electricity, natural gas, and telecommunications.

Water

Water service to the Project Site would be provided by the Santa Clarita Water Division of the Santa Clarita Valley Water Agency (SCV Water). Based on the proposed uses, the Project would increase the water demand on-site when compared to existing vacant conditions. Specifically, the Project's four single-family homes would be anticipated to consume 1,040 gallons of water per day and would require connections to existing water lines around the Project Site.⁹¹ As concluded in the 2020 Urban Water Management Plan (UWMP), the total projected water supplies available to the SCV Water service area over the 30-year projection during normal, single-dry, and multiple-dry year (5-year drought) periods are sufficient to meet the total projected water demands throughout the Santa Clarita Valley.⁹² Since the proposed single-family residences would be consistent with the site's General Plan designation and zoning, the Project's water demand would be met by supply made by SCV Water. In addition, the Project would be in compliance with 2022 Title 24 standards and CALGreen Code and use low-flow fixtures and water-efficient irrigation. The Project would require a Landscape Plan Review per SCMC Section 17.23.150, which would help ensure efficient use of water on-site, and conform to SCMC Section 17.51.030 landscaping and irrigation standards for single-family residential developments. Furthermore, the Project would be required to pay water connection fees as applicable. Therefore, the Project would not require or result in the relocation or construction of new water facilities, and impacts would be less than significant.

⁹¹ Southern California Edison, 2021 Power Content Label.

⁹² Provided that SCV Water continues to utilize available State Water Project amounts, and will continue to incorporate conjunctive use (coordinated use of surface water and groundwater), water conservation, water transfers, recycled water, and water banking as part of the total water supply portfolio and management approach to long-term water supply planning and strategy; SCV Water, 2020 UWMP, June 2021.

Wastewater

The Project would not affect the City’s sanitary sewer collection system managed by the Santa Clarita Valley Sanitation District, which operates the Saugus and Valencia Water Reclamation Plants. Rather, as discussed above, the Project would include four septic leaching fields—one for each proposed residential parcel. In accordance with SCMC Chapter 16.13, the Project’s septic system would undergo review and approval by the City Engineer and Los Angeles County Health Department. Additionally, the Project would adhere to all necessary requirements for the onsite septic system in accordance with Los Angeles County Health Code, Chapter 11.38, Part 5, Requirements for Onsite Wastewater Treatment Systems. Refer to Responses to Checklist Questions XIX.a and XIX.e, above. The Project would not require or result in the construction of new wastewater treatment facilities that would cause significant environmental effects, and impacts would be less than significant.

Dry Utilities (Electricity, Natural Gas, Telecommunications)

SCE and SoCalGas provide electricity and natural gas services, respectively, to the Project Site. These providers service the Project Site’s surrounding residential uses. Electrical and cable on telephone poles run between Tannahill Avenue and Triumph Avenue on the northern end of the Project Site. There is a gas line on Tannahill Avenue that ends on the north side of the northeastern portion of the Project Site and a gas line on Triumph Avenue that ends at the north side of the northwestern portion of the Project Site. Project-related improvements would include connections to existing electricity and natural gas service lines as well as proposed gas lines.

SCE’s existing portfolio of resources includes renewable energy (31.4 percent), large hydroelectric (2.3 percent), natural gas (22.3 percent), nuclear (9.2 percent), and other/unspecified power sources (34.8 percent).⁹³ This mix of resources enhances electrical system resilience by not relying on a single transmission source. SCE’s Integrated Resource Plan has a primary objective that includes system reliability, as well as establishing SCE’s planned procurement of energy to meet demands through 2030.⁹⁴ Therefore, SCE’s long-term forecasts for electricity demand within its service area, which includes the Project Site, would account for Project-related electricity demand. However, should SCE determine that upgrades to existing electrical energy infrastructure would be necessary, resulting from either the demand of the proposed Project or cumulative demand increases, such off-site upgrade projects would be undertaken by SCE and would be subject to environmental review pursuant to CEQA. Attempting to estimate what environmental impacts may result from such electrical utility infrastructure improvements without knowledge of when and where the improvements would take place would be speculative.

SoCalGas is the principal distributor of natural gas in Southern California. Utility-served, statewide natural gas demand is projected to decrease at an annual average rate of 1.1 percent per year through 2035, and total statewide residential gas demand is projected to decrease at an annual average rate of 2.4 percent per year, which is faster than the 1.7 percent annual rate of decline that had been forecasted previously in the 2020 California Gas Report.⁹⁵ Furthermore, SoCalGas is anticipated to meet a projected extreme peak day demand of 2,827 million cubic feet of natural gas per day in 2023 through a combination of withdrawals from underground storage facilities and flowing pipeline supplies.⁹⁶ As such, because of its extremely large service area and natural gas

⁹³ Southern California Edison, 2021 Power Content Label.

⁹⁴ Southern California Edison, 2017-2018 Integrated Resource Plan, August 1, 2018.

⁹⁵ California Gas and Electric Utilities, 2022 California Gas Report.

⁹⁶ California Gas and Electric Utilities, 2022 California Gas Report.

supplies, in addition to decreasing natural gas demand, SoCalGas would have adequate capacity to support the Project. As described above, Project-related improvements would include connections to existing natural gas service lines as well as proposed gas lines for which construction activities would be temporary. Should SoCal Gas determine that upgrades to existing natural gas infrastructure off-site would be necessary, resulting from either the demand of the proposed Project or cumulative demand increases, such off-site upgrade projects would be undertaken by SoCal Gas and would be subject to environmental review pursuant to CEQA.

Telecommunication services are provided to the Project Site's surrounding residential uses. As the Project Site is vacant of uses utilizing telecommunication, the Project would establish or connect to telecommunication infrastructure. Upgrades to existing telecommunication facilities and construction of new facilities to meet user demand are determined by telecommunication providers and subject to its own environmental review. Any traffic disruptions associated with telecommunication utility activities within the travel lanes would be addressed through routine traffic control measures.

In summary, the Project would not result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, other than connections to existing adjacent facilities to serve the proposed residences, and impacts would be less than significant.

c. Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. As discussed in Checklist Section X, Hydrology and Water Quality, under proposed conditions, the 25-year flow runoff rate and volume would increase by 6.84 cubic feet per second and 14,178 cubic feet, respectively. Pursuant to regulatory requirements, the Project applicant would prepare a LID Plan such that the Project would be designed to control pollutants, pollutant loads, and runoff volume to the maximum extent feasible by minimizing impervious surface area and controlling runoff from impervious surfaces through infiltration, evapotranspiration, bioretention and/or rainfall harvest, and use, the design of which would require approval by the City Engineer. Drainage in the proposed conditions follows the same pattern as the existing conditions and leaves the site via surface flow at the northerly end of the site. No physical modifications to the existing municipal stormwater infrastructure in the Project vicinity would be anticipated to handle the Project stormwater runoff. Furthermore, the Project's short-term construction activities would be required to include implementation of an approved SWPPP with BMPs for stormwater and non-stormwater discharges. All construction and grading activities would comply with applicable laws and regulatory documents, including all applicable City ordinances and the City's permit regulating discharges into and from the storm drain system. Thus, the Project would not require the construction of new stormwater drainage stormwater facilities or expansion of facilities, and impacts would be less than significant.

d. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less Than Significant Impact. Water service to the Project Site would be provided by the Santa Clarita Water Division of the Santa Clarita Valley Water Agency (SCV Water). SCV Water's current service area includes a mix of residential and commercial, and light industrial land uses, mostly comprised of single-family homes, apartments, condominiums, and several local shopping centers and neighborhood commercial developments. SCV Water adopted its 2020 Urban Water

Management Plan (UWMP) in June 2021. The 2020 UWMP provides a broad perspective on a number of water supply issues and is a planning tool that generally guides water supply and resource management in the Santa Clarita Valley. The 2020 UWMP provides a detailed summary of present and future water resources and demands within the Santa Clarita Valley service area and discusses supply reliability planning, drought risk assessment, and the implementation of water conservation and recycling measures. The 2020 UWMP also assesses its water supply and demand forecasts for a 30-year planning period based on the population projections in the general plans of the jurisdictions within the service area. As concluded in the 2020 UWMP, the total projected water supplies available to the SCV Water service area over the 30-year projection during normal, single-dry, and multiple-dry year (5-year drought) periods are sufficient to meet the total projected water demands throughout the Santa Clarita Valley.⁹⁷ As previously discussed, the Project's proposed single-family residences would be consistent with the site's General Plan designation and zoning. Due to the proposed size and uses, the Project would not be subject to the requirements for SB 610 for preparation of a water supply assessment. During the Project's construction activities, water would be required primarily for dust control, cleaning of equipment, and other related activities; however, such water demand would be temporary and intermittent. Water for construction-related purposes could be provided by water trucks and/or through connections to nearby water distribution lines. The amount of water required during this construction phase would be below the total water demand of the fully developed Project. Thus, the 2020 UWMP has accounted for the Project's water demand, and the Project would have sufficient water supplies available to serve the Project from existing water resources and entitlements. As such, Project impacts related to water supply would be less than significant.

f. Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less Than Significant Impact. According to the most recently available information from the California Department of Resources Recycling and Recovery (CalRecycle), in 2019, the City of Santa Clarita disposed of approximately 206,278 tons of solid waste at a solid waste facility, 16 tons at the Southeast Resource Recovery Facility (a transformation facility), and 812 tons of alternative daily cover.⁹⁸ Of the 16 facilities that received waste from the City, six facilities that accept both construction and demolition waste and municipal solid waste received more than 1,000 tons of waste, including those within and outside Los Angeles County: Antelope Valley Public Landfill, Chiquita Canyon Sanitary Landfill, El Sobrante Landfill, Lost Hills Environmental Waste Facility, Simi Valley Landfill & Recycling Center; and Sunshine Canyon City/County Landfill. Based on the latest available remaining permitted disposal capacity information, as provided by the Los Angeles County Countywide Integrated Waste Management Plan (CoIWMP) 2020 Annual Report, the Antelope Valley Public Landfill has a remaining permitted disposal capacity of 10.18 million tons; Chiquita Canyon Sanitary Landfill has a remaining permitted disposal capacity of 54.42 million tons; El Sobrante Landfill's has a remaining permitted disposal capacity of 137 million tons; Lost Hills Environmental Waste Facility (H.M. Holloway Landfill, Inc.) has a remaining permitted disposal capacity of 2 million tons; Simi Valley Landfill & Recycling

⁹⁷ Provided that SCV Water continues to utilize available State Water Project amounts, and will continue to incorporate conjunctive use (coordinated use of surface water and groundwater), water conservation, water transfers, recycled water, and water banking as part of the total water supply portfolio and management approach to long-term water supply planning and strategy; SCV Water, 2020 UWMP, June 2021.

⁹⁸ CalRecycle, Jurisdiction Disposal by Facility and Alternative Daily Cover Tons by Facility, Year 2019, Los Angeles–Santa Clarita, <https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility>, accessed August 29, 2023; alternative daily cover refers to cover material other than earthen material placed on the surface of the active face of a municipal solid waste landfill at the end of each operating day to control vectors, fires, odors, blowing litter, and scavenging.

Center has a remaining permitted disposal capacity of 48 million tons; and Sunshine Canyon City/County Landfill has a remaining permitted disposal capacity of 54.08 million tons.⁹⁹

Construction, demolition, and remodel activities occurring within the City generate a significant volume of debris that could be destined for landfills. In order to preserve available landfill space and promote waste reduction, pursuant and the City’s Construction and Demolition Ordinance 05-09, the City requires that all demolition projects, all commercial projects valued over \$200,000, all new commercial projects over 1,000 square feet, all new residential construction projects, and all residential additions and improvements that increase building area, volume, or size must recycle a minimum of 65 percent of all inert materials and 65 percent of all other materials. Accordingly, the Project would be required to prepare a Construction and Demolition Materials Management Plan pursuant to SCMC Chapter 15.46 to identify the type of materials that would be used and estimate the weight of materials to be recycled during construction, as well as indicate the vendor or facility that has been commissioned to collect, divert, reuse, or receive the construction and demolition materials. The plan would be approved by the City prior to issuance of a permit. As previously discussed, the Project would involve the construction of four single-family homes. As shown in **Table XIX-1**, the Project would generate 72.6 tons of construction waste. After accounting for a 65 percent diversion rate, the Project would dispose of approximately 25.4 tons of waste to landfills.

**Table XIX-1
Project Construction Waste Generation**

Land Use	Size	Generation Rate (lbs/sf)¹	Total (tons)
Single-family home	10,100 sf	4.39 lbs/sf	22.2
Single-family home	11,700 sf	4.39 lbs/sf	25.7
Single-family home	4,116 sf	4.39 lbs/sf	9.0
Single-family home	7,161 sf	4.39 lbs/sf	15.7
Total Waste prior to diversion			72.6
Total Waste after 65% diversion			25.4
lbs = pounds sf = square feet 1 lb = 0.0005 ton			
Note: 1. USEPA, Estimating 2003 Building-Related Construction and Demolition Materials Amounts, Report No. EPA530-R-09-002, March 2009, Table 2-1.			

Once operational, solid waste generated by the Project’s would consist of typical waste from residential uses and would result in approximately 8.9 tons of solid waste per year.¹⁰⁰ It is anticipated that Project-generated waste would continue to be accepted by the same multiple refuse disposal facilities that currently receive the City’s municipal solid wastes, including those identified above. Based on the total capacity of 305.68 million tons from the six aforementioned landfills, the Project would be served by landfills with sufficient permitted capacity to

⁹⁹ Los Angeles County, Countywide Integrated Waste Management Plan 2020 Annual Report, Appendix E-2, Tables 4 and 6.

¹⁰⁰ Based on a residential solid waste generation factor of 12.23 pounds per household per day (or 2.23 tons per household per year). Source: CalRecycle, CalRecycle, Estimated Solid Waste Generation Rates, <https://www2.calrecycle.ca.gov/wastecharacterization/general/rates>, accessed August 14, 2023.

accommodate the Project's construction and operational waste disposal needs, and impacts would be less than significant.

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

Less Than Significant Impact. As discussed above, the Project would comply with City diversion requirements by recycling a minimum of 65 percent of all inert materials and 65 percent of all other materials during construction and demolition. Pursuant to SCMC Chapter 15.46, the Project would provide a security deposit and prepare a Construction and Demolition Materials Management for approval by the City prior to issuance of a permit. The Project would be required to document the construction and demolition material diversion and would be applicable for return of the security deposit following approval of documentation.

Senate Bill 1383 regulations set methane emissions reduction targets for California in a statewide effort to reduce emissions of short-lived climate pollutants, including the target to reduce organic waste disposal 75 percent by 2025. Senate Bill 1383 also requires that jurisdictions conduct education and outreach on organics recycling to all residents, businesses (including those that generate edible food that can be donated) haulers, solid waste facilities, and local food banks and other food recovery organizations. As of July 1, 2023, with implementation of the City's contract with Burrtec Waste Industries to provide residential and commercial waste services in the City, Santa Clarita residents were provided with new bins to separate garbage, recycling, and organic waste.¹⁰¹ Once operational, the Project would also be subject to such requirements and waste management practices. Non-hazardous solid waste generated from the Project Site (e.g., plastic and glass bottles and jars, paper, newspaper, metal containers, cardboard) would be recycled per local and State regulations previously mentioned, with a diversion goal of 75 percent, in compliance with the Integrated Waste Management Act (Assembly Bill 939). Accordingly, the Project would comply with adopted programs and regulations pertaining to solid waste and City waste diversion goals, and impacts related would be less than significant.

¹⁰¹ City of Santa Clarita, City News, Trash Transition, June 8, 2023, <https://www.santa-clarita.com/Home/Components/News/News/10980/>, accessed August 14, 2023.

XX. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation of Checklist Responses

- a. **If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?**
- b. **If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?**
- c. **If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**

Less Than Significant Impact. According to CalFire, the Project Site is located within a Very High Fire Hazard Severity Zone (VHFHSZ) and Local Responsibility Area (LRA).¹⁰² The Project would adhere to conditions of approval as provided by the Fire Prevention Unit of the LACFD, which are included in **Appendix G** of this IS/MND. As discussed in response to Checklist Question XV.a.i, during Project construction activities, access to and along Diver Street, Triumph Avenue,

¹⁰² California Department of Forestry and Fire Protection, Fire Hazard Severity Zones Maps, FHSZ Viewer, <https://eqis.fire.ca.gov/FHSZ/>, accessed August 14, 2023.

and Tannahill Avenue adjacent to the Project Site would remain unobstructed and would remain accessible to emergency vehicles. During operation, the Project would be required to comply with the California Fire Code and LACFD conditions of approval requiring fire apparatus access roads, fire lanes, and firefighter access walkways with adequate dimensions, clearances, turning radius, loads, and slope. In addition, to ensure that residents that would have adequate fire water protection, the Project would install fire hydrants with proper pressure and flow rates in accordance with code requirements. Due to the Project Site's location within a VHFHSZ, the Project would be required to prepare and submit a Fuel Modification Plan for approval by the LACFD Fuel Modification Unit. A Fuel Modification Plan would provide a landscape plan showing all proposed and existing-to-remain vegetation on the property. The plan would ensure that vegetation, which can fuel and spread fires, is modified appropriately to protect structures, people, and land. Therefore, the Project would not require infrastructure that would exacerbate fire risks or result in temporary or ongoing wildfire impacts to the environment, and the Project would not substantially impair an adopted emergency response plan or emergency evacuation plan.

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less Than Significant Impact. As discussed above, the Project Site is located within a VHFHSZ and LRA. As discussed in response to Checklist Question VII.a.iv, the Project Site is not mapped within a Landslide Zone of Required Investigation.¹⁰³ In addition, the Project Site is characterized by relatively flat topography with gentle hills and is not located within a flood hazard area. As discussed in response to Checklist Section X, the Project would comply with regulatory requirements to ensure that the Project would not be anticipated to substantially alter the existing drainage pattern of the site or area in a manner which would substantially impede, alter or redirect flood flows. Therefore, the Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, and impacts would be less than significant.

¹⁰³ California Department of Conservation, California Geological Survey, *Earthquake Zones of Required Investigation*, <https://maps.conservation.ca.gov/cgs/EQZApp/app/>, accessed August 14, 2023.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

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

Explanation of Checklist Responses

a. Does the project have the potential to 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?

Less Than Significant Impact with Mitigation Incorporated. As discussed in Checklist Question IV.a, Cooper's hawk (*Accipiter cooperii*) is state watch-listed and has suitable nesting habitat onsite, and White-tailed kite (*Elanus leucurus*) is CDFW fully protected and may have suitable nesting habitat onsite. Implementation of standard measures for the protection of biological resources including nesting birds are recommended to avoid and minimize potential impact to general wildlife. Therefore, with implementation of **Mitigation Measure BIO-1**, Project impacts to nesting or migratory birds would be less than significant.

As discussed in Checklist Section V, the Project would not cause a substantial adverse change in the significance of a historical resource, and no related impacts would occur. With regard to archaeological resources, there is low sensitivity for significant prehistoric or historic period archaeological resources within the Project Site. Nonetheless, **Mitigation Measure CUL-1** is included to require the proper handling and disposition of archaeological resources in the

unexpected event that such resources are inadvertently discovered during Project construction. Mitigation Measure CUL-1 would ensure that any impacts to archaeological resources would be less than significant.

As discussed in Checklist Question VII.j, the Project Site can be considered to have high sensitivity for fossils. As such, **Mitigation Measures GEO-1, GEO-2, and GEO-3** are included to require full-time paleontological monitoring during ground disturbance in undisturbed geologic contexts that have the potential to contain significant paleontological resources. Mitigation Measures GEO-1, GEO-2, and GEO-3 would ensure that any impacts to paleontological resources would be less than significant.

Based on the analysis in this Initial Study, with the incorporation of mitigation measures, the Project would not result in a mandatory finding of significance related to degradation of the quality of the environment, substantial reduction in the habitat of a fish or wildlife species, causing a fish or wildlife population to drop below self-sustaining levels, threatening to eliminate a plant or animal community, reduction in the number or restriction of the range of a rare or endangered plant or animal, or elimination of important examples of the major periods of California history or prehistory.

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

Less Than Significant Impact. The City has six development projects within an approximately 2-mile radius of the Project Site. The project nearest to the Project Site is the Metro Walk Specific Plan, which has received entitlement approvals for 498 residential units (1.4 miles northwest of the Project Site). The Vista Canyon Specific Plan is under construction with 375 residential units and 891,000 square feet of commercial uses to be built (1.5 miles north of the Project Site). The Sand Canyon Resort is a proposed hotel development (1.5 miles northeast of the Project Site). Another proposed project and two entitled projects would result in a total of 816 multi-family units and approximately 153,500 square feet of commercial uses (2 miles north and northwest of the Project Site).

In contrast with these six developments, the Project proposes only four single-family residences and does not propose any commercial development. In addition, due to the distance from the six developments, the physical and site-specific conditions of the Project Site, and with the incorporation of the mitigation measures identified in this IS/MND, the Project would not have impacts that are cumulatively considerable. Although the Project may generate new short-term construction jobs in the Project area, the Project would not generate employment opportunities onsite. As such, the Project is not expected to induce any growth in the region. In addition, as detailed in the preceding sections, the Project would not result in any significant and unmitigable impacts in any environmental categories. The Project would be consistent with regional plans and programs that address environmental factors such as air quality, energy, GHG emissions, transportation, utilities, and other applicable regulations that have been adopted by public agencies. In many cases, including aesthetics, agriculture, biological resources, cultural resources, geology, hazards, land use, mineral resources, noise, public services and recreation, tribal cultural resources, and wildfire, the impacts associated with the Project are either localized to the Project Site or are of such a negligible degree that they would not result in a considerable contribution to any significant cumulative impacts. Therefore, cumulative impacts would be less

than significant (not cumulatively considerable) and the Project would not result in a mandatory finding of significance in this regard.

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. As discussed in Checklist Sections I through XX of this document, the Project has been determined to have no impacts, less-than-significant impacts, and impacts that are less than significant with incorporation of mitigation measures. Therefore, the Project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly, and the impacts would be less than significant.

CORRECTIONS AND ADDITIONS

This section includes correction and additions that were made to the draft IS/MND to complete this Final IS/MND. The changes are as follows:

In Section VII, Geology and Soils, page 58, the text of Mitigation Measure GEO-2 was revised as follows:

Mitigation Measure GEO-2: Prior to grading or excavation in sedimentary deposits and/or sedimentary rock material other than topsoil, the City applicant shall retain a SVP-qualified paleontologist to monitor or oversee monitoring of these activities. The paleontological monitor shall be on site for any ground-disturbing activities in the geologic formations underlying the project area, as identified in geologic maps (Mint Canyon Formation and Quaternary alluvium, undivided). If no fossils have been recovered after 50 percent of excavation has been completed, full-time monitoring may be modified to weekly spot-check monitoring at the discretion of the qualified paleontologist. The qualified paleontologist may recommend to the client to reduce paleontological monitoring based on observations of specific project area conditions during initial monitoring (e.g., if the geologic setting precludes the occurrence of fossils). The recommendation to reduce or discontinue paleontological monitoring in the project area shall be based on the professional opinion of the qualified paleontologist regarding the potential for fossils to be present after a reasonable extent of the geology and stratigraphy has been evaluated.

In Section XVIII, Tribal Cultural Resources, page 114, text was added to the first paragraph to document conclusion of tribal consultation as follows:

Less Than Significant Impact with Mitigation Incorporated. In compliance with AB 52 (PRC 21074), which requires tribal consultation as part of the CEQA process, the City initiated consultation in August 2023. Consultation occurred with the Fernandeño Tataviam Band of Mission Indians as documented in **Appendix J** of this IS/MND. The Fernandeño Tataviam Band of Mission Indians assert that the area has a low sensitivity for tribal cultural resources based on ethnographic and historical documentation of past Native American use; however, while the Project Site is not located in a central area of activity, the inadvertent discovery of tribal cultural resources could occur. As a result, **Mitigation Measure TCR-1** would be implemented such that in the event of any discovery of unknown tribal cultural resources during Project construction activities, impacts would be reduced to a less-than-significant level. Consultation with the Fernandeño Tataviam Band of Mission Indians concluded on January 11, 2024, as documented in **Appendix J** of this IS/MND.

In Appendix D, Cultural Resources Identification Memorandum, South Central Coastal Information Center records search results were noted to be confidential and on file with the City.

In Appendix J, Assembly Bill 52 Documentation, one paragraph was redacted for confidentiality as requested by Fernandeño Tataviam Band of Mission Indians, and one page was added to the end of the appendix to document the close of tribal consultation.

APPENDICES

APPENDIX A

Oak Tree Report

OAK TREE REPORT

Proposed 4-Lot Subdivision Tentative Parcel Map 80287

Between Triumph Ave. & Tannahill Ave.
Santa Clarita, Ca 91387

for

Rexhall Company

45640 23rd Street West
Lancaster, Ca 93536-7219

by

TREES, etc.

[a division of RDI & Associates, Inc.]

P.O. Box 4583

Thousand Oaks, Ca 91359-1583

E-Mail: richard.treesetc@gmail.com

Cell/TEXT/Office: (805) 558-TREE (8733)

Fax: (805) 832-6398

RDI Project No.: 1008-1-18

Original Date: September 16, 2018

1st Revision Date: December 24, 2018

2nd Revision Date: January 15, 2021

OAK TREE REPORT

Proposed 4-Parcel Sub-Division

RDI Project No. 1008-1-18

This proposed 19.87 acre residential project, Tentative Tract Map 80287 (APN 2841-018-035), is bordered by the "private streets" Tannahill Ave. to the east & Triumph Ave. to the west; and it is within the Sand Canyon area of Santa Clarita, Ca.

This report is prepared in accordance with Ordinances 89-10 & 05-4 of the Santa Clarita Municipal Code relating to the "Oak Tree Preservation & Protection Guidelines". The City lies in the Santa Clarita Valley, the beauty & natural setting of which is greatly enhanced by the presence of large numbers of majestic Oak trees. These indigenous Oaks are recognized for their significant historical, aesthetic & environmental value. They are indicator species for the natural communities, in which they exist, supporting a broad spectrum of other native plant & animal species. As one of the most picturesque trees in the Southern California area, they lend beauty & charm to the natural & man-made landscape, enhance the value of property & preserve the character of the communities in which they exist.

Included within this Report is the following:

1. This text;
 - Field Inspection Dates Pages 1 & 2
 - Field Observations Page 2
 - Plan Review Pages 3 to 12
 - Specific & Overall Recommendations Pages 12 & 13
 - Tree Care & Maintenance Pages 13 to 16
 - Notice of Disclaimer & Signature Page 16
2. Eighteen [18] **TREE EVALUATIONS** (on & off property trees) sheets;
3. Seven [7] **TREE CANOPY MEASUREMENTS** (on-property trees) sheets;
4. Six [6] **COMPATIBLE NATIVE PLANTS w/in or AROUND OAK TREE DRIPLINES (CNPS)** sheets;
5. And, one [1] **TREE LOCATION MAP** (derived from the '60 scale' "Tentative Parcel Map", as produced by CRC Enterprises, "stamp" dated Sept. 24, 2020). It should be noted, that the Oak trees on the enclosed **TREE LOCATION MAP** were field surveyed by CRC Enterprises in April 18, 2018.

Field Inspection Dates

1. Our field review was made on the following dates in 2018 & 2020:

2018 =

March 16 (#1 to #31);

March 20 (#81 to #90, #171, #172);

April 4 (#132 to #170); and,

March 19 (#32 to #80);

April 3 (#91 to #130);

April 10 (#173, #174).

It should be noted that there is no tree #131!

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 2 of 16

2020 =

Oct. 29 (review dead & dying Oaks);

Nov. 10 (re-tag Oaks).

2. As part of our field review, tree drip lines were measured on the following dates in 2018:

March 20 (#171 & #172),

April 10 (#1 to #75),

April 17 (#76 to #130, #132 to #170, #173, #174).

Field Observations

1. The trees are inventoried as to their specie, health & aesthetic considerations. This inventory was reviewed in accordance with presently accepted industry procedures, which are of macro-visual observations only. No extensive microbiological, soil-root excavations, upper crown examination, nor internal tree investigations were conducted.
2. The inventoried Protected trees had their trunks & driplines (canopy spreads) measured [the trunk(s) are measured in "diameter" inches, while the dripline(s) are measured in feet at eight [8] compass directions (north, northeast, east, southeast, south, southwest, west & northwest). If one or more sides is measured as "0" feet, this means that there is no canopy at that/those location(s)]. It should be noted that these dimensions might change in the next growing season(s) following our initial field measurements.
3. The "Protected Zone" is defined as the area at least 5' beyond the dripline or 15' from the trunk, or whichever distance is greater, when viewed from above.
4. In Santa Clarita a "Heritage Oak tree" is any live Oak tree that has one trunk that is at least 34.4" in diameter or more; or, at least two of the trunks (on a multiple-trunk tree) are each 22.9" in diameter or more. In this report we covered fourteen [14] Heritage Oak trees, they are:

#5 (23" & 25" diameter trunks),	#9 (24.6" & 25.7" diameter trunks),
#11 (25" & 27.4" diameter trunks),	#17 (5", 6", 7", 18", 20", 23" & 24" diameter trunks),
#60 (34.7" diameter trunk),	#61 (46.55" diameter trunk),
#62 (40.9" diameter trunk),	#65 (37" diameter trunk),
#95 (44.2" diameter trunk),	#97 (35.7" diameter trunk),
#113 (39" diameter trunk),	#115 (36.6 diameter trunk),
#135 (6", 15", 23", 28" & 32" diameter trunks),	#157 (43.1" diameter trunk).
5. This project's on-property trees were tagged with 1¼" diameter metal tags with numbers stamped into the. The report's inventoried off-property trees were not tagged, but are only map numbered.

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 3 of 16

Plan Review

1. On the dates of our field review we found one-hundred seventy-three [173] Coast Live Oak (*Quercus agrifolia*) trees on this 19.97 acre property, which is proposed to be divided into four [4] parcels. Our tag numbers that were used are: #1 to #130 and #132 to #174 (tag #131 was not used!).
- 2a. There are currently eighty-seven [87] Oaks are located within Parcel 1 (4.98 acres), they are: 1-14, 59, 61-74, 86-107, 118-122, 124-130, 132-143, 159-170.
- 2b. There are currently sixty-five [65] Oaks are located within Parcel 2 (4.99 acres), they are: 15-23, 25-28, 30-34, 36, 39-58, 60, 108-117, 144-158.
- 2c. There are **NO** Oaks found on Parcel 3 (5.00 acres).
- 2d. There are currently fourteen [14] Oaks are located within Parcel 4 (4.90 acres), they are: 76-85, 171-174.
- 3a. Pursuant to the enclosed **TREE LOCATION MAP**, the following is proposed to this project's on-property Oaks:

Parcel Tree No(s). Proposed Disposition(s)

- | | | |
|---|-------|--|
| 1 | ----- | It should be noted that there may be a property boundary fences and/or walls constructed within this Parcel's Oak tree driplines and/or Protected Zones at a later date, most likely by the future property owners of this lot, between this Parcel & Parcels 2 & 4, the properties to the north, and along Tannahill Ave. |
| 1 | | SAVE = this one [1] Oak shall have a 26' wide "Proposed All Weather Access Road" installed within its drip line, no closer than 10' from its trunk. It should be noted that there may be a property boundary fences and/or walls constructed within this Oak's tree drip line at a later date, most likely by the future property owners of this lot, along Tannahill Ave. Some live wood pruning will be required for construction clearances. |
| 2 | | SAVE = this one [1] Oak's Protected Zone shall be encroached upon by this Parcel's proposed septic line, no closer than 4' from its drip line. Live wood pruning is not required to occur to this Oak. |
| 3 | | SAVES = this one [1] Oak <u>shall not be impacted</u> from this project's proposed construction. Live wood pruning is not required to this Oak. |

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 4 of 16

<u>Parcel</u>	<u>Tree No(s).</u>	<u>Proposed Disposition(s)</u>
1	4	SAVE = this one [1] Oak may have a property boundary fence and/or wall constructed within its drip line and/or Protected Zone at a later date, by the future property owners of this lot. Some live wood pruning may be required to occur to this Oak.
	5 to 8	SAVES = these four [4] Oaks <u>shall not be impacted</u> from this project's proposed construction. Live wood pruning is not required to occur to these Oaks. It should be noted that Oak #5 is a Heritage Oak.
	9	SAVE = this one [1] Heritage Oak's Protected Zone shall be encroached upon by this Parcel's proposed septic line, no closer than 4' from its drip line. Live wood pruning is not required to occur to this Oak.
	10 to 13	SAVES = these four [4] Oaks <u>shall not be impacted</u> from this project's proposed construction. Live wood pruning is not required to occur to this tree. It should be noted that Oak #11 is a Heritage Oak.
	14	SAVE = this one [1] Oak <u>shall not be impacted</u> from this project's proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within this Oak's drip line at a later date, most likely by the future property owners of this lot. Live wood pruning may be required to occur to this Oak for a future fence and/or wall.
	59	SAVE = this one [1] Oak <u>shall not be impacted</u> from this project's proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within this Oak's drip line at a later date, most likely by the future property owners of this lot. Live wood pruning may be required to occur to this Oak for a future fence and/or wall.
	61 to 74	SAVES = these fourteen [14] Oaks <u>shall not be impacted</u> from this project's proposed construction. Live wood pruning is not required to these Oaks. It should also be noted that Oaks #61, #62 & #65 are Heritage Oaks.

Oak #72 was allowed to be pruned as noted by Robert Sartain (City Arborist) from the city of Santa Clarita approved permit (Exemption No. 20-097 // Oct. 27, 2020)).

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 5 of 16

Parcel Tree No(s) Proposed Disposition(s)

- | | | |
|------------|------------------|--|
| 1 | 61 to 74 (cont.) | Oak #74 had its 10½" diameter trunk removed in 2020 as trunk had died sometime between 2018 & 2020 (it should be noted that Robert Sartain (City Arborist) from the city of Santa Clarita approved removal of this Oak trunk (Exemption No. 20-097 // Oct. 27, 2020)). |
| 75 | | This one [1] Oak was removed in 2020 as it died sometime between 2018 & 2020. It should be noted that Robert Sartain (City Arborist) from the city of Santa Clarita approved removal of this Oak (Exemption No. 20-097 // Oct. 27, 2020). |
| 86 & 87 | | SAVES = these two [2] Oaks <u>shall not be impacted</u> from this project's proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within this Oak's drip line at a later date, most likely by the future property owners of this lot. Live wood pruning may be required to these Oaks for a future fence and/or wall. |
| 88 to 93 | | SAVES = these six [6] Oaks <u>shall not be impacted</u> from this project's proposed construction. Live wood pruning is not required to occur to these Oaks. |
| 94 | | This one [1] Oak was removed in 2020 as it died sometime between 2018 & 2020. |
| 95 to 107 | | SAVES = these thirteen [13] Oaks <u>shall not be impacted</u> from this project's proposed construction. Live wood pruning is not required to occur to these Oaks. It should be noted that Oaks #95 & #97 are Heritage Oaks. |
| 118 to 122 | | SAVES = these five [5] Oaks <u>shall not be impacted</u> from this project's proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within these Oak's drip lines at a later date, most likely by the future property owners of this lot. Live wood pruning may be required to these Oaks for a future fence and/or wall. |
| 123 | | This one [1] Oak was removed in 2020 as it died sometime between 2018 & 2020. It should be noted that Robert Sartain (City Arborist) from the city of Santa Clarita approved removal of this Oak (Exemption No. 20-097 // Oct. 27, 2020). |
| 124 to 130 | | SAVES = these seven [7] Oaks <u>shall not be impacted</u> from this project's proposed construction. Live wood pruning is not required to these Oaks. |

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 6 of 16

131 **This tag number was not used!**

Parcel Tree No(s). Proposed Disposition(s)

- 1 132 to 140 **SAVES** = these nine [9] Oaks **shall not be impacted** from this project’s proposed construction. Live wood pruning is not required to occur to these Oaks. It should be noted that Oak #135 is a Heritage Oak.

- 141 to 143 **SAVES** = these three [3] Oaks **shall not be impacted** from this project’s proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within these Oak’s drip lines at a later date, most likely by the future property owners of this lot. Live wood pruning may be required to these Oaks for a future fence and/or wall.

- 159 **SAVE** = this one [1] Oak **shall not be impacted** from this project’s proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within this Oak’s drip line at a later date, most likely by the future property owners of this lot. Live wood pruning may be required to occur to this Oak for a future fence and/or wall.

- 160 to 170 **SAVES** = these eleven [11] Oaks **shall not be impacted** from this project’s proposed construction. Live wood pruning is not required.

- 2 ----- It should be noted that there may be a property boundary fences and/or walls constructed within this Parcel’s Oak tree driplines and/or Protected Zones at a later date, by the future property owners of this lot, between this Parcel & Parcels 1 & 3, the property to the south, and along Tannahill Ave.

- 15 **SAVE** = this one [1] Oak **shall not be impacted** from this project’s proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within this Oak’s drip line at a later date, most likely by the future property owners of this lot. Live wood pruning may be required to occur to this Oak for a future fence and/or wall.

- 16 **SAVE** = this one [1] Oak shall have a 26’ wide “Proposed All Weather Access Road” installed within its drip line, no closer than 2’ from its trunk. It should be noted that there may be a property boundary fences and/or walls constructed within this Oak’s tree drip line at a later date, most likely by the future property owners of this lot, along Tannahill Ave. Some live wood pruning will be required for construction clearances.

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 7 of 16

<u>Parcel</u>	<u>Tree No(s).</u>	<u>Proposed Disposition(s)</u>
2	17	SAVE = this one [1] Oak <u>shall not be impacted</u> from this project's proposed construction. Live wood pruning is not required to occur to this Oak. It should be noted this Oak is a Heritage Oak.
	18	SAVE = this one [1] Oak shall have a 26' wide "Proposed All Weather Access Road" installed within its drip line, no closer than 5' from its trunk. It should be noted that there may be a property boundary fences and/or walls constructed within this Oak's tree drip line at a later date, most likely by the future property owners of this lot, along Tannahill Ave. Some live wood pruning will be required for construction clearances.
	19	SAVE = this one [1] Oak shall have a 26' wide "Proposed All Weather Access Road" installed within its drip line, no closer than 10' from its trunk. It should be noted that there may be a property boundary fences and/or walls constructed within this Oak's tree drip line at a later date, most likely by the future property owners of this lot, along Tannahill Ave. Some live wood pruning will be required for construction clearances.
	20 to 22	SAVES = these 3 Oaks <u>shall not be impacted</u> from this project's proposed construction. Live wood pruning is not required.
	23	SAVE = this one [1] Oak shall have a 26' wide "Proposed All Weather Access Road" installed within its drip line, no closer than 3' from its trunk. It should be noted that there may be a property boundary fences and/or walls constructed within this Oak's tree drip line at a later date, most likely by the future property owners of this lot, along Tannahill Ave. Some live wood pruning will be required for construction clearances.
	24	This one [1] Oak was removed in 2020 as it died sometime between 2018 & 2020. It should be noted that Robert Sartain (City Arborist) from the city of Santa Clarita approved removal of this Oak (Exemption No. 20-097 // Oct. 27, 2020).
	25	SAVE = this one [1] Oak shall have its Protected Zone encroached upon, no closer than 4' from its drip line for the construction of the proposed buildable lot for this parcel. Live wood pruning is not required to occur to this Oak.

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 8 of 16

<u>Parcel</u>	<u>Tree No(s).</u>	<u>Proposed Disposition(s)</u>
2	26	SAVE = this one [1] Oak <u>shall not be impacted</u> from this project's proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within this Oak's drip line at a later date, most likely by the future property owners of this lot. Live wood pruning may be required to occur to this Oak for a future fence and/or wall.
	27 & 28	SAVES = these two [2] Oaks <u>shall not be impacted</u> from this project's proposed construction. Live wood pruning is not required.
	29	This one [1] Oak was removed in 2020 as it died sometime between 2017 & 2018. It should be noted that Robert Sartain (City Arborist) from the city of Santa Clarita approved removal of this Oak (Exemption No. 20-097 // Oct. 27, 2020).
	30 & 31	SAVES = these two [2] Oaks <u>shall not be impacted</u> from this project's proposed construction. Live wood pruning is not required.
	32 to 34	SAVES = these three [3] Oaks <u>shall not be impacted</u> from this project's proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within these Oak's drip lines at a later date, most likely by the future property owners of this lot. Live wood pruning may be required for a future fence and/or wall.
	35	This one [1] Oak was removed in 2020 as it died sometime between 2018 & 2020. It should be noted that Robert Sartain (City Arborist) from the city of Santa Clarita approved removal of this Oak (Exemption No. 20-097 // Oct. 27, 2020).
	36	SAVE = this one [1] Oak <u>shall not be impacted</u> from this project's proposed construction. Live wood pruning is not required.
	37 & 38	This two [2] Oaks were removed in 2020 as they died sometime between 2018 & 2020. It should be noted that Robert Sartain (City Arborist) from the city of Santa Clarita approved removal of these Oaks (Exemption No. 20-097 // Oct. 27, 2020).

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 9 of 16

39 to 42 **SAVES** = these four [4] Oaks **shall not be impacted** from this project's proposed construction. Live wood pruning is not required.

Parcel Tree No(s). Proposed Disposition(s)

- 2 43 to 45 **SAVES** = these three [3] Oaks **shall not be impacted** from this project's proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within these Oak's drip lines at a later date, most likely by the future property owners of this lot. Live wood pruning may be required to these Oaks for a future fence and/or wall.
- 46 to 51 **SAVES** = these six [6] Oaks **shall not be impacted** from this project's proposed construction. Live wood pruning is not required.
- 52 **SAVE** = this one [1] Oak **shall not be impacted** from this project's proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within this Oak's drip line at a later date, most likely by the future property owners of this lot. Live wood pruning may be required to occur to this Oak for a future fence and/or wall.
- 53 to 58 **SAVES** = these six [6] Oaks **shall not be impacted** from this project's proposed construction. Live wood pruning is not required.
- 60 & 108 **SAVES** = these two [2] Oaks **shall not be impacted** from this project's proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within these Oak's drip lines at a later date, most likely by the future property owners of this lot. Live wood pruning may be required to occur to these Oaks for a future fence and/or wall. It should be noted that Oak #60 is a Heritage Oak.
- 109 to 115 **SAVES** = these seven [7] Oaks **shall not be impacted** from this project's proposed construction. Live wood pruning is not required to occur to these Oaks. It should be noted that Oaks #113 & #115 are Heritage Oaks.
- 116 **SAVE** = this one [1] Oak's Protected Zone shall be encroached upon by this Parcel's proposed septic line, no closer than 4' from its drip line. Live wood pruning is not required to occur to this Oak.

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 10 of 16

117, 144-152 **SAVES** = these ten [10] Oaks **shall not be impacted** from this project's proposed construction. Live wood pruning is not required to occur to these Oaks.

153 **Previously Removed** = this "very small" one [1] Oak was inadvertently removed by mistake, during some land clearing that was done at this site. At the time of our original inventory this Oak was 2¼" in diameter.

Parcel Tree No(s). Proposed Disposition(s)

2 154-158 **SAVES** = these five [5] Oaks **shall not be impacted** from this project's proposed construction. Live wood pruning is not required to occur to these Oaks. It should be noted that Oak #157 is a Heritage Oak.

3 ----- There are **NO** Oak trees on this parcel. It should be noted that on the map there is a tree canopy symbol (made up of a non-protected California Pepper & a non-protected Elderberry) located near the southwest corner of this parcel.

4 ----- It should be noted that there may be property boundary fences and/or walls constructed within this Parcel's Oak tree driplines and/or Protected Zones at a later date, by the future property owners of this lot, between this Parcel & Parcel 1, the property to the north.

76 This one [1] Oak was **removed** in 2020 as it died sometime between 2018 & 2020. It should be noted that Robert Sartain (City Arborist) from the city of Santa Clarita approved removal of this Oak (Exemption No. 20-097 // Oct. 27, 2020).

77 & 78 **SAVES** = these two [2] Oaks **shall not be impacted** from this project's proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within these Oak's drip lines at a later date, most likely by the future property owners of this lot. Live wood pruning may be required to occur for a future fence and/or wall.

79 This one [1] Oak was **removed** in 2020 as it died sometime between 2018 & 2020. It should be noted that Robert Sartain (City Arborist) from the city of Santa Clarita approved removal of this Oak (Exemption No. 20-097 // Oct. 27, 2020).

80 **SAVE** = this one [1] Oak **shall not be impacted** from this project's proposed construction. Live wood pruning is not required.

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 11 of 16

81 to 85 **SAVES** = these five [5] Oaks **shall not be impacted** from this project’s proposed construction. It should be noted that there may be a property boundary fence and/or wall constructed within these Oak’s drip lines at a later date, most likely by the future property owners of this lot. Live wood pruning may be required to occur for a future fence and/or wall.

Parcel Tree No(s). Proposed Disposition(s)

4 171 to 174 **SAVES** = these four [4] Oaks **shall not be impacted** from any of this project’s proposed construction. Oak #172 had its 37.7” diameter trunk removed in 2020 as trunk had died sometime between 2018 & 2020. Live wood pruning is not required to occur to these Oaks.

In summary, the following is proposed (in Parcel 1):

Total quantity of Oaks that were inventoried = 89
SAVES (with no encroachments) = 86 (in the future, some of these Oaks may be impacted by the new property owners)
SAVES (with dripline encroachments) = 1 (#1 = for the new construction of Tannahill Rd.)
SAVES (with Protected Zone encroachments) = 2 (#2 & #9)
Removals = 0

In summary, the following is proposed (in Parcel 2):

Total quantity of Oaks that were inventoried = 70
SAVES (with no encroachments) = 63 (in the future, some of these Oaks may be impacted by the new property owners)
SAVES (with dripline encroachments) = 4 (#16, #18, #19 & #22 = for the new construction of Tannahill Rd.)
SAVES (with Protected Zone encroachments) = 3 (#24, #25 & #116)
Removals = 0

In summary, the following is proposed (in Parcel 3):

Total quantity of Oaks that were inventoried = 0

In summary, the following is proposed (in Parcel 4):

Total quantity of Oaks that were inventoried = 14
SAVES (with no encroachments) = 14 (in the future, some of these Oaks may be impacted by the new property owners)
Removals = 0

3b. Pursuant to the enclosed **TREE LOCATION MAP**, the following is proposed to this project’s off-property Oak trees:

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 12 of 16

Tree No(s). Proposed Disposition(s)

- OP-1 **SAVE** = the 26' wide "Proposed All Weather Access Road" shall be installed within this Oak's drip line, no closer than 6' from its trunk. Some "live wood" pruning may be required for roadway clearance. This tree is located off-property, northeast of Oak #1 (Parcel 1).
- OP-2 **SAVE** = it should be noted that there may be property boundary fence or wall constructed within this Oak tree dripline at a later date (from Parcel 2), by the future property owners of this lot. Some "live wood" pruning may be done at this time. This tree is located off-property, southeast of Oak #25 (Parcel 2).
- OP-3 **SAVE** = it should be noted that there may be property boundary fence or wall constructed within this Oak tree dripline at a later date (from Parcel 1), by the future property owners of this lot. Some "live wood" pruning may be done at this time. This tree is located off-property, west of Oak #92 (Parcel 1).

In summary, the following is proposed:

Total quantity of Oaks that were inventoried =	3
SAVES (with dripline encroachments) =	1 (OP-1)
SAVES (may be dripline encroachments) =	2 (OP-2 & OP-3)
Removals =	0

Specific & Overall Recommendations

1. This Consulting Arborist should be on-site during all excavations within the driplines and/or Protected Zones of the protected trees.
2. The 'saved' Oak trees within 50' from any proposed construction shall be fenced with a temporary chainlink (or similar) protective fence at their driplines or Protected Zones (or at the location of approved encroachment) prior to the start of any on-site grading/construction. A minimum of four [4] warning signs (minimum size of 2' x 2'), per fenced area or at 50' intervals, shall read:

WARNING (lettering to be red & minimum 4" tall)

THIS FENCE SHALL NOT BE REMOVED or RELOCATED WITHOUT WRITTEN AUTHORIZATION FROM THE CITY of SANTA CLARITA'S PLANNING & COMMUNITY DEVELOPMENT DEPARTMENT (lettering to be black & minimum 2" tall)

These signs shall be posted on all protective fencing. This fencing shall remain intact until this Consulting Arborist and/or the city of Santa Clarita's Planning & Community Development Department (CSCP&CDD) allows it to be removed or relocated.

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 13 of 16

3. All footing excavations within the driplines and/or Protected Zones shall be dug by hand work only, to a maximum depth of 5' (or to a depth that CAL-OSHA, OSHA or local codes allow). If any roots are encountered, they shall be cleanly excised (& not sealed). Any excavation below the "approved" depth may be done with acceptable machinery.
4. No 'over-excavation' outside of any cut and/or fill slopes ("tops" or "toes") for the proposed construction shall occur within the dripline and/or Protected Zone of any on-site Oak trees, unless required by the project's structural engineer, and approved by the City of Santa Clarita.
5. Soil compaction within the dripline and/or root zone shall be minimized. No equipment, spoils or debris shall be stored within the dripline and/or Protected Zone of the saved tree(s). No dumping of liquids or solvents, cleaning fluids, paints, concrete washout or other harmful substances within the driplines and/or Protected Zones shall be permitted.
6. All work, to this project's native Oak trees, shall be in accordance with city of Santa Clarita 'Oak Tree Ordinance' and tree policies.
7. Prior to the completion of this project, *RDI & Associates, Inc. (dba TREES, etc.)* shall certify in a 'letter of compliance', that the 'Oak Tree Ordinance' and all concerned tree policies have been adhered to.
8. Copies of this report and the 'Oak Tree Ordinance' shall be maintained on site during all project construction.

Tree Care & Maintenance

1. No "new" landscape, irrigation lines, utility lines and/or grade changes shall be designed and/or installed within the dripline and/or Protected Zones of any on-site Oak trees, unless approved by the CSCP&CDD. If planting is necessary or the leaf litter is removed, the following is recommended:
 - A. Plant Material – only drought tolerant plantings should be used. All plantings should be compatible with the on-site native Oak trees.

If additional plants are desired around the Oak trees, then use "acceptable" natives & follow these guidelines:

1. Plant no closer than 10' from any tree trunk.
2. Plant 1-gallon specimens or smaller, as these plants will establish faster than larger containers.
3. Use only native backfill with no amendments.
4. Mulch with an insect/disease free material as needed (minimum) 2" thick, to cover the soil for better water retention, to assist in lessening compaction, and for supplying organic material.

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 15 of 16

- B. Grade changes – of as little of 6", within the dripline, can have a negative affect to the trees. It is important that the natural drainage patterns be maintained to help prevent water from "ponding" at the base of the tree trunk. The natural trunk flare should always be visible.
 - C. Aeration – is the ventilation of the root system, which can be very beneficial in compacted areas. To alleviate a compaction problem, hand-dug holes of 6" dia. by 24" deep by 24" on-center to about 10' outside of the dripline. Fill the holes with natural organic matter (leaf litter). This material will decompose & will produce a year-around source of fertilizer for the tree.
4. Most Oaks/trees require little or no live wood pruning within their canopies. No major structural pruning shall be allowed. A qualified arborist under the review of **RDI & Associates, Inc. (dba TREES, etc.)** shall complete all dead wood removal and/or pruning.
- A. Trees do not heal the way people do. When a tree is wounded, it must grow over & compartmentalize the wound. As a result, the wound is contained within the tree forever. Small cuts do less damage than large cuts. For that reason, proper pruning or training of young trees is critical. Waiting to prune a tree until it is mature can create the need for large cuts that the tree can not easily close. Correct pruning cuts are critical to a tree's response in growth & wound closure. Pruning cuts should be made just outside of the branch collar (which contains trunk or parent branch tissues). If the cut is too large, the tree may suffer permanent internal decay from an improper pruning cut.
 - B. Dead wood pruning removal – is the removal of dead tissue, no matter the size, is an acceptable practice. All pruning should follow the standards as set forth by the International Society of Arboriculture (ISA).
 - C. Live wood pruning removal – live branches that are considered to be unsafe due to decay; branches with cavities, cracks, fire damaged, diseased or infested with insects; branches that are physically imbalanced; especially branches with the above noted problems that are over 2" in diameter should be considered for removal. All pruning should follow the standards as set forth by the ISA.
 - D. Cavities & hollows – should be kept free of loose debris, soil & plants. Some contain decayed wood, which should be treated by a qualified arborist only. Concrete or other similar materials should not be used to seal or fill in cavities or hollows. Cavities or hollows may be covered with screening to prevent debris build-up.
 - E. Wound Dressings or Sealants – it was once thought that dressings were used to accelerate wound closure, but research has found that dressings do not reduce decay or speed closure & rarely prevent insect or disease infestations. Pruning wounds should not be sealed with any type of "pruning wound sealing compounds". Over time, these materials crack & can

OAK TREE REPORT

Proposed 4-Lot Sub-Division

RDI Project No.: 1008-1-18

Page 16 of 16

create entry points for diseases and/or insects. Wounds will "heal" properly if pruned correctly.

5. Insects & Diseases

- A. Effective pest control begins with the observation by the land owner. Changes such as abnormal leaf drop, oozing sap or discolored or dying twigs or leaves typically indicate that something has changed. Land owners should be careful when using pesticides around an Oak tree. Herbicides (weed killers) should never be used within the Protected Zone of an Oak tree, unless approved & applied by a certified pesticide applicator.

6. Inspections & Reviews

- A. This site's Oak trees should be inspected on a periodic basis by this Consulting Arborist. The inspection basis should be determined by the relative hazard value of the tree. If a tree is in a "high-use" area, it should be inspected at least on a quarterly basis, whereas a tree that is located in a "low-use" area may only require a bi-annual inspection.

NOTICE of DISCLAIMER = Opinions given in this report are those of ***RDI & Associates, Inc. (dba TREES, etc.)***, and are derived from current professional standards based on visual recordings at the time of inspection. This visual record does not include aerial or subterranean inspections, and therefore may not reveal existing hidden hazards. Records may not remain accurate after inspection due to changeable deterioration of the inventoried plant material. ***RDI & Associates, Inc. (dba TREES, etc.)***, provides no warranty regarding errors of omission resulting from the lack of communication of facts available only to the requester of this report which are expressed or implied as to the fitness of the urban forests for safe uses. ***RDI & Associates, Inc. (dba TREES, etc.)*** has no past, present or future interest in this property or the subject trees. This report may not be reproduced without the expressed written permission of ***RDI & Associates, Inc. (dba TREES, etc.)***. Any change or alteration to this report invalidates the entire report.

If you have any further questions, please do not hesitate to call ***RDI & Associates, Inc. (dba TREES, etc.)***.

Sincerely,
RDI & Associates, Inc.
dba ***TREES, etc.***



Richard Ibarra, President
CONSULTING ARBORIST
(OAK TREE CONSULTANT)

1008otr-1-20[a] // Jan. 15, 2020 (2nd Revision)

TREE CANOPY MEASUREMENTS

[eight-point driplines (north, northeast, east, southeast, south, southwest, west, & northwest), along with the minimum clearances from the existing field grades to the bottoms of the canopy at each compass point – **where possible**]

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	1	2	3	4	5	6	7	8	9	10
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points		X									X
Lacking Natural Symmetry	3 points			X	X	X	X	X	X	X	X	
Lacking a Full Crown	1 point											
TRUNK CONDITION												
Sound & Solid	5 points		X		X						X	X
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points			X		X	X	X	X		X	
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points		X	X	X	X	X	X	X	X	X	X
Few Structurally Dead or Broken Branches	3 points											
Many Structurally Dead or Broken Branches	1 point											
TWIG GROWTH												
Typical for Species & Age	5 points		X	X	X	X	X	X	X	X	X	X
Less Than 1/2 Normal	3 points											
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points		X	X	X	X	X	X	X	X	X	X
Minor Deficiency Symptoms	3 points											
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points		X		X					X		X
Severe Infestation	1 point			X		X	X	X	X		X	
ROOTS												
No Root Problems Apparent	5 points		X	X	X							X
Minor Root Problems	3 points					X	X	X	X	X	X	
Severe Root Problems	1 point											
TOTAL POINTS			32	23	30	21	21	21	21	28	21	32
Aesthetic Grade			A	B	B	B	B	B	B	B	B	B

ADDITIONAL COMMENTS

20.3" x 35" (465)	21.6" 22.2" 4.8" x 30" (407)	22.2" 25.7" x 40" (461)	18" 24.2" x 30" (405) Heritage	23" 25" x 30"	10" 12" 17" x 25" (397)	19" 19" x 25" (407)	13" dead stump 26.6" 3x2" 2 1/2" 3" x 35" (406) wires on trunk	25.7" 24.6" x 40" Heritage (408)	9.6" 24.8" x 35"
----------------------	---------------------------------	----------------------------	-----------------------------------	---------------	----------------------------	------------------------	--	-------------------------------------	------------------

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	11	12	13	14	15	16	17	18	19	20
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points							X		X	X	
Lacking Natural Symmetry	3 points		X	X	X	X	X		X			X
Lacking a Full Crown	1 point											
TRUNK CONDITION												
Sound & Solid	5 points			X			X	X		X	X	
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points		X		X	X			X			X
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points		X	X	X	X	X	X		X	X	X
Few Structurally Dead or Broken Branches	3 points								X			
Many Structurally Dead or Broken Branches	1 point											
TWIG GROWTH												
Typical for Species & Age	5 points		X	X	X	X	X	X	X	X	X	X
Less Than 1/2 Normal	3 points											
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points		X	X	X	X	X	X	X	X	X	X
Minor Deficiency Symptoms	3 points											
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points			X			X	X		X	X	
Severe Infestation	1 point		X		X	X			X			X
ROOTS												
No Root Problems Apparent	5 points							X				
Minor Root Problems	3 points			X	X	X	X		X	X	X	X
Severe Root Problems	1 point		X									
TOTAL POINTS		19	28	21	21	28	32	20	30	30	21	
Aesthetic Grade		B	B	B	B	B	A	C	A	B	B	

ADDITIONAL COMMENTS

(409), Heritage 25.0" 27.4" x 40'	(410) Leaning West 13.6" x 20'	(411) 17.9" 2" 4 1/2" 4" x 20'	(414) 13" 19" 19 1/2" 18" 12" x 30'	(473) 12" 15" x 20'	(409) 6.5" 14.5" x 20'	(469-472), Heritage 7" 5" 20" 18" 6" 23" 24" x 30'	(411) 31.8" @ 36" high x 25'	(412) 25.7" x 25'	(468) 32.1" x 30'
--------------------------------------	-----------------------------------	-----------------------------------	--	------------------------	---------------------------	---	---------------------------------	----------------------	----------------------

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	21	22	23	24	25	26	27	28	29	30
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points		X			X	X	X				
Lacking Natural Symmetry	3 points			X	X				X	X		X
Lacking a Full Crown	1 point										X	
TRUNK CONDITION												
Sound & Solid	5 points		X					X				X
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points			X	X	X	X		X	X	X	
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points		X	X	X		X	X	X	X	X	X
Few Structurally Dead or Broken Branches	3 points											
Many Structurally Dead or Broken Branches	1 point											
TWIG GROWTH												
Typical for Species & Age	5 points		X	X	X		X	X	X	X	X	X
Less Than 1/2 Normal	3 points											
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points		X	X	X		X	X	X	X		X
Minor Deficiency Symptoms	3 points											
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points		X	X	X			X				X
Severe Infestation	1 point						X		X	X		
ROOTS												
No Root Problems Apparent	5 points		X	X	X		X	X	X	X		X
Minor Root Problems	3 points											
Severe Root Problems	1 point											
TOTAL POINTS			32	25	25	25	25	32	29	23	23	30
Aesthetic Grade			A	B	B	B	A	A	B	C	D	B

LIMITED PER CITY PERMIT

LIMITED PER CITY PERMIT

REMOVED PER CITY PERMIT

REMOVED PER CITY PERMIT

ADDITIONAL COMMENTS

(467) 28.2" x 30'

(466) 5" @ 32" high, 16", 15", 17" x 30'

(413) 6" 18" 2 x 20" x 35'

(464), Heritage 26" 28" 26" 9" x 30'

30.9" x 30'

28.7" x 30'

(295) 3" 16" 13" 14" 15" x 25'

(296) 9" 10" x 28'

(449) recently pruned 2.7" x 30'

(447) 5" 9" 12" 17" 14" x 30'

Inspection Date (Project No.) 3/16 & 19/18

TREE EVALUATIONS

3/16/18
3/19/18

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	31	32	33	34	35	36	37	38	39	40
FACTORS		POINTS										
CROWN DEVELOPMENT												
Well Balanced	5 points	X										
Lacking Natural Symmetry	3 points		X								X	
Lacking a Full Crown	1 point				X	X	X	X	X	X		X
TRUNK CONDITION												
Sound & Solid	5 points	X			X	X	X	X	X	X		X
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points		X								X	
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points	X	X				X	X	X		X	X
Few Structurally Dead or Broken Branches	3 points				X							
Many Structurally Dead or Broken Branches	1 point			X								
TWIG GROWTH												
Typical for Species & Age	5 points	X	X	X	X			X	X		X	X
Less Than 1/2 Normal	3 points											
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points	X	X	X	X			X	X		X	X
Minor Deficiency Symptoms	3 points											
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points							X				X
Few Controllable Insects/Diseases Apparent	3 points	X	X	X	X						X	
Severe Infestation	1 point											
ROOTS												
No Root Problems Apparent	5 points	X	X	X	X			X			X	X
Minor Root Problems	3 points											
Severe Root Problems	1 point											
TOTAL POINTS		32	25	25	27	30	30	30	29	25	30	
Aesthetic Grade		A	B	C	C	C	C	C	C	C	C	

REMOVED PER CITY PERMIT

ADDITIONAL COMMENTS

(448)	15" 17" x 30'
(298)	10" 15" x 25'
(302)	23" x 30'
	16" x 30'
	Northerly Lean
	15" x 25'
	(306) Northerly Lean
	10" x 20'
	(307) westerly Lean
	11" x 20'
	(311)
	10" 12" x 25'
	(312)
	16" x 30'
	(309) Easterly Lean
	11" x 25'

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	41	42	43	44	45	46	47	48	49	50
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points							X				
Lacking Natural Symmetry	3 points		X	X	X	X	X		X	X	X	X
Lacking a Full Crown	1 point	X										
TRUNK CONDITION												
Sound & Solid	5 points	X	X	X	X	X			X	X	X	
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points							X				X
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points		X	X		X		X	X	X		
Few Structurally Dead or Broken Branches	3 points	X			X			X			X	X
Many Structurally Dead or Broken Branches	1 point											
TWIG GROWTH												
Typical for Species & Age	5 points	X	X	X	X	X	X	X	X	X	X	X
Less Than 1/2 Normal	3 points											
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points	X	X	X	X	X	X	X	X	X	X	X
Minor Deficiency Symptoms	3 points											
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points	X	X	X	X	X	X	X	X	X	X	X
Severe Infestation	1 point											
ROOTS												
No Root Problems Apparent	5 points	X	X	X	X	X	X	X	X	X	X	
Minor Root Problems	3 points											X
Severe Root Problems	1 point											
TOTAL POINTS		27	30	30	29	30	26	30	30	29	22	
Aesthetic Grade		C	B	B	B	B	B	B	B	C	C	

ADDITIONAL COMMENTS

(316) 19" x 40'	(313) 21" x 40'	(316) 16" x 35'	(318) 13" x 30'	(323) 19" x 30'	(320) 27" x 40'	(321) 18" x 35'	(322) 14" x 30'	15" x 30'	(324) 10" 12" x 25'
--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	-----------	------------------------

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points		X	X			X			X	X	
Lacking Natural Symmetry	3 points				X			X	X			X
Lacking a Full Crown	1 point				X							
TRUNK CONDITION												
Sound & Solid	5 points				X				X	X	X	
Section of Bark Missing:												
Less Than 1/4 Around	4 points		X									
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points			X		X	X	X				X
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points		X		X		X	X	X	X	X	
Few Structurally Dead or Broken Branches	3 points			X								X
Many Structurally Dead or Broken Branches	1 point					X						
TWIG GROWTH												
Typical for Species & Age	5 points		X	X	X		X	X	X	X	X	X
Less Than 1/2 Normal	3 points					X						
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points		X	X	X		X	X	X	X	X	X
Minor Deficiency Symptoms	3 points					X						
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points				X				X	X	X	
Severe Infestation	1 point		X	X		X	X	X				X
ROOTS												
No Root Problems Apparent	5 points		X	X	X	X	X	X	X	X	X	X
Minor Root Problems	3 points											
Severe Root Problems	1 point											
TOTAL POINTS		29	24	30	14	25	23	30	32	32	22	
Aesthetic Grade		A	B	C	D	A	C	C	B	B	D	

ADDITIONAL COMMENTS

(338) Termites
46.55" x 40' Heritage
(368) Heritage
40.9" x 35'
(365)
5 1/2" 6" x 20'
(364)
6" x 20'
(363) Heritage
37.0" x 40'
(362)
22.7" x 25'
8" 9" x 25'
Crowned by #69
2 1/2" x 15'
(361)
15" x 25'
3 1/2" 8" 11" x 25'

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	71	72	73	74	75	76	77	78	79	80
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points								X		X	X
Lacking Natural Symmetry	3 points	X	X	X	X	X	X	X		X		
Lacking a Full Crown	1 point											
TRUNK CONDITION												
Sound & Solid	5 points	X	X	X			X	X	X	X	X	X
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points											
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points	X		X					X	X	X	X
Few Structurally Dead or Broken Branches	3 points		X				X	X				
Many Structurally Dead or Broken Branches	1 point											
TWIG GROWTH												
Typical for Species & Age	5 points	X	X	X			X	X	X	X	X	X
Less Than 1/2 Normal	3 points											
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points	X	X	X			X	X	X	X		X
Minor Deficiency Symptoms	3 points											
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points	X	X	X					X	X		X
Severe Infestation	1 point											
ROOTS												
No Root Problems Apparent	5 points	X	X	X					X	X		X
Minor Root Problems	3 points											
Severe Root Problems	1 point											
TOTAL POINTS		30	29	30					32	29		32
Aesthetic Grade		B	B	B					A	C		B
ADDITIONAL COMMENTS												
		(340) wire in trunk 21.5" x 30'	(341) 28.7" x 30'	(342) 23.05" x 30'	(343) 10 1/2" x 18"	(344) 18" x 30'	(345) 24.7" x 30'	(346) Lg. Beehive 24" x 26" x 40" (41" x 52" high)	(347) 19" x 16" x 30'	(348) 3 1/2" x 13'	(349) 27.8" x 30'	

REMOVED PER CITY PERMIT (DANGER OF TREE)
 REMOVED PER CITY PERMIT
 REMOVED PER CITY PERMIT
 REMOVED PER CITY PERMIT

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	81	82	83	84	85	86	87	88	89	90
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points			X					X	X		X
Lacking Natural Symmetry	3 points		X		X	X	X	X			X	
Lacking a Full Crown	1 point										X	
TRUNK CONDITION												
Sound & Solid	5 points		X		X	X			X			
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points			X			X	X		X	X	X
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points		X	X	X	X		X	X	X		
Few Structurally Dead or Broken Branches	3 points						X					X
Many Structurally Dead or Broken Branches	1 point										X	
TWIG GROWTH												
Typical for Species & Age	5 points		X	X	X	X	X	X	X	X		X
Less Than 1/2 Normal	3 points										X	
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points		X	X	X	X	X	X	X	X	X	X
Minor Deficiency Symptoms	3 points											
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points		X			X						
Few Controllable Insects/Diseases Apparent	3 points				X				X	X		
Severe Infestation	1 point			X			X	X			X	X
ROOTS												
No Root Problems Apparent	5 points		X	X	X	X	X	X	X	X	X	X
Minor Root Problems	3 points											
Severe Root Problems	1 point											
TOTAL POINTS		32	25	30	32	22	23	22	27	18	24	
Aesthetic Grade		B	A	B	B	C	C	B	A	C	A	

ADDITIONAL COMMENTS

Crowded by #82
3" x 15'

(352), Heritage
2.6" 3.2" x 3.5'

(354) Westerbly lean
16" x 2.5'

Crowded by #83
4 1/2" x 13'

(355); Woodpecker damage
3 1/2" 5' 2.9" x 30'

6" 5" x 15'

(356)
13" 14" 16" x 2.5'

(357)
31.6" x 30'

(359)
22" 23" x 30'

(358)
36.8" x 30'

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	91	92	93	94	95	96	97	98	99	100
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points		X	X	X		X	X	X			
Lacking Natural Symmetry	3 points									X	X	X
Lacking a Full Crown	1 point					X						
TRUNK CONDITION												
Sound & Solid	5 points		X	X					X		X	
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points				X	X	X	X		X		X
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points		X	X	X		X	X	X	X	X	
Few Structurally Dead or Broken Branches	3 points					X						X
Many Structurally Dead or Broken Branches	1 point											
TWIG GROWTH												
Typical for Species & Age	5 points		X	X			X	X	X	X		
Less Than 1/2 Normal	3 points				X	X					X	X
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points		X	X	X							
Minor Deficiency Symptoms	3 points					X	X	X	X	X	X	X
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points		X	X					X	X	X	
Severe Infestation	1 point				X		X	X				X
ROOTS												
No Root Problems Apparent	5 points		X	X				X	X		X	X
Minor Root Problems	3 points											
Severe Root Problems	1 point				X		X			X		
TOTAL POINTS			32	32	19		19	23	30	19	26	18
Aesthetic Grade			A	A	A		A	B	A	C	C	C

REMOVED IN 2020

ADDITIONAL COMMENTS

(378)	28.2" x 30
(379)	Canopy in wires
(380)	25" @ 36" high x 25'
(381)	34.3" x 30'
(382)	19" x 25'
(383)	Heritage
(384)	44.2" x 30'
(385)	143.8" @ 1/2" high
(386)	30.5" @ 32" high x 30'
(387)	Heritage
(388)	35.7" @ 42" high x 30'
(389)	16" @ 18" x 30'
(390)	2 x 13" x 25'
(391)	25' x 25'
(392)	3 1/2" x 4" @ 19" x 4" @ 21" x 3 1/2" @ 17"

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	101	102	103	104	105	106	107	108	109	110
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points						X	X	X	X		X
Lacking Natural Symmetry	3 points	X	X	X	X						X	
Lacking a Full Crown	1 point											
TRUNK CONDITION												
Sound & Solid	5 points								X	X		X
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points	X	X	X	X	X	X				X	
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points	X	X	X	X	X	X	X	X	X		X
Few Structurally Dead or Broken Branches	3 points										X	
Many Structurally Dead or Broken Branches	1 point											
TWIG GROWTH												
Typical for Species & Age	5 points	X	X	X	X	X	X	X	X	X	X	X
Less Than 1/2 Normal	3 points											
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points	X	X	X	X	X	X	X	X	X	X	X
Minor Deficiency Symptoms	3 points											
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points								X	X		X
Severe Infestation	1 point	X	X	X	X	X	X				X	
ROOTS												
No Root Problems Apparent	5 points	X	X	X	X	X	X	X	X	X	X	X
Minor Root Problems	3 points											
Severe Root Problems	1 point											
TOTAL POINTS		23	23	23	23	29	25	32	32	22	32	
Aesthetic Grade		C	B	B	C	A	B	B	B	C	A	

ADDITIONAL COMMENTS

(3715) 13", 15", 18" x 30'
 15", 21" x 30'
 (3713) 3 1/2", 13" x 25'
 (3712) 9", 13", 15" x 25'
 (3711) 38.5" x 30'
 (369) 17", 18" x 30'
 5", 24" x 30'
 19", 22" x 30'
 (445) 1 3/4", 6" 13" x 25'
 (443) 16", 24 1/2", 20" x 30'

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	111	112	113	114	115	116	117	118	119	120
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points			X	X	X	X					
Lacking Natural Symmetry	3 points							X	X	X		
Lacking a Full Crown	1 point	X									X	X
TRUNK CONDITION												
Sound & Solid	5 points		X		X					X	X	X
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points	X		X		X	X	X				
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points		X	X	X		X	X	X			X
Few Structurally Dead or Broken Branches	3 points					X					X	
Many Structurally Dead or Broken Branches	1 point	X										
TWIG GROWTH												
Typical for Species & Age	5 points		X	X	X		X	X	X	X		
Less Than 1/2 Normal	3 points					X					X	X
Growth Greatly Reduced	1 point	X										
FOLIAGE												
Normal Size & Color	5 points		X	X	X							
Minor Deficiency Symptoms	3 points					X	X	X	X	X	X	X
Major Deficiency Symptoms	1 point	X										
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points		X	X	X					X	X	X
Severe Infestation	1 point	X		X		X	X	X				
ROOTS												
No Root Problems Apparent	5 points		X	X	X	X	X	X	X	X	X	X
Minor Root Problems	3 points											
Severe Root Problems	1 point	X										
TOTAL POINTS		6	32	25	32	20	21	21	28	25	26	
Aesthetic Grade		D	A	A	A	A	B	C	C	C	C	

ADDITIONAL COMMENTS

(443) 15"	(439) 20.4" x 30'	39.0" x 35'; Heritage (445) 27.2" x 30'	36.6" x 40'; Heritage (450) 20" x 25'	2x18" 14" x 25' (434)	12" 15" 18" x 30' (435) 10" x 2 x 30'	6 1/2" x 30'
--------------	----------------------	---	---	--------------------------	---	--------------

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	121	122	123	124	125	126	127	128	129	130
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points			X				X	X			
Lacking Natural Symmetry	3 points				X	X				X	X	X
Lacking a Full Crown	1 point		X		X							
TRUNK CONDITION												
Sound & Solid	5 points		X									
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points			X	X	X	X	X	X	X	X	X
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points		X	X		X	X		X	X		X
Few Structurally Dead or Broken Branches	3 points							X			X	
Many Structurally Dead or Broken Branches	1 point											
TWIG GROWTH												
Typical for Species & Age	5 points			X		X	X	X	X	X	X	X
Less Than 1/2 Normal	3 points		X									
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points			X		X	X		X			
Minor Deficiency Symptoms	3 points		X					X		X	X	X
Major Deficiency Symptoms	1 point				X							
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points		X	X		X						
Severe Infestation	1 point						X	X	X	X	X	X
ROOTS												
No Root Problems Apparent	5 points		X	X		X	X	X	X	X	X	X
Minor Root Problems	3 points											
Severe Root Problems	1 point											
TOTAL POINTS		24	29	10	25	23	22	25	21	20	21	
Aesthetic Grade		C	B		B	C	B	B	B	C	C	

ADDITIONAL COMMENTS
5" 9" x 30'
12" 24" x 30' (4333)
3" 4" 19" x 25' (4322)
18" 14" 20" 3 1/2" 25" x 30'
2x10" 2x9" 8" 7" x 30' (35.8" @ 4 1/2' high)
22" 24" x 30'
3" 3x12" x 30' (428)
5 1/2" 12" 9" 25" 12.1" x 30' (427)
10" 13" 17" 4" x 35'
22" 18" x 30'

REMOVED IN 2020 (PER CITY PERMIT)

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	131	132	133	134	135	136	137	138	139	140
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points			X				X				X
Lacking Natural Symmetry	3 points		X		X	X			X	X	X	
Lacking a Full Crown	1 point											
TRUNK CONDITION												
Sound & Solid	5 points		X							X	X	X
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points			X	X	X	X	X				
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points		X	X	X			X	X	X	X	X
Few Structurally Dead or Broken Branches	3 points						X					
Many Structurally Dead or Broken Branches	1 point											
TWIG GROWTH												
Typical for Species & Age	5 points		X	X	X	X	X	X	X	X	X	X
Less Than 1/2 Normal	3 points											
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points		X	X	X	X	X	X	X	X	X	X
Minor Deficiency Symptoms	3 points											
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points		X							X	X	X
Severe Infestation	1 point			X	X	X	X	X	X			
ROOTS												
No Root Problems Apparent	5 points		X	X	X	X	X	X	X	X	X	X
Minor Root Problems	3 points											
Severe Root Problems	1 point											
TOTAL POINTS			30	25	23	22	25	23	30	30	32	
Aesthetic Grade			C	C	C	C	B	C	B	B	A	

ADDITIONAL COMMENTS
NUMBER NOT USED
15" 20" x 30'
10" 20" 24" x 30' C300S
14" 17" 20" x 30' (391), Heritage
6" 15" 23" 32" 28" x 40'
20" 2" x 30' (390)
7" 2x9" 23" 16" x 30' (2492) Graded by 2.123
21" x 30' (393) Graded by #1158
19" x 30' (4226)
32.4" x 30'

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	141	142	143	144	145	146	147	148	149	150
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points				X				X	X		
Lacking Natural Symmetry	3 points	X	X	X		X	X				X	X
Lacking a Full Crown	1 point											
TRUNK CONDITION												
Sound & Solid	5 points	X	X	X	X	X	X	X	X	X		
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points										X	X
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points	X	X	X	X	X	X	X	X	X	X	X
Few Structurally Dead or Broken Branches	3 points											
Many Structurally Dead or Broken Branches	1 point											
TWIG GROWTH												
Typical for Species & Age	5 points	X	X	X	X	X	X	X	X	X	X	X
Less Than 1/2 Normal	3 points											
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points	X	X	X	X	X	X	X	X	X	X	X
Minor Deficiency Symptoms	3 points											
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points	X	X	X	X	X	X	X	X	X	X	X
Severe Infestation	1 point											
ROOTS												
No Root Problems Apparent	5 points	X	X	X	X	X	X	X	X	X	X	X
Minor Root Problems	3 points											
Severe Root Problems	1 point											
TOTAL POINTS		30	30	30	32	30	30	32	32	29	29	
Aesthetic Grade		B	B	B	A	B	B	B	B	C	C	

ADDITIONAL COMMENTS

(417) Crowned by #142
2.7" x 30'

(418) Crowned by #141
17" x 25'

16" 18" x 30'
(456)
26" x 30'

(455) Crowned by #146
14" 16" x 30'
Crowned by #145
20" x 30'

(457) Crowned by #148
15" 19" x 30'

(458) Crowned by #147
23" x 30'

(463); Crowned by #150/151
13" 2x12" 15" x 25'

(462); Crowned by #149; #151
11" 13" x 20'

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	151	152	153	154	155	156	157	158	159	160
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points			X					X			
Lacking Natural Symmetry	3 points	X	X		X	X	X			X	X	X
Lacking a Full Crown	1 point											
TRUNK CONDITION												
Sound & Solid	5 points	X	X	X	X	X	X			X		X
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points								X		X	
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points	X	X	X	X	X	X			X	X	X
Few Structurally Dead or Broken Branches	3 points								X			
Many Structurally Dead or Broken Branches	1 point											
TWIG GROWTH												
Typical for Species & Age	5 points	X	X	X	X	X	X	X	X	X	X	X
Less Than 1/2 Normal	3 points											
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points			X						X	X	X
Minor Deficiency Symptoms	3 points	X	X		X	X	X	X	X			
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points			X								
Few Controllable Insects/Diseases Apparent	3 points	X	X		X	X	X			X		X
Severe Infestation	1 point								X		X	
ROOTS												
No Root Problems Apparent	5 points	X	X	X	X	X	X	X	X	X	X	X
Minor Root Problems	3 points											
Severe Root Problems	1 point											
TOTAL POINTS		30	30	34	30	30	30	22	30	23	30	
Aesthetic Grade		C	B	A	B	B	C	C	B	C	B	

ADDITIONAL COMMENTS

(116): Gravel (herm) (1911)
 18" x 2.5'
 (454)
 12" x 20'
 2 1/4" x 13'
 (453)
 22" x 35'
 (452)
 19" x 20'
 (451)
 12" 16" 18" x 30'
 (460), Heritage
 43, 1" x 25'
 (459) Gravel (herm) #157
 23" x 25'
 (415)
 6" 16" 28" x 25'
 (413)
 15" 17" x 30'

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	171	172	-	OP1	OP2	OP3	-	-	-	-
FACTORS	POINTS											
CROWN DEVELOPMENT												
Well Balanced	5 points					X	X	X				
Lacking Natural Symmetry	3 points	X	X									
Lacking a Full Crown	1 point											
TRUNK CONDITION												
Sound & Solid	5 points					X		X				
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points	X					X					
BRANCH STRUCTURE												
No Defects	5 points											
Dieback (Limited)	4 points	X				X	X	X				
Few Structurally Dead or Broken Branches	3 points											
Many Structurally Dead or Broken Branches	1 point											
TWIG GROWTH												
Typical for Species & Age	5 points	X				X	X	X				
Less Than 1/2 Normal	3 points											
Growth Greatly Reduced	1 point											
FOLIAGE												
Normal Size & Color	5 points	X	X			X	X	X				
Minor Deficiency Symptoms	3 points											
Major Deficiency Symptoms	1 point											
INSECTS & DISEASES												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points					X		X				
Severe Infestation	1 point	X					X					
ROOTS												
No Root Problems Apparent	5 points	X				X	X	X				
Minor Root Problems	3 points											
Severe Root Problems	1 point											
TOTAL POINTS		23				32	25	32				
Aesthetic Grade		B				A	A	A				

REMOVED PER CITY PERMIT (FALLEN HALF)

ADDITIONAL COMMENTS												
			(334) Graded by #172 32.5" x 30'									
			(335) Graded by #171 20.65", 37.7" x 35'									
						28" x 30'						
						11", 17", 18", 36" x 30'						
						24" x 30'						

TREE EVALUATIONS

[on & off property Oaks]

The inventory Health & Aesthetic Ratings of the trees are explained in the following:

The Health of the trees was visually determined from the following macroscopic inspection of signs and symptoms of disease.

- A. Excellent (31 to 35 points) - This tree is a healthy & vigorous tree characteristic of its species and free of any visible signs of disease or pest infestation.
- B. Good (26 to 30 points) - This tree is a healthy & vigorous tree. However, there are minor visible signs of disease and pest infestation.
- C. Fair (16 to 25 points) - This tree is healthy in overall appearance, but there is a normal amount of disease and/or pest infestation.
- D. Poor* (11 to 15 points) - This tree is characterized by exhibiting a greater degree of disease and/or pest infestation or structural instability than normal and appears to be in a state of decline.
- E. Very Poor* (6 to 10 points) - This tree exhibits extensive signs of dieback.
- F. Dead* (0 points) - This tree exhibits no signs of life at the time of field evaluation.

* A tree rating of "D" and lower is in low vigor and naturally a meaningful level of recovery is doubtful. Removal should be considered if it is within the proposed development.

The Aesthetic quality of the trees was visually determined from the following overall inspection of appearance.

- A. Excellent - This tree is visually symmetrical, having the ideal form and appearance for the species.
- B. Good to Fair - This tree, though non-symmetrical, has an appealing form for the species with very little dieback of foliage or twigs/branches.
- C. Poor - This tree is non-symmetrical for the species with an unappealing form and/or has much dieback of foliage and twigs/branches.
- D. Very Poor - This tree has few, if any, positive characteristics and may detract from the beauty of the landscape.

DRIPLINE MEASUREMENTS @ 8 compass points & canopy heights

Tree No.	North / Canopy Ht.	Northeast / Canopy Ht.	East / Canopy Ht.	Southeast / Canopy Ht.	South / Canopy Ht.	Southwest / Canopy Ht.	West / Canopy Ht.	Northwest / Canopy Ht.
1	30/20	25/20	20/8	30/10	30/10	25/15	20/25	20/20
2	10/5	15/10	25/10	30/10	30/10	30/10	25/10	15/10
3	30/20	30/15	25/20	30/20	30/20	30/20	30/20	30/20
4	35/10	40/15	34/10	15/10	20/20	42/15	30/20	25/20
5	20/20	13/25	30/20	38/15	39/10	30/25	27/20	30/20
6	25/15	25/20	30/15	30/10	20/10	30/10	25/20	30/15
7	20/20	20/10	24/10	25/10	24/15	20/10	14/20	20/20
8	0	0	0	30/10	30/10	30/10	25/20	0
9	30/15	30/10	25/10	25/8	20/20	10/20	30/15	30/20
10	30/15	28/15	25/8	25/8	30/10	30/6	5/15	20/20
11	30/10	15/15	10/30	30/15	30/15	30/10	30/10	27/25
12	25/10	25/4	20/7	0	0	0	20/4	20/4
13	20/6	25/7	20/10	20/6	30/6	25/8	25/8	20/10
14	30/3	36/4	30/5	30/4	30/8	30/20	39/3	39/4
15	20/6	30/6	20/8	20/8	0	0	10/8	20/10
16	14/6	15/10	16/4	17/5	16/4	16/7	13/6	16/7
17	30/20	25/20	30/4	30/20	30/20	25/7	24/15	30/15
18	12/15	22/8	26/20	31/12	16/15	5/10	5/15	7/15
19	10/20	12/20	17/20	32/8	20/10	18/5	12/7	12/20
20 PRESERVE	30/20	30/30	30/20	30/15	30/20	30/20	25/10	25/20
21	17/10	28/7	28/7	25/20	25/20	27/20	28/20	25/10
22	20/5	20/5	25/6	30/5	30/4	30/6	35/15	20/15
23	25/5	25/10	28/15	32/10	33/4	27/6	25/6	30/20
24	42/15	43/5	52/5	50/5	45/4	50/10	45/15	45/15
25	28/10	27/6	24/10	39/10	31/15	32/7	30/8	28/7

DRIPLINE MEASUREMENTS @ 8 compass points & canopy heights

Tree No.	North / Canopy Ht.	Northeast / Canopy Ht.	East / Canopy Ht.	Southeast / Canopy Ht.	South / Canopy Ht.	Southwest / Canopy Ht.	West / Canopy Ht.	Northwest / Canopy Ht.
26	28'/15'	25'/10'	25'/15'	30'/15'	30'/15'	26'/15'	20'/20'	25'/10'
27	33'/10'	20'/6'	27'/10'	25'/6'	20'/5'	25'/10'	30'/10'	38'/7'
28	0	20'/10'	20'/6'	25'/4'	25'/4'	10'/10'	0	0
29	0	0	0	10'/10'	0	0	0	0
30	17'/20'	30'/4'	28'/5'	30'/20'	33'/15'	25'/10'	35'/5'	35'/20'
31	28'/20'	28'/15'	27'/15'	25'/15'	12'/20'	15'/20'	20'/20'	25'/20'
32	15'/20'	15'/20'	20'/10'	20'/6'	15'/15'	20'/15'	20'/10'	15'/15'
33	26'/25'	25'/25'	26'/25'	10'/20'	5'/5'	20'/20'	10'/20'	25'/20'
34	20'/25'	20'/15'	10'/5'	15'/10'	10'/15'	20'/10'	20'/15'	20'/20'
35	0	28'/20'	26'/20'	3'/6'	1'/6'	1'/6'	0	0
36	0	21'/15'	0	0	0	0	0	0
37	33'/7'	15'/10'	5'/10'	0	0	0	10'/10'	15'/10'
38	0	0	0	20'/10'	25'/15'	10'/10'	0	0
39	0	20'/15'	20'/20'	25'/20'	20'/20'	20'/6'	0	0
40	0	0	0	25'/15'	25'/15'	0	0	0
41	20'/25'	0	5'/5'	5'/5'	5'/5'	5'/10'	10'/10'	25'/25'
42	35'/10'	33'/10'	33'/25'	0	0	0	0	30'/20'
43	25'/20'	25'/20'	20'/20'	20'/20'	30'/10'	0	0	0
44	0	0	0	20'/10'	25'/5'	20'/10'	0	0
45	25'/25'	25'/25'	25'/25'	25'/25'	25'/25'	25'/25'	25'/25'	25'/25'
46	20'/25'	20'/25'	20'/20'	25'/20'	25'/10'	25'/6'	25'/25'	20'/25'
47	30'/25'	35'/30'	15'/15'	0	0	0	15'/15'	25'/25'
48	8'/5'	8'/5'	5'/6'	5'/5'	5'/5'	5'/5'	5'/5'	8'/5'
49	25'/25'	0	0	0	0	0	20'/20'	25'/25'
50	15'/20'	10'/10'	10'/10'	10'/10'	20'/20'	20'/20'	15'/6'	20'/20'

DRIPLINE MEASUREMENTS @ 8 compass points & canopy heights

Tree No.	North / Canopy Ht.	Northeast / Canopy Ht.	East / Canopy Ht.	Southeast / Canopy Ht.	South / Canopy Ht.	Southwest / Canopy Ht.	West / Canopy Ht.	Northwest / Canopy Ht.
51	30/15	25/25	20/25	25/15	30/10	20/10	20/20	30/10
52	30/20	30/20	40/20	50/15	40/1	40/2	30/5	35/10
53 BEEHIVE	15/10	10/15	10/15	15/15	20/15	10/10	10/10	10/10
54	40/20	30/20	20/20	20/25	10/25	20/25	20/20	25/20
55	30/10	40/6	40/6	30/10	45/10	30/10	30/10	30/10
56	20/5	30/6	20/6	30/6	32/3	32/6	32/6	25/6
57	25/10	30/8	20/6	30/5	15/5	30/5	20/4	20/10
58	34/15	30/15	20/6	30/6	25/6	35/6	20/10	30/15
59	30/6	30/6	30/6	32/6	35/6	35/6	25/6	30/6
60	30/6	25/6	22/6	25/6	25/6	20/6	30/6	20/6
61	30/20	20/20	30/20	40/6	40/4	40/10	20/20	30/10
62	40/10	40/10	33/10	40/4	40/7	40/5	25/15	40/15
63	5/5	2/10	5/5	5/5	10/6	20/8	15/10	10/8
64	20/15	0	0	0	5/5	2/2	5/10	15/15
65	35/10	40/10	35/20	30/20	45/20	20/20	30/25	20/25
66	9/15	20/15	7/15	40/6	40/6	35/6	17/10	15/20
67	20/15	15/15	0	0	0	20/15	22/15	25/15
68	1/5	3/6	5/10	5/7	3/10	5/7	5/10	3/10
69	20/10	20/10	20/10	20/10	15/10	16/10	20/10	20/10
70	15/10	15/10	15/15	15/15	20/6	10/20	5/10	20/15
71	25/20	25/20	25/20	20/20	25/20	5/10	10/10	15/10
72	15/20	20/20	20/20	20/20	20/20	20/20	20/20	15/20
73	30/15	30/15	10/10	10/10	5/10	10/10	20/15	25/20
74	0	0	15/15	20/20	20/15	25/20	20/25	0
75	5/25	0	20/25	20/25	5/25	0	0	0

DRIPLINE MEASUREMENTS @ 8 compass points & canopy heights

Tree No.	North / Canopy Ht.	Northeast / Canopy Ht.	East / Canopy Ht.	Southeast / Canopy Ht.	South / Canopy Ht.	Southwest / Canopy Ht.	West / Canopy Ht.	Northwest / Canopy Ht.
76	22'/20'	0	0	0	0	0	23'/20'	30'/20'
BEEHIVE 77	30'/20'	25'/8'	25'/15'	25'/10'	20'/20'	25'/20'	22'/25'	30'/20'
78	5'/15'	10'/20'	20'/10'	25'/10'	20'/20'	20'/20'	15'/10'	5'/15'
79	4'/8'	3'/7'	3'/6'	3'/3'	5'/4'	10'/4'	3'/4'	3'/4'
80	10'/15'	20'/15'	30'/15'	30'/15'	30'/15'	30'/15'	30'/15'	20'/15'
82	40'/10'	35'/20'	30'/25'	35'/15'	35'/10'	30'/15'	20'/20'	25'/10'
81	3'/8'	4'/5'	4'/8'	6'/8'	8'/8'	5'/8'	0	0
84	15'/10'	10'/8'	10'/8'	0	0	10'/8'	10'/8'	10'/10'
83	0	0	0	20'/10'	20'/10'	20'/10'	15'/10'	0
85	20'/25'	20'/25'	27'/25'	25'/15'	20'/5'	30'/20'	30'/10'	30'/10'
86	10'/9'	7'/8'	6'/8'	5'/8'	12'/6'	13'/6'	14'/5'	10'/10'
87	20'/10'	25'/7'	20'/10'	30'/6'	25'/7'	20'/8'	20'/10'	25'/10'
88	23'/8'	30'/8'	25'/15'	20'/15'	20'/15'	23'/10'	25'/8'	24'/6'
89	28'/15'	30'/10'	30'/10'	20'/10'	17'/15'	20'/15'	25'/15'	30'/8'
90	40'/10'	35'/10'	30'/10'	30'/15'	30'/15'	30'/15'	37'/10'	38'/10'
91	27'/10'	30'/10'	30'/10'	28'/10'	25'/10'	25'/10'	20'/15'	25'/15'
92	18'/15'	20'/15'	26'/10'	29'/10'	28'/10'	—	—	—
93	30'/15'	35'/15'	30'/10'	35'/7'	30'/10'	25'/15'	30'/10'	30'/10'
94	0	0	0	10'/15'	20'/15'	29'/10'	20'/10'	0
95	23'/10'	30'/10'	30'/10'	25'/6'	25'/10'	25'/15'	25'/10'	25'/20'
96	30'/8'	30'/6'	22'/10'	25'/10'	25'/15'	25'/15'	22'/10'	25'/6'
97	27'/15'	30'/15'	30'/15'	25'/16'	23'/8'	25'/15'	30'/15'	30'/15'
98	20'/10'	25'/15'	25'/15'	20'/15'	15'/15'	20'/10'	9'/10'	20'/10'
99	25'/15'	20'/10'	20'/10'	23'/10'	22'/10'	20'/10'	21'/15'	20'/15'
100	30'/8'	25'/8'	20'/4'	15'/20'	22'/10'	27'/15'	22'/15'	30'/5'

DRIPLINE MEASUREMENTS @ 8 compass points & canopy heights

Tree No.	North / Canopy Ht.	Northeast / Canopy Ht.	East / Canopy Ht.	Southeast / Canopy Ht.	South / Canopy Ht.	Southwest / Canopy Ht.	West / Canopy Ht.	Northwest / Canopy Ht.
101	30'/10'	35'/10'	25'/10'	30'/10'	30'/10'	20'/10'	20'/20'	25'/15'
102	35'/15'	25'/10'	25'/10'	30'/10'	25'/10'	30'/10'	30'/10'	31'/8'
103	0	20'/20'	20'/15'	20'/15'	12'/3'	0	1'/5'	2'/10'
104	20'/10'	20'/8'	15'/20'	20'/20'	20'/15'	30'/3'	25'/15'	20'/10'
105	33'/10'	30'/15'	25'/8'	30'/8'	33'/10'	30'/15'	26'/20'	25'/15'
106	27'/15'	20'/15'	10'/20'	15'/6'	30'/15'	30'/6'	35'/10'	30'/10'
107	36'/20'	32'/10'	31'/15'	30'/15'	28'/20'	30'/15'	10'/20'	30'/20'
108	40'/8'	33'/10'	27'/15'	40'/8'	35'/8'	35'/7'	30'/10'	35'/8'
109	22'/8'	20'/10'	0	9'/10'	9'/10'	5'/10'	20'/10'	25'/7'
110	35'/15'	47'/10'	32'/10'	20'/15'	35'/20'	25'/15'	25'/15'	30'/15'
111	6'/5'	5'/16'	3'/10'	5'/7'	6'/8'	7'/10'	6'/10'	8'/10'
112	25'/20'	20'/20'	20'/8'	20'/10'	20'/15'	20'/15'	25'/20'	25'/20'
113	36'/10'	40'/15'	40'/6'	40'/5'	40'/6'	40'/6'	40'/10'	40'/7'
114	30'/6'	34'/10'	40'/4'	30'/6'	30'/6'	35'/7'	27'/20'	29'/10'
115	35'/10'	36'/10'	25'/15'	25'/10'	25'/13'	27'/15'	26'/8'	35'/10'
116	20'/10'	20'/15'	17'/6'	15'/6'	18'/8'	20'/10'	20'/10'	20'/10'
117	24'/8'	30'/8'	25'/6'	20'/6'	20'/9'	30'/8'	35'/8'	30'/8'
118	33'/10'	35'/10'	33'/8'	20'/20'	35'/15'	30'/10'	5'/20'	30'/8'
119	0	0	0	0	0	20'/20'	20'/20'	25'/20'
120	5'/8'	5'/8'	5'/8'	5'/8'	5'/8'	5'/8'	5'/8'	5'/8'
121	0	0	0	0	15'/15'	20'/15'	22'/15'	0
122	10'/15'	20'/10'	30'/5'	25'/6'	25'/6'	25'/10'	23'/20'	25'/12'
125	20'/6'	25'/16'	30'/6'	25'/6'	20'/15'	25'/6'	25'/6'	20'/6'
124	30'/10'	30'/15'	30'/10'	26'/15'	25'/20'	30'/15'	25'/10'	25'/15'
123	20'/10'	20'/10'	10'/6'	15'/6'	20'/6'	15'/7'	15'/6'	15'/6'

DRIPLINE MEASUREMENTS @ 8 compass points & canopy heights

Tree No.	North / Canopy Ht.	Northeast / Canopy Ht.	East / Canopy Ht.	Southeast / Canopy Ht.	South / Canopy Ht.	Southwest / Canopy Ht.	West / Canopy Ht.	Northwest / Canopy Ht.
126	25'/20'	20'/15'	16'/10'	20'/40'	30'/10'	25'/15'	25'/20'	25'/6'
127	10'/20'	15'/6'	20'/15'	20'/10'	17'/10'	25'/10'	20'/10'	20'/15'
128	20'/20'	30'/10'	30'/20'	35'/15'	30'/15'	35'/10'	30'/10'	30'/15'
129	35'/20'	30'/15'	30'/20'	30'/20'	25'/20'	25'/20'	25'/25'	30'/20'
130	40'/10'	30'/20'	20'/20'	30'/15'	32'/10'	30'/15'	33'/15'	35'/10'
131	-	-	-	-	-	-	-	-
132	33'/10'	31'/8'	Ø	Ø	Ø	30'/15'	28'/25'	30'/15'
133	20'/20'	30'/20'	25'/20'	30'/20'	35'/10'	35'/15'	25'/15'	20'/20'
134	26'/15'	20'/20'	17'/25'	20'/20'	25'/20'	25'/20'	20'/20'	25'/20'
135	25'/20'	35'/20'	48'/25'	50'/15'	45'/20'	45'/20'	45'/20'	40'/20'
136	25'/20'	25'/20'	25'/20'	25'/15'	25'/10'	25'/10'	30'/8'	25'/15'
137	25'/10'	28'/10'	30'/3'	30'/8'	30'/3'	30'/5'	30'/4'	30'/6'
138	3'/10'	20'/15'	20'/10'	20'/10'	21'/10'	22'/10'	25'/10'	22'/20'
139	15'/20'	25'/10'	23'/10'	27'/6'	24'/7'	25'/6'	10'/20'	15'/20'
140	15'/20'	35'/15'	40'/20'	40'/5'	35'/15'	35'/5'	26'/10'	27'/15'
141	32'/6'	35'/10'	20'/7'	5'/10'	2'/15'	5'/10'	20'/20'	30'/10'
142	Ø	15'/20'	15'/4'	15'/5'	20'/15'	30'/20'	20'/20'	25'/20'
143	25'/8'	25'/10'	30'/20'	25'/10'	25'/15'	25'/15'	30'/10'	30'/10'
144	25'/20'	20'/20'	30'/15'	25'/20'	20'/10'	25'/20'	30'/20'	25'/20'
145	30'/10'	25'/10'	20'/10'	Ø	Ø	30'/20'	35'/20'	30'/20'
146	10'/20'	25'/10'	20'/10'	20'/10'	30'/10'	25'/10'	20'/10'	10'/10'
147	20'/20'	26'/10'	20'/10'	15'/15'	10'/20'	30'/10'	30'/10'	30'/10'
148	10'/20'	15'/10'	20'/10'	20'/10'	30'/10'	30'/10'	30'/10'	20'/15'
149	25'/10'	20'/10'	15'/20'	10'/10'	22'/10'	30'/10'	30'/5'	30'/5'
150	Ø	25'/25'	30'/4'	Ø	Ø	Ø	Ø	30'/10'

DRIPLINE MEASUREMENTS @ 8 compass points & canopy heights

Tree No.	North / Canopy Ht.	Northeast / Canopy Ht.	East / Canopy Ht.	Southeast / Canopy Ht.	South / Canopy Ht.	Southwest / Canopy Ht.	West / Canopy Ht.	Northwest / Canopy Ht.
151	Ø	10/20	25/20	24/10	27/8	25/3	20/15	Ø
152	26/4	20/15	5/10	Ø	Ø	20/10	20/10	24/4
153	3/5	10/10	10/10	10/10	5/5	5/3	3/5	5/5
154	25/20	25/20	30/20	20/20	25/20	15/20	20/20	25/20
155	Ø	20/15	30/6	25/6	10/10	3/8	Ø	Ø
156	20/20	5/20	5/25	30/5	30/5	25/3	25/15	20/20
157	20/20	20/20	23/20	30/7	25/10	23/10	20/10	20/20
158	23/10	25/20	30/15	35/10	10/6	15/20	24/10	20/10
159	20/15	25/15	30/4	26/6	12/20	20/10	20/8	20/6
160	20/20	20/20	20/15	20/20	30/20	35/10	30/15	20/15
161	20/20	20/10	30/6	30/6	30/6	30/10	24/6	20/20
162	10/20	12/20	22/20	27/20	30/7	20/15	15/15	15/15
163	Ø	5/10	10/10	5/10	5/10	5/10	Ø	Ø
164	1/6	5/10	5/10	10/10	10/7	5/5	5/6	5/5
165	5/10	Ø	Ø	Ø	5/10	15/10	15/10	10/10
166	15/10	25/20	20/20	20/20	20/20	15/15	17/10	15/10
167	15/20	10/20	10/20	10/20	3/8	10/10	10/10	10/10
168	20/15	15/10	Ø	Ø	Ø	Ø	Ø	20/10
169	35/25	20/10	37/25	30/10	27/15	33/3	25/20	38/25
170	10/20	20/15	5/10	5/10	5/10	5/10	20/20	5/10

COMPATIBLE
NATIVE PLANTS
w/in or AROUND
OAK TREE
DRIPLINES

[CNPS]

Native Plants Compatible w/in or around the Oak tree driplines

<u>Scientific Name</u>	<u>Type</u>	<u>Common Name</u>
<i>Abelia grandiflora</i>	s	Glossy Abelia
<i>Acanthus mollis</i>	ph	Bear's Breach
<i>Achillea millefolium</i>	p	Common Yarrow ***
<i>Adenostoma fasciculatum</i>	s	Chamise ***
<i>Aesculus californica</i>	s	California Buckeye ***
<i>Adiantum jordani</i>	f	California Maidenhair Fern
<i>Agave deserti</i>	su	Desert Century Plant
<i>Agrostis diegoensis</i>	pg	San Diego Bent Grass
<i>Allium</i> sp.	b	Wild Onion ***
<i>Aloe</i> spp.	su	Aloe
<i>Alstroemeria ligtu</i> 'hybrids'	b	Peruvian Lily
<i>Amaryllis belladonna</i>	b	Naked Lady Lily
<i>Amelanchier pallida</i>	s	Serviceberry
<i>Amorpha californica</i>	s	False Indigo
<i>Anemone blanda</i>	b	Anemone
<i>Aquilegia</i> spp.	ph	Columine
<i>Arabis</i> spp.	ph	Rock Cress
<i>Arbutus unedo</i>	s	Dwarf Strawberry Tree
<i>Arctostaphylos densiflora</i>	s	Sonoma Manzanita ****
<i>Arctostaphylos hookeri</i>	s	Monterey Manzanita
<i>Arctostaphylos manzanita</i>	s	Manzanita ***
<i>Arctostaphylos pajaroensis</i>	s	Pajaro Manzanita *****
<i>Arctostaphylos rudis</i>	s	Shagbark Manzanita ****
<i>Aristolochia californica</i>	v	Dutchman's Pipe ****
<i>Artemisia californica</i>	s	California Sagebrush
<i>Artemisia tridentata</i>	s	Basin Sagebrush ***
<i>Arum italicum</i>	ph	Italian Arum
<i>Asarum caudatum</i>	ph	Wild Ginger
<i>Asclepias eriocarpa</i>	ph	Indian Milkweed
<i>Asclepias fascicularis</i>	ph	Narrow-Leaved Milkweed
<i>Asparagus officinalis</i>	ph	Asparagus
<i>Aspidistra elatior</i>	ph	Cast Iron Plant
<i>Athyrium felix-femina</i>	f	Western Lady Fern
<i>Babiana stricta</i>	ph	Baboon-Flower
<i>Baccharis pilularis</i> "Twin Peaks"	gc/s	Coyote Bush ***
<i>Baccharis salicifolia</i>	s	Summer Holly
<i>Berberis darwinii</i>	s	Darwin Barberry
<i>Bergenia crassifolia</i>	ph	Winter Blooming Bergenia
<i>Bloomeria crocea</i>	ph	Golden Stars
<i>Brodiaea</i> spp.	b	----- ***
<i>Bromus carinatus</i>	pg	California Brome
<i>Bromus pseudolaevipes</i>	pg	Woodland Brome
<i>Buddleia davidii</i>	s	Butterfly Bush
<i>Buxus microphylla japonica</i>	s	Japanese Boxwood
<i>Calandrina ciliata menziesii</i>	a	Red Maids
<i>Calochortus</i> spp.	b/ph	Mariposa Lily ***
<i>Calycanthus occidentalis</i>	s	Western Spicebush *
<i>Campanula</i> spp	ph	Bellflower
<i>Carpenteria californica</i>	s	Bush Anemone ****

Native Plants Compatible w/in or around the Oak tree driplines

<u>Scientific Name</u>	<u>Type</u>	<u>Common Name</u>
<i>Ceanothus</i> spp.	gc/s	Ceanothus ***
<i>Centaurea cyranus</i>	a	Bachelor's Button
<i>Centranthus rubra</i>	ph	Red Valerian
<i>Ceratostigma plumbaginoides</i>	gc	Dwarf Plumbago
<i>Cercis occidentalis</i>	s	Western Redbud ****
<i>Cercis siliquastrum</i>	s	Judas Tree
<i>Cercocarpus betuloides</i>	s	Mountain Mahogany
<i>Chlorogalum pomeridianum</i>	b	Soap Plant ***
<i>Chrysanthemum balsamita</i>	s	Costmary
<i>Cissus antarctica</i>	v	Kangaroo Ivy
<i>Cistus</i> spp.	s	Rockrose
<i>Clarkia</i> spp.	a	Farewell to Spring ***
<i>Clematis ligusticifolia</i>	s	Virgin's Bower
<i>Colchicum</i> spp.	ph	Autumn Crocus
<i>Collinsia</i> spp.	a	Chinese Houses
<i>Collomia</i> spp.	a	Collomia
<i>Comarostaphylos diversifolia</i>	s	Summer Holly ****
<i>Comus</i> spp.	s	Dogwood
<i>Convolvulus mauritanicus</i>	ph	Ground Morning Glory
<i>Coprosma kirkii</i>	gc	Creeping Coprosma
<i>Cornus stolonifera</i> var. <i>californica</i>	s	Creek Dogwood
<i>Correa</i> spp.	s	Australian Fuchsia
<i>Cotoneaster</i> spp.	gc/s	Cotoneaster
<i>Crocsmia crocosmiiflora</i>	b	Montbretia
<i>Crytomium falcatum</i>	f	Holly Fern
<i>Cyclamen</i> spp.	ph	Cyclamen
<i>Cynoglossum grande</i>	p	Neapolitan Cyclamen
<i>Daphne odorata</i>	s	Fragrant Daphne
<i>Delphinium parryi</i>	ph	Hound's Tongue, Parry's Larkspur
<i>Dendromecon rigida</i>	s	Bush Poppy ***
<i>Deschampsia caespitosa</i>	gc	Tufted Hairgrass
<i>Diplacus</i> hybrids	s	Monkey Flower
<i>Diascia</i> spp.	ph	Twinspur
<i>Dicentra formosa</i>	ph	Western Bleeding Heart
<i>Dodecatheon clevelandtii</i>	ph	Shooting Star
<i>Dryopteris</i> spp.	f	Wood Fern
<i>Dudleya</i> spp.	ph	Live-Forever ***
<i>Elaeagnus pungens</i>	s	Elaeagnus
<i>Elymus condensatus</i> "Canyon Prince"	pg	Canyon Prince Wild Rye
<i>Elymus glaucus</i>	pg	Western Rye Grass
<i>Elymus triticoides</i>	pg	Creeping Wild Rye
<i>Encelia californica</i>	s	Encelia ***
<i>Endymion non-scriptus</i>	ph	Bluebell-of-Scotland
<i>Ephedra</i> sp.	s	Morman Tea ***
<i>Erigeron glaucus</i>	ph	Seaside Daisy
<i>Eriogonum</i> spp.	ph/s	Buckwheat ***
<i>Eriophyllum lanatum</i> var. <i>arachnoideum</i>	ph	Woody Sunflower
<i>Erysimum</i> spp.	ph	Wallflower
<i>Escallonia exoniensis</i> 'Frades'	s	Frades Escallonia

Native Plants Compatible w/in or around the Oak tree driplines

<u>Scientific Name</u>	<u>Type</u>	<u>Common Name</u>
<i>Eschscholzia</i> spp.	a	Poppy ***
<i>Fallugia paradoxa</i>	s	Apache Plume ***
<i>Feijoa sellowiana</i>	s	Pineapple Guava
<i>Festuca</i> spp.	pg	Fescue ****
<i>Forestiera neo-mexicana</i>	s	Desert Olive ***
<i>Forsythia x intermedia</i>	s	Forsythia
<i>Fragaria californica</i>	ph	California Strawberry
<i>Freesia</i> 'Tecolote' hybrids	b	Freesia
<i>Fremontodendron californicum mexicanum</i>	s	Flannel Bush ***
<i>Galvezia speciosa</i>	s	Island Snapdragon
<i>Garrya</i> spp.	s	Silktassel ****
<i>Gaultheria shallon</i>	s	Lemon Leaf
<i>Gaura lindheimeri</i>	ph	Gaura
<i>Gilia achilleaefolia</i> spp. <i>multicalulis</i>	a	California Gilia
<i>Gnaphalium californicum</i>	ph	California Everlasting
<i>Grevillea rosmarinifolia</i>	s	Rosemary Grevillea
<i>Grindelia robusta</i>	ph	Gum Plant
<i>Hardenbergia violacea</i>	v	Lilac Vine
<i>Helictotrichon sempervirens</i>	pg	Blue Oat Grass
<i>Helleborus foetidus</i>	s	Corsican Hellebore
<i>Hemerocallis</i> hybrids	ph	Day Lily
<i>Heteromeles arbutifolia</i>	s	Toyon, Christmas Berry ***
<i>Heuchera maxima</i>	ph	Island Alum-Root
<i>Holodiscus discolor</i>	s	Cream Bush
<i>Ilex cornuta rotunda</i>	s	Dwarf Chinese Holly
<i>Iris douglasiana</i>	ph	Douglas Iris
<i>Isomeris arborea</i>	s	Bladderpot ***
<i>Ixia</i> spp.	ph	Ixia
<i>Juglans californica</i>	t	Southern California Black Walnut
<i>Juniperus</i> spp.	gc/s	Juniper
<i>Keckeilla cordifolia</i>	s	Honeysuckle Penstemon
<i>Kniphofia uvaria</i>	ph	Red Hot Poker Plant
<i>Koeleria cristata</i>	g	Prairie Junegrass
<i>Lasthenia chrysostoma</i>	a	Gold Fields
<i>Lathyrus laetiflorus</i>	v	Wild Sweet Pea
<i>Layia platyglossa campenstris</i>	a	Tidy Tips
<i>Lepechinia</i> spp.	s	Pitcher Sage
<i>Lilium humboldtii</i>	ph	Humbolt Lily
<i>Limonium perezii</i>	ph	Sea Lavender
<i>Linanthus androsaceus</i>	a	Common Linanthus
<i>Liriope</i> spp. & <i>Ophiopogon</i> spp.	pg	Lily Turf
<i>Lobelia laxiflora</i>	ph	Mexican Lobelia
<i>Lonicera hispidula</i>	ph	California Honeysuckle
<i>Lupinus</i> spp.	ph/s	Lupine ***
<i>Lycoris radiata</i>	ph	Spider Lily
<i>Lyonothamnus floribundus</i>	s	Santa Cruz Island Ironwood
<i>Mahonia</i> spp.	s	Oregon Grape ***
<i>Malosma laurina</i>	s	Laurel Sumac
<i>Melica imperfecta</i>	pg	Coast Range Melic Grass

Native Plants Compatible w/in or around the Oak tree driplines

<u>Scientific Name</u>	<u>Type</u>	<u>Common Name</u>
<i>Mimulus</i> spp.	s	Monkeyflower **
<i>Monardella villosa</i>	ph	Lavender Coyote Mint *****
<i>Montia perfoliata</i>	a	Miners Lettuce
<i>Muhlenbergia rigens</i>	g	Deergrass ****
<i>Muscari</i> spp.	b	Grape Hyacinth
<i>Myosotis sylvantica</i>	ph	Forget-Me-Not
<i>Myrica californica</i>	s	Pacific Wax Myrtle
<i>Myrsine africanum</i>	s	African Box
<i>Myrtus communis</i>	s	Myrtle
<i>Nandina domestica</i>	s	Heavenly Bamboo
<i>Narcissus</i> spp.	b	Daffodil
<i>Nemophila maculata</i>	a	Five-Spot ***
<i>Nemophila menziesii</i>	a	Baby-Blue-Eyes
<i>Nepeta faassenii</i>	ph	Catmint
<i>Nephrolepis cordifolia</i>	f	Southern Sword Fern
<i>Nerine</i> spp.	ph	Nerine
<i>Nerium oleander</i> 'Petite'	s	Petite Oleander
<i>Nigella damascena</i>	a	Love-in-a-Mist
<i>Nolina</i> spp.	gc	Nolina
<i>Ochna serrulata</i>	s	Mickey Mouse Plant
<i>Oenothera</i> spp.	a	Evening Primrose
<i>Orignum dictamnus</i>	ph	Dittany of Crete
<i>Ornithogalum</i> spp.	ph	Ornithogalum
<i>Orthocarpus densiflorus</i>	a	Owl's Clover
<i>Osmoronia cerasiformis</i>	s	Oso Berry
<i>Oxalis oregana</i>	ph	Redwood Sorrel
<i>Oxalis purpurea</i>	b	Pink Bulb Oxalis
<i>Pellaea mucronata</i>	f	Bird's Foot Fern
<i>Pennisetum alopecuroides</i>	g	Fountain Grass
<i>Penstemon</i> spp.	s	Penstemon **
<i>Phacelia parryi</i>	a	Phacelia
<i>Pholistoma racemosa</i>	a	Fiesta Flower
<i>Physocarpus capitatus</i>	s	Nine-Bark
<i>Pickeringia montana</i>	s	Chaparral Pea ***
<i>Pinus mugo</i>	s	Mugho Pine
<i>Pityrogramma triangularis</i>	f	California Goldback Fern
<i>Platystemon californicum</i>	a	Cream Cups
<i>Plumbago auriculata</i>	s	Cape Plumbago
<i>Polygonum capitatum</i>	gc	Pink Knotwood
<i>Polypodium</i> spp.	f	Leather Fern
<i>Polypody californicum</i>	f	California Polypody
<i>Polystichum munitum</i>	f	Western Sword Fern
<i>Potentilla glandulosa</i>	ph	Sticky Cinquefoil
<i>Prunus ilicifolia</i>	s	Hollyleaf Cherry ****
<i>Prunus lyonii</i>	s	Santa Catalina Cherry ***
<i>Punica granatum</i> 'Nana'	s	Dwarf Pomegranate
<i>Quercus agrifolia</i>	t	Coast Live Oak
<i>Quercus dumosa</i>	s	Scrub Oak
<i>Quercus durata</i>	s	Leather Oak

Native Plants Compatible w/in or around the Oak tree driplines

<u>Scientific Name</u>	<u>Type</u>	<u>Common Name</u>
<i>Quercus lobata</i>	t	Valley Oak
<i>Quercus parvula</i>	s	Santa Cruz Island Oak
<i>Quercus wizlizenii</i>	t	Interior Live Oak
<i>Ranunculus californicus</i>	ph	California Buttercup
<i>Rhamnus</i> spp.	s	Coffeeberry ****
<i>Rhododendron</i> spp.	s	Azalea
<i>Rhus</i> spp.	s	Sugar Bush ***
<i>Ribes</i> spp.	gc/s	Current, Gooseberry ****
<i>Romneya coulteri</i>	ph/s	Matilija Poppy ***
<i>Rosa californica</i>	s	California Wild Rose ****
<i>Rosemarinus officianalis</i>	gc/s	Rosemary
<i>Rubus ursinus</i>	ph	Blackberry
<i>Rumohra adiantiformis/Aspidium capensis</i>	f	Leather-Leaf Fern
<i>Ruscus aculeatus</i>	s	Butcher's Broom
<i>Salvia</i> spp.	ph/s	Salvia ***
<i>Sambucus mexicana</i>	s/t	Mexican Elderberry
<i>Santolina chamaecyparissus</i>	ph	Gray Lavender Cotton
<i>Saponaria officinalis</i>	s	Bouncing-Bet
<i>Sarcococca ruscifolia</i>	s	Fragrant Sarcococca
<i>Satureja douglasii</i>	ph	Yerba Buena
<i>Scabiosa atropurpurea</i>	a	Pincushion Flower
<i>Scaevola 'Mauve Clusters'</i>	gc	Fan Flower
<i>Scilla peruviana</i>	b	Peruvian Scilla
<i>Scophularia californica</i>	ph	California Figwort
<i>Scutellaria tuberosa</i>	ph	Skull Cap
<i>Sedum acre</i>	ph	Golden Moss Sedum
<i>Sidalcea candida</i>	ph	Dwarf Hollyhock
<i>Simmondsia chinensis</i>	s	Joboba ***
<i>Sisyrinchium bellum</i>	ph	Blue-Eyed Grass *****
<i>Sitanion</i> spp.	pg	Squirreltail
<i>Solanum xantii</i>	ph	Purple Nightshade
<i>Sollya heterophylla</i>	s	Australian Bluebell Creeper
<i>Sparaxis</i> spp.	ph	Sparaxis
<i>Stachys bullata</i>	ph	Wood Mint
<i>Sternbergia lutea</i>	b	Fall Yellow Crocus
<i>Stipa cernua</i>	pg	Spear Grass ***
<i>Stipa lepida</i>	pg	Needlegrass ***
<i>Stipa pulchra</i>	pg	Needle Grass ***
<i>Symphoricarpos</i> spp.	s	Snowberry ****
<i>Syringia vulgaris</i>	s	Lilac
<i>Tellima grandiflora</i>	ph	Fringe Cups
<i>Teucrium fruticans</i>	s	Bush Germander
<i>Thalictrum polycarpum</i>	ph	Meadow Rue
<i>Thymus praecox arcticus</i>	ph	Mother-of-Thyme
<i>Tiarella unifoliata</i>	ph	Sugar Scoop
<i>Tolmeia menziesii</i>	ph	Piggy-Back Plant
<i>Trichostema lanatum</i>	s	Woody Blue Curls
<i>Trillium chloropetalum</i>	b	Common Trillium
<i>Tropaeolum majus</i>	a	Garden Nasturtium

Native Plants Compatible w/in or around the Oak tree driplines

<u>Scientific Name</u>	<u>Type</u>	<u>Common Name</u>
<i>Tulbaghia violacea</i>	ph	Society Garlic
<i>Umbellularia californica</i>	s	California Bay Laurel ****
<i>Vaccinium ovatum</i>	s	California Huckleberry
<i>Vancouveria planipetala</i>	ph	Inside-Out Flower
<i>Viburnum suspensum</i>	s	Sandankwa Viburnum
<i>Viguiera deltoidea</i> var. <i>parishii</i>	ph	Desert Sunflower ***
<i>Viola pedunculata</i>	a	Yellow Pansy
<i>Vitus</i> spp.	v	Wild Grape ****
<i>Whipplea modesta</i>	ph	Yerba de Selva ****
<i>Woodwardia fimbriata</i>	f	Giant Chain Fern
<i>Xylosma congestum</i>	s	Xylosma
<i>Yucca whipplei</i>	su	Yucca ***
<i>Zauschneria</i> spp.	a/s	California Fuchsia ***
<i>Zigadenus fremontii</i>	b	Star Lily

Notes:

- * Water monthly when young.
- ** Needs no summer watering, unless otherwise indicated.
- *** Full Sun (tolerates west and south exposures).
- **** Protect from afternoon Sun (partial Shade).
- ***** Full Shade or Morning Sun.

- a Annual
- f Fern
- pg Perennial Grass
- s Shrub
- v Vine

- b Bulb
- gc Groundcover
- ph Perennial Herb
- su Succulent
- t Tree

None of the above noted species should be planted within five (5) feet of the tree trunk.
 The above noted plants will do best if given a thorough deep watering 2 to 3 times during the growing season.

APPENDIX B

Air Quality/Greenhouse Gas Emissions/Energy Data

PM_80287_Rexhall Detailed Report

Table of Contents

1. Basic Project Information
 - 1.1. Basic Project Information
 - 1.2. Land Use Types
 - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
2. Emissions Summary
 - 2.1. Construction Emissions Compared Against Thresholds
 - 2.2. Construction Emissions by Year, Unmitigated
 - 2.3. Construction Emissions by Year, Mitigated
 - 2.4. Operations Emissions Compared Against Thresholds
 - 2.5. Operations Emissions by Sector, Unmitigated
 - 2.6. Operations Emissions by Sector, Mitigated
3. Construction Emissions Details
 - 3.1. Grading (2023) - Unmitigated
 - 3.2. Grading (2023) - Mitigated

3.3. Building Construction (2023) - Unmitigated

3.4. Building Construction (2023) - Mitigated

3.5. Building Construction (2024) - Unmitigated

3.6. Building Construction (2024) - Mitigated

3.7. Paving (2024) - Unmitigated

3.8. Paving (2024) - Mitigated

3.9. Paving (2025) - Unmitigated

3.10. Paving (2025) - Mitigated

3.11. Architectural Coating (2025) - Unmitigated

3.12. Architectural Coating (2025) - Mitigated

3.13. Linear, Paving (2023) - Unmitigated

3.14. Linear, Paving (2023) - Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.2. Unmitigated

4.3.1. Mitigated

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

4.4.1. Mitigated

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

4.5.1. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	PM_80287_Rexhall
Construction Start Date	9/1/2023
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	19.6
Location	34.3960330643809, -118.42184937204001
County	Los Angeles-South Coast
City	Santa Clarita
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	3619
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.9

1.2. Land Use Types

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

Single Family Housing	4.00	Dwelling Unit	19.8	7,200	0.00	0.00	12.0	—
Road Construction	0.25	Mile	0.91	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-10-A	Water Exposed Surfaces
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Area Sources	AS-2	Use Low-VOC Paints

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.74	4.81	47.8	41.7	0.08	2.00	9.57	11.6	1.84	3.74	5.58	—	9,295	9,295	0.38	0.11	1.87	9,338
Mit.	5.74	4.81	47.8	41.7	0.08	2.00	2.76	4.76	1.84	1.04	2.87	—	9,295	9,295	0.38	0.11	1.87	9,338
% Reduced	—	—	—	—	—	—	71%	59%	—	72%	48%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.55	3.82	37.6	32.9	0.06	1.60	9.51	11.1	1.47	3.73	5.19	—	7,022	7,022	0.29	0.09	0.04	7,056
Mit.	4.55	3.82	37.6	32.9	0.06	1.60	2.69	4.29	1.47	1.02	2.49	—	7,022	7,022	0.29	0.09	0.04	7,056

% Reduced	—	—	—	—	—	—	72%	61%	—	73%	52%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.03	0.86	7.98	9.42	0.02	0.35	0.79	1.01	0.33	0.31	0.51	—	1,724	1,724	0.07	0.02	0.07	1,731
Mit.	1.03	0.86	7.98	9.42	0.02	0.35	0.23	0.45	0.33	0.09	0.33	—	1,724	1,724	0.07	0.02	0.07	1,731
% Reduced	—	—	—	—	—	—	71%	55%	—	72%	36%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.19	0.16	1.46	1.72	< 0.005	0.06	0.14	0.18	0.06	0.06	0.09	—	285	285	0.01	< 0.005	0.01	287
Mit.	0.19	0.16	1.46	1.72	< 0.005	0.06	0.04	0.08	0.06	0.02	0.06	—	285	285	0.01	< 0.005	0.01	287
% Reduced	—	—	—	—	—	—	71%	55%	—	72%	36%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	5.74	4.81	47.8	41.7	0.08	2.00	9.57	11.6	1.84	3.74	5.58	—	9,295	9,295	0.38	0.11	1.87	9,338
2024	1.45	1.21	11.2	13.2	0.02	0.50	0.02	0.52	0.46	0.01	0.46	—	2,432	2,432	0.10	0.02	0.12	2,441
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.55	3.82	37.6	32.9	0.06	1.60	9.51	11.1	1.47	3.73	5.19	—	7,022	7,022	0.29	0.09	0.04	7,056
2024	1.45	1.21	11.2	13.2	0.02	0.50	0.20	0.59	0.46	0.05	0.46	—	2,431	2,431	0.10	0.02	0.02	2,440
2025	1.02	2.38	7.53	10.9	0.01	0.35	0.20	0.54	0.32	0.05	0.37	—	1,708	1,708	0.07	0.02	0.02	1,716

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.63	0.53	5.18	4.89	0.01	0.22	0.79	1.01	0.21	0.31	0.51	—	1,015	1,015	0.04	0.01	0.07	1,019
2024	1.03	0.86	7.98	9.42	0.02	0.35	0.02	0.37	0.33	< 0.005	0.33	—	1,724	1,724	0.07	0.02	0.04	1,731
2025	0.04	0.16	0.28	0.41	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	61.1	61.1	< 0.005	< 0.005	0.01	61.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.12	0.10	0.95	0.89	< 0.005	0.04	0.14	0.18	0.04	0.06	0.09	—	168	168	0.01	< 0.005	0.01	169
2024	0.19	0.16	1.46	1.72	< 0.005	0.06	< 0.005	0.07	0.06	< 0.005	0.06	—	285	285	0.01	< 0.005	0.01	287
2025	0.01	0.03	0.05	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	< 0.005	10.2

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	5.74	4.81	47.8	41.7	0.08	2.00	2.76	4.76	1.84	1.04	2.87	—	9,295	9,295	0.38	0.11	1.87	9,338
2024	1.45	1.21	11.2	13.2	0.02	0.50	0.02	0.52	0.46	0.01	0.46	—	2,432	2,432	0.10	0.02	0.12	2,441
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	4.55	3.82	37.6	32.9	0.06	1.60	2.69	4.29	1.47	1.02	2.49	—	7,022	7,022	0.29	0.09	0.04	7,056
2024	1.45	1.21	11.2	13.2	0.02	0.50	0.20	0.59	0.46	0.05	0.46	—	2,431	2,431	0.10	0.02	0.02	2,440
2025	1.02	2.38	7.53	10.9	0.01	0.35	0.20	0.54	0.32	0.05	0.37	—	1,708	1,708	0.07	0.02	0.02	1,716
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.63	0.53	5.18	4.89	0.01	0.22	0.23	0.45	0.21	0.09	0.29	—	1,015	1,015	0.04	0.01	0.07	1,019
2024	1.03	0.86	7.98	9.42	0.02	0.35	0.02	0.37	0.33	< 0.005	0.33	—	1,724	1,724	0.07	0.02	0.04	1,731
2025	0.04	0.16	0.28	0.41	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	61.1	61.1	< 0.005	< 0.005	0.01	61.4

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.12	0.10	0.95	0.89	< 0.005	0.04	0.04	0.08	0.04	0.02	0.05	—	168	168	0.01	< 0.005	0.01	169
2024	0.19	0.16	1.46	1.72	< 0.005	0.06	< 0.005	0.07	0.06	< 0.005	0.06	—	285	285	0.01	< 0.005	0.01	287
2025	0.01	0.03	0.05	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	< 0.005	10.2

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.33	1.37	0.26	3.44	0.01	0.29	0.09	0.39	0.29	0.02	0.30	39.5	480	520	0.34	0.01	1.04	533
Mit.	1.33	1.37	0.26	3.44	0.01	0.29	0.09	0.39	0.29	0.02	0.30	39.5	480	520	0.34	0.01	1.04	533
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.31	1.35	0.27	3.12	0.01	0.29	0.09	0.39	0.29	0.02	0.30	39.5	468	508	0.34	0.01	0.08	520
Mit.	1.31	1.35	0.27	3.12	0.01	0.29	0.09	0.39	0.29	0.02	0.30	39.5	468	508	0.34	0.01	0.08	520
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.24	0.38	0.19	1.38	< 0.005	0.03	0.09	0.12	0.03	0.02	0.04	4.57	399	404	0.23	0.01	0.47	414
Mit.	0.24	0.38	0.19	1.38	< 0.005	0.03	0.09	0.12	0.03	0.02	0.04	4.57	399	404	0.23	0.01	0.47	414
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.04	0.07	0.04	0.25	< 0.005	0.01	0.02	0.02	< 0.005	< 0.005	0.01	0.76	66.1	66.8	0.04	< 0.005	0.08	68.5
Mit.	0.04	0.07	0.04	0.25	< 0.005	0.01	0.02	0.02	< 0.005	< 0.005	0.01	0.76	66.1	66.8	0.04	< 0.005	0.08	68.5
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.14	0.13	0.10	1.14	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	268	268	0.01	0.01	0.99	272
Area	1.18	1.23	0.09	2.26	0.01	0.29	—	0.29	0.28	—	0.28	37.5	72.2	110	0.11	< 0.005	—	113
Energy	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	138	138	0.01	< 0.005	—	139
Water	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71
Waste	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	1.33	1.37	0.26	3.44	0.01	0.29	0.09	0.39	0.29	0.02	0.30	39.5	480	520	0.34	0.01	1.04	533
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.14	0.13	0.11	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	257	257	0.01	0.01	0.03	260
Area	1.16	1.21	0.08	2.03	0.01	0.29	—	0.29	0.28	—	0.28	37.5	71.6	109	0.11	< 0.005	—	112
Energy	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	138	138	0.01	< 0.005	—	139
Water	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71
Waste	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	1.31	1.35	0.27	3.12	0.01	0.29	0.09	0.39	0.29	0.02	0.30	39.5	468	508	0.34	0.01	0.08	520

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.14	0.13	0.11	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	254	254	0.01	0.01	0.42	258
Area	0.09	0.25	0.01	0.29	< 0.005	0.02	—	0.02	0.02	—	0.02	2.57	5.32	7.89	0.01	< 0.005	—	8.11
Energy	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	138	138	0.01	< 0.005	—	139
Water	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71
Waste	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	0.24	0.38	0.19	1.38	< 0.005	0.03	0.09	0.12	0.03	0.02	0.04	4.57	399	404	0.23	0.01	0.47	414
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.02	0.02	0.19	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	42.0	42.0	< 0.005	< 0.005	0.07	42.7
Area	0.02	0.05	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.42	0.88	1.31	< 0.005	< 0.005	—	1.34
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.9	22.9	< 0.005	< 0.005	—	23.0
Water	—	—	—	—	—	—	—	—	—	—	—	0.05	0.24	0.29	< 0.005	< 0.005	—	0.45
Waste	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.99
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	0.04	0.07	0.04	0.25	< 0.005	0.01	0.02	0.02	< 0.005	< 0.005	0.01	0.76	66.1	66.8	0.04	< 0.005	0.08	68.5

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.14	0.13	0.10	1.14	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	268	268	0.01	0.01	0.99	272
Area	1.18	1.23	0.09	2.26	0.01	0.29	—	0.29	0.28	—	0.28	37.5	72.2	110	0.11	< 0.005	—	113
Energy	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	138	138	0.01	< 0.005	—	139
Water	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71

Waste	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	1.33	1.37	0.26	3.44	0.01	0.29	0.09	0.39	0.29	0.02	0.30	39.5	480	520	0.34	0.01	1.04	533
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.14	0.13	0.11	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	257	257	0.01	0.01	0.03	260
Area	1.16	1.21	0.08	2.03	0.01	0.29	—	0.29	0.28	—	0.28	37.5	71.6	109	0.11	< 0.005	—	112
Energy	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	138	138	0.01	< 0.005	—	139
Water	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71
Waste	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	1.31	1.35	0.27	3.12	0.01	0.29	0.09	0.39	0.29	0.02	0.30	39.5	468	508	0.34	0.01	0.08	520
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.14	0.13	0.11	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	254	254	0.01	0.01	0.42	258
Area	0.09	0.25	0.01	0.29	< 0.005	0.02	—	0.02	0.02	—	0.02	2.57	5.32	7.89	0.01	< 0.005	—	8.11
Energy	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	138	138	0.01	< 0.005	—	139
Water	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71
Waste	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	0.24	0.38	0.19	1.38	< 0.005	0.03	0.09	0.12	0.03	0.02	0.04	4.57	399	404	0.23	0.01	0.47	414
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.02	0.02	0.19	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	42.0	42.0	< 0.005	< 0.005	0.07	42.7
Area	0.02	0.05	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.42	0.88	1.31	< 0.005	< 0.005	—	1.34
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.9	22.9	< 0.005	< 0.005	—	23.0
Water	—	—	—	—	—	—	—	—	—	—	—	0.05	0.24	0.29	< 0.005	< 0.005	—	0.45
Waste	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.99
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

Total	0.04	0.07	0.04	0.25	< 0.005	0.01	0.02	0.02	< 0.005	< 0.005	0.01	0.76	66.1	66.8	0.04	< 0.005	0.08	68.5
-------	------	------	------	------	---------	------	------	------	---------	---------	------	------	------	------	------	---------	------	------

3. Construction Emissions Details

3.1. Grading (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement:	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement:	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.36	0.31	3.07	2.58	0.01	0.13	—	0.13	0.12	—	0.12	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.76	0.76	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.56	0.47	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	—	0.14	0.14	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	0.10	1.63	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	289	289	0.01	0.01	1.22	293
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.19	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	150	150	0.01	0.02	0.34	158
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.09	0.12	1.39	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	274	274	0.01	0.01	0.03	277
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.20	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	150	150	0.01	0.02	0.01	158
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.8	22.8	< 0.005	< 0.005	0.04	23.1

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	0.01	13.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.78	3.78	< 0.005	< 0.005	0.01	3.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.05	2.05	< 0.005	< 0.005	< 0.005	2.15

3.2. Grading (2023) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement:	—	—	—	—	—	—	2.39	2.39	—	0.95	0.95	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	3.72	37.3	31.4	0.06	1.59	—	1.59	1.47	—	1.47	—	6,598	6,598	0.27	0.05	—	6,621
Dust From Material Movement:	—	—	—	—	—	—	2.39	2.39	—	0.95	0.95	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.31	3.07	2.58	0.01	0.13	—	0.13	0.12	—	0.12	—	542	542	0.02	< 0.005	—	544	
Dust From Material Movement	—	—	—	—	—	—	0.20	0.20	—	0.08	0.08	—	—	—	—	—	—	—	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	0.07	0.06	0.56	0.47	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1	
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.11	0.09	0.10	1.63	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	289	289	0.01	0.01	1.22	293	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Hauling	0.01	< 0.005	0.19	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	150	150	0.01	0.02	0.34	158	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.11	0.09	0.12	1.39	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	274	274	0.01	0.01	0.03	277	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	

Hauling	0.01	< 0.005	0.20	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	150	150	0.01	0.02	0.01	158
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.12	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	22.8	22.8	< 0.005	< 0.005	0.04	23.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	0.01	13.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.78	3.78	< 0.005	< 0.005	0.01	3.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.05	2.05	< 0.005	< 0.005	< 0.005	2.15

3.3. Building Construction (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.50	1.26	11.8	13.2	0.02	0.55	—	0.55	0.51	—	0.51	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.53	1.70	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.28	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.7	19.7	< 0.005	< 0.005	< 0.005	19.9
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	< 0.005	14.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.58	2.58	< 0.005	< 0.005	< 0.005	2.62
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.81	1.81	< 0.005	< 0.005	< 0.005	1.88
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.43
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Building Construction (2023) - Mitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.50	1.26	11.8	13.2	0.02	0.55	—	0.55	0.51	—	0.51	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.53	1.70	< 0.005	0.07	—	0.07	0.07	—	0.07	—	310	310	0.01	< 0.005	—	311
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.28	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	51.3	51.3	< 0.005	< 0.005	—	51.4
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.7	19.7	< 0.005	< 0.005	< 0.005	19.9
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	< 0.005	14.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.58	2.58	< 0.005	< 0.005	< 0.005	2.62
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.81	1.81	< 0.005	< 0.005	< 0.005	1.88
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.43
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.30	0.30	< 0.005	< 0.005	< 0.005	0.31
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.83	7.77	9.09	0.02	0.34	—	0.34	0.32	—	0.32	—	1,661	1,661	0.07	0.01	—	1,667

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.42	1.66	< 0.005	0.06	—	0.06	0.06	—	0.06	—	275	275	0.01	< 0.005	—	276	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.3	20.3	< 0.005	< 0.005	0.08	20.6	
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.8	13.8	< 0.005	< 0.005	0.04	14.4	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.3	19.3	< 0.005	< 0.005	< 0.005	19.5	
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.8	13.8	< 0.005	< 0.005	< 0.005	14.4	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7	
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.56	9.56	< 0.005	< 0.005	0.01	9.97	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.24	2.24	< 0.005	< 0.005	< 0.005	2.27	
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.58	1.58	< 0.005	< 0.005	< 0.005	1.65	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	

3.6. Building Construction (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.83	7.77	9.09	0.02	0.34	—	0.34	0.32	—	0.32	—	1,661	1,661	0.07	0.01	—	1,667
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.42	1.66	< 0.005	0.06	—	0.06	0.06	—	0.06	—	275	275	0.01	< 0.005	—	276
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	20.3	20.3	< 0.005	< 0.005	0.08	20.6
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.8	13.8	< 0.005	< 0.005	0.04	14.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.3	19.3	< 0.005	< 0.005	< 0.005	19.5
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.8	13.8	< 0.005	< 0.005	< 0.005	14.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.02	13.7
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	9.56	9.56	< 0.005	< 0.005	0.01	9.97
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.24	2.24	< 0.005	< 0.005	< 0.005	2.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.58	1.58	< 0.005	< 0.005	< 0.005	1.65
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2024) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.18	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.5	35.5	< 0.005	< 0.005	—	35.6
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.88	5.88	< 0.005	< 0.005	—	5.90
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.08	0.96	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	201	201	0.01	0.01	0.02	203
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.78	4.78	< 0.005	< 0.005	0.01	4.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.18	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	35.5	35.5	< 0.005	< 0.005	—	35.6
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.88	5.88	< 0.005	< 0.005	—	5.90
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.08	0.96	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	201	201	0.01	0.01	0.02	203
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.78	4.78	< 0.005	< 0.005	0.01	4.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2025) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.23	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	47.3	47.3	< 0.005	< 0.005	—	47.5
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.84	7.84	< 0.005	< 0.005	—	7.86
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.88	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	197	197	0.01	0.01	0.02	199
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.25	6.25	< 0.005	< 0.005	0.01	6.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.03	1.03	< 0.005	< 0.005	< 0.005	1.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2025) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.23	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	47.3	47.3	< 0.005	< 0.005	—	47.5

Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.84	7.84	< 0.005	< 0.005	—	7.86
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.88	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	197	197	0.01	0.01	0.02	199
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.25	6.25	< 0.005	< 0.005	0.01	6.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.03	1.03	< 0.005	< 0.005	< 0.005	1.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	2.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.77	3.77	< 0.005	< 0.005	< 0.005	3.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.21	0.21	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2025) - Mitigated

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

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

Architect Coatings	—	2.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architect ural Coatings	—	0.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architect ural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.77	3.77	< 0.005	< 0.005	< 0.005	3.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.21	0.21	< 0.005	< 0.005	< 0.005	0.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.03	0.03	< 0.005	< 0.005	< 0.005	0.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Linear, Paving (2023) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.16	0.97	10.1	8.22	0.02	0.40	—	0.40	0.37	—	0.37	—	2,185	2,185	0.09	0.02	—	2,192
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.56	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	120	120	< 0.005	< 0.005	—	120
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.8	19.8	< 0.005	< 0.005	—	19.9

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.41	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	72.2	72.2	< 0.005	< 0.005	0.31	73.3	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.80	3.80	< 0.005	< 0.005	0.01	3.86	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	

3.14. Linear, Paving (2023) - Mitigated

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

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

Off-Road Equipment	1.16	0.97	10.1	8.22	0.02	0.40	—	0.40	0.37	—	0.37	—	2,185	2,185	0.09	0.02	—	2,192
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.56	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	120	120	< 0.005	< 0.005	—	120
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.8	19.8	< 0.005	< 0.005	—	19.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.41	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	72.2	72.2	< 0.005	< 0.005	0.31	73.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.80	3.80	< 0.005	< 0.005	0.01	3.86
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.64
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.14	0.13	0.10	1.14	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	268	268	0.01	0.01	0.99	272
Total	0.14	0.13	0.10	1.14	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	268	268	0.01	0.01	0.99	272
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.14	0.13	0.11	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	257	257	0.01	0.01	0.03	260
Total	0.14	0.13	0.11	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	257	257	0.01	0.01	0.03	260
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.03	0.02	0.02	0.19	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	42.0	42.0	< 0.005	< 0.005	0.07	42.7
Total	0.03	0.02	0.02	0.19	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	42.0	42.0	< 0.005	< 0.005	0.07	42.7

4.1.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.14	0.13	0.10	1.14	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	268	268	0.01	0.01	0.99	272
Total	0.14	0.13	0.10	1.14	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	268	268	0.01	0.01	0.99	272
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.14	0.13	0.11	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	257	257	0.01	0.01	0.03	260
Total	0.14	0.13	0.11	1.05	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.02	—	257	257	0.01	0.01	0.03	260
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.03	0.02	0.02	0.19	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	42.0	42.0	< 0.005	< 0.005	0.07	42.7
Total	0.03	0.02	0.02	0.19	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	42.0	42.0	< 0.005	< 0.005	0.07	42.7

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	40.2	40.2	< 0.005	< 0.005	—	40.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	40.2	40.2	< 0.005	< 0.005	—	40.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	40.2	40.2	< 0.005	< 0.005	—	40.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	40.2	40.2	< 0.005	< 0.005	—	40.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	6.66	6.66	< 0.005	< 0.005	—	6.68
Total	—	—	—	—	—	—	—	—	—	—	—	—	6.66	6.66	< 0.005	< 0.005	—	6.68

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	40.2	40.2	< 0.005	< 0.005	—	40.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	40.2	40.2	< 0.005	< 0.005	—	40.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	40.2	40.2	< 0.005	< 0.005	—	40.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	40.2	40.2	< 0.005	< 0.005	—	40.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	6.66	6.66	< 0.005	< 0.005	—	6.68
Total	—	—	—	—	—	—	—	—	—	—	—	—	6.66	6.66	< 0.005	< 0.005	—	6.68

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	98.3	98.3	0.01	< 0.005	—	98.6
Total	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	98.3	98.3	0.01	< 0.005	—	98.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	98.3	98.3	0.01	< 0.005	—	98.6
Total	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	98.3	98.3	0.01	< 0.005	—	98.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.3	16.3	< 0.005	< 0.005	—	16.3
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.3	16.3	< 0.005	< 0.005	—	16.3

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	98.3	98.3	0.01	< 0.005	—	98.6
Total	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	98.3	98.3	0.01	< 0.005	—	98.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	98.3	98.3	0.01	< 0.005	—	98.6
Total	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	98.3	98.3	0.01	< 0.005	—	98.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.3	16.3	< 0.005	< 0.005	—	16.3
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.3	16.3	< 0.005	< 0.005	—	16.3

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

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

Hearths	1.16	1.04	0.08	2.03	0.01	0.29	—	0.29	0.28	—	0.28	37.5	71.6	109	0.11	< 0.005	—	112
Consumer Products	—	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	0.02	< 0.005	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Total	1.18	1.23	0.09	2.26	0.01	0.29	—	0.29	0.28	—	0.28	37.5	72.2	110	0.11	< 0.005	—	113
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.16	1.04	0.08	2.03	0.01	0.29	—	0.29	0.28	—	0.28	37.5	71.6	109	0.11	< 0.005	—	112
Consumer Products	—	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.16	1.21	0.08	2.03	0.01	0.29	—	0.29	0.28	—	0.28	37.5	71.6	109	0.11	< 0.005	—	112
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.42	0.81	1.24	< 0.005	< 0.005	—	1.27
Consumer Products	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07

Total	0.02	0.05	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.42	0.88	1.31	< 0.005	< 0.005	—	1.34
-------	------	------	---------	------	---------	---------	---	---------	---------	---	---------	------	------	------	---------	---------	---	------

4.3.1. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.16	1.04	0.08	2.03	0.01	0.29	—	0.29	0.28	—	0.28	37.5	71.6	109	0.11	< 0.005	—	112
Consumer Products	—	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	0.02	< 0.005	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Total	1.18	1.23	0.09	2.26	0.01	0.29	—	0.29	0.28	—	0.28	37.5	72.2	110	0.11	< 0.005	—	113
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.16	1.04	0.08	2.03	0.01	0.29	—	0.29	0.28	—	0.28	37.5	71.6	109	0.11	< 0.005	—	112
Consumer Products	—	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.16	1.21	0.08	2.03	0.01	0.29	—	0.29	0.28	—	0.28	37.5	71.6	109	0.11	< 0.005	—	112
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.42	0.81	1.24	< 0.005	< 0.005	—	1.27

Consum Products	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07
Total	0.02	0.05	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.42	0.88	1.31	< 0.005	< 0.005	—	1.34

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71
Total	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71
Total	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.05	0.24	0.29	< 0.005	< 0.005	—	0.45
Total	—	—	—	—	—	—	—	—	—	—	—	0.05	0.24	0.29	< 0.005	< 0.005	—	0.45

4.4.1. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71
Total	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71
Total	—	—	—	—	—	—	—	—	—	—	—	0.29	1.48	1.76	0.03	< 0.005	—	2.71
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.05	0.24	0.29	< 0.005	< 0.005	—	0.45
Total	—	—	—	—	—	—	—	—	—	—	—	0.05	0.24	0.29	< 0.005	< 0.005	—	0.45

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.99
Total	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.99

4.5.1. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00

Total	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.72	0.00	1.72	0.17	0.00	—	6.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.99
Total	—	—	—	—	—	—	—	—	—	—	—	0.28	0.00	0.28	0.03	0.00	—	0.99

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

4.6.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.8.2. Mitigated

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

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.9.2. Mitigated

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

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

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

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

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Grading	Grading	9/15/2023	10/26/2023	5.00	30.0	—
Building Construction	Building Construction	10/27/2023	12/19/2024	5.00	300	—

Paving	Paving	12/20/2024	1/16/2025	5.00	20.0	—
Architectural Coating	Architectural Coating	1/17/2025	2/13/2025	5.00	20.0	—
Linear, Paving	Linear, Paving	9/4/2023	9/29/2023	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Linear, Paving	Scrapers	Diesel	Average	1.00	8.00	423	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Linear, Paving	Scrapers	Diesel	Average	1.00	8.00	423	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2

Grading	Vendor	0.00	10.2	HHDT,MHDT
Grading	Hauling	2.10	20.0	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1.44	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.43	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.29	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	5.00	18.5	LDA,LDT1,LDT2
Linear, Paving	Vendor	—	10.2	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—

Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	0.00	10.2	HHDT,MHDT
Grading	Hauling	2.10	20.0	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1.44	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.43	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.29	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	5.00	18.5	LDA,LDT1,LDT2
Linear, Paving	Vendor	—	10.2	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	14,580	4,860	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	0.00	500	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.95

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	0.04	0%
Road Construction	0.91	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

2025	0.00	532	0.03	< 0.005
------	------	-----	------	---------

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	37.8	38.2	34.2	13,618	330	334	299	119,105

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	37.8	38.2	34.2	13,618	330	334	299	119,105

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	3
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0

Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	3
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
14580	4,860	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	27,581	532	0.0330	0.0040	153,341

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	27,581	532	0.0330	0.0040	153,341

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	149,095	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	149,095	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	3.18	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	3.18	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

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

5.14.2. Mitigated

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

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.15.2. Mitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
--------------------------	----------------------	---------------	-------------

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
--------------------------	----------------------	---------------	-------------

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
--------------------	---------------	-------------

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
--------------------	---------------	-------------

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	24.0	annual days of extreme heat

Extreme Precipitation	7.50	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	17.8	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about $\frac{3}{4}$ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	97.0
AQ-PM	49.6
AQ-DPM	15.5
Drinking Water	74.0
Lead Risk Housing	9.97
Pesticides	28.2

Toxic Releases	36.7
Traffic	98.9
Effect Indicators	—
CleanUp Sites	51.6
Groundwater	42.2
Haz Waste Facilities/Generators	30.6
Impaired Water Bodies	23.9
Solid Waste	0.00
Sensitive Population	—
Asthma	41.7
Cardio-vascular	34.3
Low Birth Weights	53.8
Socioeconomic Factor Indicators	—
Education	21.4
Housing	11.6
Linguistic	17.3
Poverty	6.48
Unemployment	52.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	86.28256127
Employed	63.51854228
Median HI	93.95611446
Education	—

Bachelor's or higher	76.26074682
High school enrollment	7.583728988
Preschool enrollment	47.26036186
Transportation	—
Auto Access	92.6344155
Active commuting	5.171307584
Social	—
2-parent households	80.99576543
Voting	69.2416271
Neighborhood	—
Alcohol availability	97.0101373
Park access	32.15706403
Retail density	77.50545361
Supermarket access	16.34800462
Tree canopy	66.31592455
Housing	—
Homeownership	92.7242397
Housing habitability	88.22019761
Low-inc homeowner severe housing cost burden	37.93147697
Low-inc renter severe housing cost burden	86.42371359
Uncrowded housing	56.30694213
Health Outcomes	—
Insured adults	84.53740536
Arthritis	21.6
Asthma ER Admissions	65.6
High Blood Pressure	33.3
Cancer (excluding skin)	11.3

Asthma	61.7
Coronary Heart Disease	28.5
Chronic Obstructive Pulmonary Disease	42.5
Diagnosed Diabetes	65.9
Life Expectancy at Birth	83.3
Cognitively Disabled	48.3
Physically Disabled	81.6
Heart Attack ER Admissions	30.1
Mental Health Not Good	71.0
Chronic Kidney Disease	55.3
Obesity	65.8
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	58.2
Health Risk Behaviors	—
Binge Drinking	28.2
Current Smoker	73.3
No Leisure Time for Physical Activity	87.1
Climate Change Exposures	—
Wildfire Risk	97.9
SLR Inundation Area	0.0
Children	37.8
Elderly	84.9
English Speaking	66.2
Foreign-born	58.9
Outdoor Workers	85.0
Climate Change Adaptive Capacity	—

Impervious Surface Cover	77.0
Traffic Density	79.5
Traffic Access	23.0
Other Indices	—
Hardship	21.8
Other Decision Support	—
2016 Voting	52.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	33.0
Healthy Places Index Score for Project Location (b)	77.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
--------	---------------

Land Use	Per project description and AQ questionnaire Road construction extension of Tannahill Ave and Triumph Avenue. Extension is around 660 feet or .125 miles on the eastern and western boundary of project site (.25 miles total). Per Prelim Grading, proposed width of road extensions is around 30 feet. $30*(660*2)= 39600$ sq ft or around 0.909 acres.
Construction: Construction Phases	Construction phases left as default. Demolition removed as phase is not required. Per project applicant, linear construction phases are required for roadway extension: paving
Construction: Off-Road Equipment	Construction equipment left as CalEEMod Default Linear Paving Updated Per Applicant (Scraper and Tractor)
Construction: Dust From Material Movement	Per AQ Questionnaire
Construction: Architectural Coatings	SCAQMD Rule 1113
Operations: Architectural Coatings	SCAQMD Rule 1113

**Rexhall Project
Energy Calculations**

Land Use	Natural Gas Use		Electricity Use	
	(kBTU/yr)	(Therms)	(kWh/yr)	(MWh/yr)
Single Family Housing	153,341	1,533	27,851	28
Totals	153,341	1,533	27,851	28

1 kBTU = 0.01 therms

Energy Type	Project Annual Energy Consumption	Los Angeles County Annual Energy Consumption (2021)	Percentage Increase Countywide
Electricity (MWh)	28	65,374,721	0.0000%
Natural Gas (Therms)	1,533	2,880,994,891	0.0001%

Rexhall Project Energy Calculations

Vehicle Type	Percent of Vehicle Trips ¹	Daily Trips ²	Annual Vehicle Miles Traveled	Average Fuel Economy (miles per gallon) ³	Total Annual Fuel Consumption (gallons) ⁴
Passenger Cars	0.51	19	60,208	22	2,737
Light/Medium Trucks	0.47	17	55,991	17.3	3,236
Heavy Trucks/Other	0.02	1	2,906	6.4	454
TOTAL⁶	1.00	37	119,105	--	6,427
Notes:					
1. Percent of Vehicle Trip distribution based on trip characteristics within the CalEEMod model.					
2. Daily Trips taken from ITE manual.					
3. Average fuel economy derived from the Department of Transportation.					
4. Total Daily Fuel Consumption calculated by dividing the daily VMT by the average fuel economy (i.e., VMT/Average Fuel Economy).					
5. Values may be slightly off due to rounding.					
Source: Refer to CalEEMod outputs for assumptions used in this analysis.					
Countywide operational fuel consumption, off-road construction equipment diesel fuel consumption, and on-road fuel consumption are from CARB EMFAC2021.					

County Operational 2025 4,448,480,145 0.0001%
--

**Rexhall Project
Energy Calculations**

WORKER TRIPS						
Phase	Phase Length (# days)	# Worker Trips	Worker Trip Length	Total VMT	Fuel Consumption Factor (Miles/Gallon/Day)	Total Fuel Consumption
Linear, Paving	20	5	18.5	1,850		74.29
Grading	30	40	18.5	22,200		891.46
Building Construction	300	2.88	18.5	15,984	24.90284233	641.85
Paving	20	30	18.5	11,100		445.73
Architectural Coating	20	0.58	18.5	215		8.62
						2,061.96
VENDOR TRIPS						
Phase	Phase Length (# days)	# Vendor Trips	Vendor Trip Length	Total VMT	Fuel Consumption Factor (Miles/Gallon/Day)	Total Fuel Consumption
Linear, Paving	20	0	10.2	0		0.00
Grading	30	0	10.2	0		0.00
Building Construction	300	0.86	10.2	2,632	8.343886151	315.39
Paving	20	0	10.2	0		0.00
Architectural Coating	20	0	10.2	0		0.00
						315.39
HAULING TRIPS						
Phase	Phase Length (# days)	# Hauling Trips	Hauling Trip Length	Total VMT	Fuel Consumption Factor (Miles/Gallon/Day) ¹	Total Fuel Consumption
Linear, Paving	20	0	20	0		0.00
Grading	30	4.2	20	2,520		302.02
Building Construction	300	0	20	0	8.343886151	0.00
Paving	20	0	20	0		0.00
Architectural Coating	20	0	20	0		0.00
						302.02
Countywide operational fuel consumption, off-road construction equipment diesel fuel consumption, and on-road fuel consumption are from CARB EMFAC2021.						
TOTAL OFF-SITE MOBILE GALLONS CONSUMED DURING CONSTRUCTION						2,679.37

County On-road Gallons 4,530,411,359

2024 0.0001%

**Rexhall Project
Energy Calculations**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Fuel Consumption Rate (gallons per hour)	Duration (total hours/day)	# days	Total Fuel Consumption (gallons)
Grading	Graders	1	8	148	0.41	2.4272	8	30	582.53
Grading	Excavators	2	8	36	0.38	0.5472	16	30	262.66
Grading	Rubber Tired Dozers	1	8	367	0.40	5.872	8	30	1409.28
Grading	Scrapers	2	8	423	0.48	8.1216	16	30	3898.37
Grading	Tractors/Loaders/Backhoes	2	8	84	0.37	1.2432	16	30	596.74
Building Construction	Cranes	1	7	367	0.29	4.2572	7	300	8940.12
Building Construction	Forklifts	3	8	82	0.20	0.656	24	300	4723.20
Building Construction	Generator Sets	1	8	14	0.74	0.4144	8	300	994.56
Building Construction	Tractor/Loaders/Backhoes	3	7	84	0.37	1.2432	21	300	7832.16
Building Construction	Welders	1	8	46	0.45	0.828	8	300	1987.20
Paving	Pavers	2	8	81	0.42	1.3608	16	20	435.46
Paving	Paving Equipment	2	8	89	0.36	1.2816	16	20	410.11
Paving	Rollers	2	8	36	0.38	0.5472	16	20	175.10
Architectural Coating	Air Compressors	1	6	37	0.48	0.7104	6	20	85.25
Linear Paving	Tractor/Loaders/Backhoes	1	8	84	0.37	1.2432	8	20	198.91
Linear Paving	Scrapers	1	8	423	0.48	8.1216	8	20	1299.46
Total:									33,831.10
Notes:									
Fuel Consumption Rate = Horsepower x Load Factor x Fuel Consumption Factor									
Where:									
Fuel Consumption Factor for a diesel engine is 0.04 gallons per horsepower per hour (gal/hp/hr) and a gasoline engine is 0.06 gal/hp/hr.									
Countywide operational fuel consumption, off-road construction equipment diesel fuel consumption, and on-road fuel consumption are from CARB EMFAC2021.									
Source: Refer to CalEEMod outputs for assumptions used in this analysis.									

Energy Type	Project Annual Energy Consumption	LOS Angeles County Annual Energy Consumption	Percentage Increase Countywide
Electricity Consumption	28	65,374,721	0.0000%
Natural Gas Consumption	1,533	2,880,994,891	0.0001%
Fuel Consumption			
Construction Off-road Consumption	33,831	40,835,655	0.0828%
Construction On-road Consumption	2,679	4,530,411,359	0.0001%
Operational Automotive Fuel Consumption	6,427	4,448,480,145	0.0001%

APPENDIX C

Biological Resource Evaluation

BIOLOGICAL RESOURCE EVALUATION

Parcels 1 and 2
Tentative Parcel Map 80287 APN 2841-018-035
Section 04, T04N, R15W, S. B. B. & M.
Santa Clarita, California

Prepared for:

Mr. William Rex
26857 Tannahill Avenue
Santa Clarita, CA 91387

Prepared by:

Pruett Biological Resource Consulting
8819 Latera Court
Bakersfield, California 93314
661.421.0006



06 December 2023



EXECUTIVE SUMMARY

Pruett Biological Resource Consulting, Inc. (PruettBio) has prepared this biological resource evaluation of Assessor's Parcel Number (APN) 2841-018-035. The project consists of 9.97 gross acres (4.03 hectares) located in the southeast 1/4 of Section 04, Township 04 North, Range 15 West, San Bernardino Base and Meridian. The project is within the incorporated limits of the City of Santa Clarita, California.

The project is located within the geographic range of several federal-, and state-listed, threatened and/or endangered plant and animal taxa. Several non-listed, special-status species also have the potential to occur in the vicinity of the project.

The purpose of this report is to document biological resources identified during a reconnaissance-level field study of the project site and include potential biological resources identified during a literature review of the site and vicinity, identify potential impacts to biological resources resulting from the project. Evaluation of potential impacts to plant and animal species are required under federal and state regulation during a General Plan Amendment and Zone Change. California Environmental Quality Act (CEQA) Appendix G thresholds have been used to evaluate potential impacts to the biological resources from the proposed project development. Avoidance and minimization measures for implementation prior to and during project activities are recommended as appropriate.

The California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS) have not been contacted regarding the preparation of this report. Appendix B, Special-Status Plant and Animal Evaluations, satisfy the requirements for an initial determination of potential impacts under the CEQA Appendix G thresholds. If CEQA threshold determinations warrant, further consultation may be required with CDFW and USFWS. If additional consultation with the agencies results in the need for Application for a California Incidental Take Permit, Cal. Code Regs., tit. 14, § 783.2 outlines requirements for detailed species-specific take analysis, proposed measures to minimize and fully mitigate impacts, compliance monitoring, and funding. A detailed description satisfying Cal. Code Regs., tit. 14, § 783.2 is not required to meet the CEQA Appendix G thresholds.

A literature review was conducted of the site and vicinity, prior to the field study, of the biological resources known to occur based on recorded, direct observation, or potentially occurring in the project impact area based on current or historical habitat conditions. During the field study, existing habitat conditions, direct observations and/or species sign was recorded to assess the potential for occurrence of special-status species. This report includes an evaluation of the potential for those special-status biological resources not observed during the field study, with the potential to occur on the property based on the habitat conditions observed.

The project lies near the southern edge of existing development for the City of Santa Clarita. Parcels 1-4 of the Tentative Parcel Map are bounded on the north, west, and east by single family home development. Land to the south is similarly developed along Sand Canyon Road, and otherwise open space to the southwest. The site is currently impacted from pedestrian and equestrian traffic from the adjacent neighborhood and vegetation fire control.

The federal and state database queries yielded 27 special-status plant species and 48 special-status animal species as potentially occurring within the vicinity of the project site. Of these, 7 plant species, and 18 animal species have federal-, and/or state-listing and are afforded protection under federal or state law.

A query of the California Native Plant Society (CNPS) database yielded 45 plants within a nine-quadrangle search of the project. The CNPS tracks plant species that do not meet the CEQA Section 15380 criteria for listing as threatened or endangered and are afforded no protection under federal or state law. A USGS nine-quadrangle query additionally includes a search area beyond a standard 10-mile



radius. Plant species meeting the criteria for Special Status Plants as defined in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018) and evaluated under CEQA Section 15380 have been included in this report.

Some CRPR 4 taxa may meet the Section 15380 definition of an endangered, rare, or threatened species, and in the definition of CRPR 4, CNPS and CDFW suggest additional reasons for including CRPR 4 taxa in a CEQA analysis. These reasons include Regionally Rare Taxa. Considered locally significant plants, that is, plants that are not rare from a statewide perspective but are rare or uncommon in a local context such as within a county or region (CEQA Guidelines, § 15125, subd. (c)), or as designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). “Locally rare” has not been generally defined, but in counties where a “locally rare” policy exists, it applies to taxa with only five to 10 known occurrences in that county.

The CNDDDB, iPac, and CNPS lists were cross-referenced for consistency. A separate CNDDDB query for the County of Los Angeles was also generated to evaluate plant species for local significance.

A separate report has been prepared in compliance with Ordinances 89-10 & 05-4 of the Santa Clarita Municipal Code relating to “Oak Tree Preservation & Protection Guidelines”.

The project will not conflict with existing or adopted Habitat Conservation Plans, Natural Community Conservation Plans, local or regional conservation plans, or local ordinances protecting biological resources.



Table of Contents

INTRODUCTION	1
PROJECT LEGAL DESCRIPTION	1
PROJECT SETTING AND PHYSICAL DESCRIPTION.....	1
METHODS.....	3
LITERATURE REVIEW	3
FIELD STUDY	3
RESULTS	4
VEGETATION COMMUNITIES AND LAND COVER	4
SOILS	4
BIOLOGICAL RESOURCES	4
<i>Special-Status Plant Species</i>	5
<i>Special-Status Animal Species</i>	6
<i>Designated Critical Habitat</i>	6
<i>Jurisdictional Water Resource Features</i>	6
<i>Special-Status Natural Communities</i>	6
<i>Wildlife Migration Corridors and Nursery Sites</i>	7
<i>Regional and Local Policies</i>	7
IMPACT ANALYSIS AND RECOMMENDED MITIGATION MEASURES	7
REFERENCES	11
APPENDIX A	14
PROJECT VICINITY AND SITE	14
APPENDIX B.....	22
SPECIAL-STATUS PLANT AND ANIMAL EVALUATION	22
APPENDIX C.....	38
PLANTS AND ANIMALS OBSERVED ON THE PROJECT	38



INTRODUCTION

Pruett Biological Resource Consulting, Inc. (PruettBio) has prepared this biological resource evaluation for the proposed development of APN 2841-018-035. The project consists of 9.97 gross acres (4.03 hectares) located in the southeast 1/4 of Section 04, T04, R15, S.B.B.&M. The project lies near the southern edge of existing development for the City of Santa Clarita. The report documents biological resources identified during fieldwork conducted on the project site and those identified through a literature search as potentially occurring based on known observations or historic habitat conditions. The report uses the information collected during the field study and literature search to evaluate potential impacts to biological resources, resulting from the project. The report is intended to assist in the analysis of the proposed project for residential, single-family home development.

A reconnaissance level biological evaluation was prepared by McCormick Biological, Inc. (McCormick), report dated March 2019. A third-party peer review of the MBI evaluation was prepared by Michael Baker International (Baker), report dated 19 July 2023. PruetBio reviewed both documents during the preparation of this report.

Listed plant and animal species are protected under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA). Protection of other non-listed, special-status species is afforded under additional regulation including the Migratory Bird Treaty Act (MBTA). Pursuant to the California Environmental Quality Act (CEQA) impacts to non-listed, special-status species must be evaluated. Where necessary, the report recommends avoidance and minimization measures for implementation prior to and during project activities. The report is intended to provide technical information in support of a CEQA preliminary review. For the purposes of this report, potential impacts to the biological resources of the proposed project were evaluated in accordance with Appendix G of the *CEQA Guidelines* (2021). If CEQA threshold determinations warrant, further consultation may be required with CDFW and USFWS. If additional consultation with the agencies results in the need for Application for a California Incidental Take Permit, Cal. Code Regs., tit. 14, § 783.2 outlines requirements for detailed species-specific take analysis, proposed measures to minimize and fully mitigate impacts, compliance monitoring, and funding. A detailed description satisfying Cal. Code Regs., tit. 14, § 783.2 is not required to meet the CEQA Appendix G thresholds.

PROJECT LEGAL DESCRIPTION

The project consists of 9.97 gross acres (4.03 hectares) of APN 2841-018-035 located in the southeast 1/4 of Section 04, T04, R15, S.B.B.&M.

PROJECT SETTING AND PHYSICAL DESCRIPTION

The project lies near the southern edge of existing development for the City of Santa Clarita. The San Gabriel Mountains are comprised of a variety of vegetation cover types including chaparral and coastal scrub, oak woodland, riparian forest and scrub and conifer woodland. The region's climate can be characterized as Mediterranean; with hot, dry summers and cool, moist winters. Summer high temperatures frequently exceed 100 °Fahrenheit (°F); Fall and winter are cool and foggy with occasional snow and temperatures often below freezing.

Rainfall averages 15 inches (38 centimeters) per year per year generally between January and March (Munz and Keck). Drought cycles occur periodically, becoming severe enough that plant and animal populations can experience large fluctuations.

The topography of the site is generally flat at approximately 1720 feet (524 meters) above sea-level. The CDFW California Natural Community of the Project is Coast live oak woodland, Element Code 71.060.01. The rarity ranking for Coast live oak woodland – *Quercus agrifolia* Alliance are listed as: G5=Secure – Common, widespread and abundant; S4= Apparently secure – Uncommon, but not rare in the state; some cause for long-term concern due to declines or other factors. A separate report, in compliance with



Ordinances 89-10 & 05-4 of the Santa Clarita Municipal Code relating to “Oak Tree Preservation & Protection Guidelines” has been prepared for the project. No undisturbed habitat is present on the site or adjacent parcels.



METHODS

LITERATURE REVIEW

PruettBio conducted a literature review to identify known observations and potential for listed, or otherwise special-status, species to occur in the vicinity of the project site. A standard, 10-mile (16-kilometer) radius query was performed. Database records reviewed included:

- **United States Fish & Wildlife Service (USFWS) iPac:** The iPac report generates a list of federal-listed species and other resources under the jurisdiction of the USFWS, including designated critical habitat for listed species, National Wildlife Refuge lands, and Wetlands in the National Wetlands Inventory. The list includes resources that are outside of the project site, but that have the potential to be impacted by project activities.
- **USFWS National Wetlands Inventory:** The Wetlands Mapper is an online inventory integrating digital map data and other resources to provide current information regarding the status of national wetlands, riparian, and deepwater habitats.
- **United States Department of Agriculture (USDA) WebSoil Survey:** The report is an online database providing soil data produced by the National Cooperative Soil Survey, a joint effort of the USDA and other federal, state, and local agencies. The information drawn for the Soil Survey of Kern County, California, Northwestern Part was originally drawn from fieldwork completed in 1981 with soil names and descriptions approved in 1982.
- **California Natural Diversity Database (CNDDDB-RareFind 5):** The CNDDDB is a database of listed, or otherwise special-status, plant and animal species and sensitive communities maintained by the California Department of Fish and Wildlife (CDFW). The information queried for this report included a standard 10-mile radius of the project site.
- **California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants:** CNPS is a private, professional organization that maintains a database evaluating the current conservation status of California's rare, threatened, and endangered plant species. The information queried for this report included a standard 10-mile radius of the project site. The list includes resources that are outside of the project site, but that have the potential to be impacted by project activities based on known historic or current habitat features. The data base was compared to the CNDDDB and iPac queries for consistency.

FIELD STUDY

A reconnaissance-level, biological field study was conducted by Steven P. Pruett on 19 August 2023. The project was surveyed by walking the perimeter and random transects to evaluate all representative habitat features of the site. The field study conducted, allowed for 100% visual coverage of the project site habitat types. Field notes included observations of all plant and wildlife species observed. Direct observations and/or species sign was recorded to assess the potential for occurrence. Land cover types and general habitat conditions were recorded and photographed. Special-status species and habitat features, such as vegetation communities or ephemeral channels, were also recorded and photographed if observed.

Coordinates for important biological resource elements and direct observations of special-status species were recorded using a handheld geographic positioning system unit. All plant taxa encountered were identified to the extent possible given the diagnostic features present. Identifications were made using keys contained in *The Jepson Manual: Vascular Plants of California* and online updates containing revisions to taxonomic treatments (Baldwin et al. 2012; Jepson Flora Project 2015).



RESULTS

This section summarizes the results of the field study conducted on the project site and evaluates those results for the known or potential for occurrence of special-status species based on the literature review and database queries and pursuant to statutory regulation. Discussions are provided describing the existing habitat conditions including vegetation communities, land cover and current use; soils; special-status biological resources potentially occurring in the vicinity of the project site; the potential for jurisdictional resources including designated critical habitat and riparian/wetland/water resource features; the potential for wildlife migration corridors and nursery sites; and regional and local policy.

VEGETATION COMMUNITIES AND LAND COVER

The CDFW California Natural Community of the Project is Coast live oak woodland, Element Code 71.060.01. The rarity ranking for Coast live oak woodland – *Quercus agrifolia* Alliance are listed as: G5=Secure – Common, widespread and abundant; S4= Apparently secure - Uncommon, but not rare in the state; some cause for long-term concern due to declines or other factors.

SOILS

The USGS soil survey map describes the soil of the project site as Unit CmF, Castaic-Balcom silty clay loams, 30 to 50 percent slopes, Unit MfA, Metz loamy sand, 0 to 2 percent slopes, and Unit YoC, Yolo loam, 2 to 9 percent slopes. The parent material for Unit CmF is residuum weathered from sedimentary rock found on backslopes and side slopes of hills. This soil is comprised of silty clay loam to about 28 inches, with weathered bedrock below to about 32 inches. The soil class is “well-drained” with run-off classified as “very high”. The depth to the water table is more than 80 inches. Available water storage is “low”. Unit MfA is alluvium found on backslopes and treads of flood plains and alluvial fans. This soil is comprised of loamy sand and stratified sand to loamy sand to a depth of about 60 inches. The soil class is “somewhat excessively drained” with run-off classified as “negligible”. The depth to the water table is more than 80 inches. Available water storage is “low”. Unit YoC is alluvium derived from sedimentary rock found on backslopes and treads of alluvial fans. This soil is comprised of loam to a depth of about 72 inches. The soil class is “well drained” with run-off classified as “medium”. The depth to the water table is more than 80 inches. Available water storage is “high”.

BIOLOGICAL RESOURCES

The literature review and database queries yielded 27 special-status plant species as potentially occurring within the vicinity of the project site. Forty-eight animal species were identified as potentially occurring in the region of the project site. No evidence of any listed animal species was observed during the field study. No evidence of otherwise special-status plant or animal species, or animal species sign was observed during the field study.

No focused, protocol-level surveys were conducted for the preparation of this report. The field study was conducted outside of the blooming period for many of the special-status plant species potentially occurring in the vicinity of the project. The project is nested within single-family homes with associated development including horse stables, outbuildings, and introduced landscaping. The project itself is maintained for fire suppression and other vegetation control and is impacted by pedestrian and horse traffic. Focused surveys are not expected to significantly impact the conclusions of this report given the current impacts to the project.

Evaluation of special-status species that were found during the literature review with a potential to occur in the region are included in Appendix B.



Special-Status Plant Species

The federal and state database queries yielded 27 special-status plant species as potentially occurring within the vicinity of the project site. A query of the California Native Plant Society (CNPS) database yielded 45 plants within a nine-quadrangle search of the project. A USGS nine-quadrangle query additionally includes a search area beyond a standard 10-mile radius. Plant species meeting the criteria for Special Status Plants as defined in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018) were evaluated under CEQA Section 15380.

Special-status plant species considered in this evaluation include all plant species that meet one or more of the following criteria:

- Listed or proposed for listing as threatened or endangered under ESA or candidates for possible future listing as threatened or endangered under the ESA (50 CFR §17.12).
- Listed or candidates for listing by the State of California as threatened or endangered under CESA (Fish and Game Code §2050 et seq.). A species, subspecies, or variety of plant is endangered when the prospects of its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors (Fish and Game Code §2062). A plant is threatened when it is likely to become endangered in the foreseeable future in the absence of special protection and management measures (Fish and Game Code §2067).
- Listed as rare under the California Native Plant Protection Act (Fish and Game Code §1900 et seq.). A plant is rare when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish and Game Code §1901).
- Meet the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
 - Species considered by the California Native Plant Society (CNPS) to be “rare, threatened or endangered in California” (Lists 1A, 1B and 2);
 - Species that may warrant consideration on the basis of local significance or recent biological information.
 - Some species included on the California Natural Diversity Database’s (CNDDB) Special Plants, Bryophytes, and Lichens List (California Department of Fish and Game 2008).
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Some CRPR 4 taxa may meet the Section 15380 definition of an endangered, rare, or threatened species, and in the definition of CRPR 4, CNPS and CDFW suggest additional reasons for including CRPR 4 taxa in a CEQA analysis. These reasons include Regionally Rare Taxa. Considered locally significant plants, that is, plants that are not rare from a statewide perspective but are rare or uncommon in a local context such as within a county or region (CEQA Guidelines, § 15125, subd. (c)), or as designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). “Locally rare” has not been generally defined, but in counties where a “locally rare” policy exists, it applies to taxa with only five to 10 known occurrences in that county.

The CNDDB, iPac, and CNPS lists were cross-referenced for consistency. A separate CNDDB query for the County of Los Angeles was also generated to evaluate plants for local significance. One of the seven



plant species occurring within a 10-mile radius of the project, California Orcutt grass (*Orcuttia californica californica*), is afforded federal and/or state legal protection. Three CRPR 4 taxa met the definition of “locally rare” with between five and 10 known occurrences drawn from the County of Los Angeles CNDDB query. Those taxa are: *Dudleya densiflora* (San Gabriel dudleya), *Helianthus inexpectus* (Newhall sunflower), and *Lupinus paynei* (Payne’s bush lupine). Focused surveys are not expected to significantly impact special-status plant species.

Precipitation has been well above average to date, resulting in a good year for annual plant species observations. Of the 27 special-status plant species returned during database queries for the project vicinity, 7 species are either federally- or state-listed as threatened or endangered. Although CEQA requires consideration for impacts to locally significant plant species, no mitigation is legally required to compensate for impacts to non-listed plant species. No listed, or otherwise special-status plant species was observed during the fieldwork conducted for the preparation of this report. No listed, or otherwise special-status plant species, has been recorded as occurring within the project site.

Special-Status Animal Species

Special-status animal species considered in this evaluation include those that may occur in the project vicinity that have statutory protections. This includes federal- and state-listed (rare, threatened, or endangered; fully protected) species and candidates for listing under the respective endangered species acts. Species that are of special concern to the CDFW or the USFWS are included in this evaluation. Special-status bird species that are afforded protection under the MBTA which may nest on or within an approximate 10-mile (16-kilometer) radius of the project site are also evaluated. No evidence of any listed animal species was observed during the field study. No evidence of otherwise special-status animal species, or animal species sign was observed during the field study. The mammals evaluated in the Appendix B discussion are included as a result of the federal and state database queries for a 10-mile radius of the project. None of the mammals is expected to occur based on unsuitable habitat and/or range of the individual species.

Designated Critical Habitat

The USFWS iPac report and USFWS Designated Critical Habitat Mapper lists no Designated Critical Habitat (USFWS 2023) on the project site. The eastern edge of Designated Critical Habitat for California condor (*Gymnogyps californianus*) is approximately 21 miles northwest of the project. Designated Critical Habitat for the Coastal California gnatcatcher (*Polioptila californica californica*) is immediately southwest of the project.

Jurisdictional Water Resource Features

Section 404 of the Federal Clean Water Act (CWA) regulates discharge of dredged and fill material into Waters of the United States. Wetlands are included under this jurisdiction. Proposed activities that may result in discharge of material into Waters of the U.S. require a permit review process by the U.S. Army Corps of Engineers as set forth under CWA section 404(b)(1). Fish and Game Code section 1602 requires any person, state or local governmental agency, or public utility to notify CDFW before beginning any activity that will substantially modify a river, stream, or lake.

A search of the USFWS National Wetlands Inventory resulted in no riparian, wetlands, or other jurisdictional water features mapped on the project site (USFWS 2023). These results are consistent with the observed conditions within the survey area.

Special-Status Natural Communities

No critical habitat was identified by the USFWS iPac query, the CNDDB, or the CNPS Inventory (USFWS 2023, CDFW 2023, CNPS 2023). The CDFW California Natural Community of the Project is Coast live oak woodland, Element Code 71.060.01. The rarity ranking for Coast live oak woodland – *Quercus*



agrifolia Alliance are listed as: G5=Secure – Common, widespread and abundant; S4= Apparently secure - Uncommon, but not rare in the state; some cause for long-term concern due to declines or other factors. A separate report, in compliance with Ordinances 89-10 & 05-4 of the Santa Clarita Municipal Code relating to “Oak Tree Preservation & Protection Guidelines” has been prepared for the project. No undisturbed habitat is present on the site or adjacent parcels.

Wildlife Migration Corridors and Nursery Sites

Wildlife corridors can be defined as connections between wildlife blocks that meet specific habitat needs for species movement generally during migratory periods but seasonally as well. Wildlife corridors generally contain habitat dissimilar to the surrounding vicinity and include examples such as riparian areas along rivers and streams, washes, canyons, or otherwise undisturbed areas within urbanization. Corridor width requirements can vary based on the needs of the species utilizing them. Development of the project would not impact wildlife migration corridors or nursery sites.

Regional and Local Policies

The proposed, modified project will not conflict with existing or adopted Habitat Conservation Plans, Natural Community Conservation Plans, local or regional conservation plans, or local ordinances protecting biological resources.

IMPACT ANALYSIS AND RECOMMENDED MITIGATION MEASURES

CEQA Appendix G thresholds have been used to evaluate potential impacts to the biological resources from the proposed project. Appendix G provides an analysis of the impacts of the proposed project following the standards of CEQA and provides recommendations that, when implemented, would reduce impacts to less-than-significant levels. It is important to note that potential take of any federal- or state-listed species from project activities would require contacting the appropriate wildlife agency (the USFWS and/or the CDFW).

The California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS) have not been contacted regarding the preparation of this report. Appendix B, Special-Status Plant and Animal Evaluations, satisfy the requirements for an initial determination of potential impacts under the CEQA Appendix G thresholds. If CEQA threshold determinations warrant, further consultation may be required with CDFW and USFWS. If additional consultation with the agencies results in the need for Application for a California Incidental Take Permit, Cal. Code Regs., tit. 14, § 783.2 outlines requirements for detailed species-specific take analysis, proposed measures to minimize and fully mitigate impacts, compliance monitoring, and funding. A detailed description satisfying Cal. Code Regs., tit. 14, § 783.2 is not required to meet the CEQA Appendix G thresholds.

The project would create a significant impact to biological resources, based on the specifications in Appendix G of the CEQA Guidelines, if the following were to occur:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
3. Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;



4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

In addition to the thresholds enumerated in Appendix G, the City of Santa Clarita requires an evaluation regarding the following question: Will the project affect a Significant Ecological Area or Significant Natural Area as Identified on the City of Santa Clarita Delineation Map?

The following analysis discusses potential impacts associated with the development of the project and provides recommendations where appropriate to further reduce potential impacts.

1. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, by the CDFW, or the USFWS?

The project is nested within single-family homes with associated development including horse stables, outbuildings, and introduced landscaping. The project itself is maintained for fire suppression and other vegetation control and is impacted by pedestrian and horse traffic.

No focused, rare plant surveys were conducted for the preparation of this report. The field study was conducted outside of the blooming period for many of the special-status plant species potentially occurring in the vicinity of the project. One of the seven plant species occurring within a 10-mile radius of the project, California Orcutt grass (*Orcuttia californica californica*), is afforded federal and/or state legal protection. Three CRPR 4 taxa met the definition of “locally rare” with between five and 10 known occurrences drawn from the County of Los Angeles CNDDB query. Those taxa are: *Dudleya densiflora* (San Gabriel dudleya), *Helianthus inexpectus* (Newhall sunflower), and *Lupinus paynei* (Payne’s bush lupine). Focused surveys are not expected to significantly impact special-status plant species.

Designated Critical Habitat for the Coastal California gnatcatcher (*Polioptila californica californica*) is immediately southwest of the project. Implementation of standard measures for the protection of biological resources including nesting birds are recommended to avoid and minimize potential impact to general wildlife.

Direct impacts, in the form of “incidental take” of a threatened, endangered, or otherwise protected species, are not expected as a result of the development of the proposed project.

A separate report has been prepared in compliance with Ordinances 89-10 & 05-4 of the Santa Clarita Municipal Code relating to “Oak Tree Preservation & Protection Guidelines”.

2. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the CDFW or the USFWS?

No 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 United States Fish and Wildlife Service exists on the project site. No adverse effect will occur as a result of the development of the proposed project and no mitigation measures are recommended.



3. Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No features, identified in wetland categories, appear on the USFWS National Wetlands Inventory mapping (USFWS 2021) on the proposed, modified project site. No federally protected wetlands as defined by Section 404 of the Clean Water Act were identified during the field study conducted for the preparation of this report. No substantial adverse effect will occur as a result of the development of the project. No mitigation measures are recommended.

4. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No migratory wildlife corridors were identified during the literature search or field study. The project will not interfere substantially with the movement of any native fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

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

A separate report has been prepared in compliance with Ordinances 89-10 & 05-4 of the Santa Clarita Municipal Code relating to "Oak Tree Preservation & Protection Guidelines".

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

The project does not conflict with any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No additional mitigation measures are recommended.

A separate report has been prepared in compliance with Ordinances 89-10 & 05-4 of the Santa Clarita Municipal Code relating to "Oak Tree Preservation & Protection Guidelines".

7. Affect a Significant Ecological Area or Significant Natural Area as Identified on the City of Santa Clarita Delineation Map

The SEA Program was originally established as a part of the 1980 County General Plan, to help conserve the genetic and physical diversity within Los Angeles County through designating biological resource areas capable of sustaining themselves into the future. The General Plan 2035 ("General Plan") updated the SEA boundary maps, goals and policies in 2015. SEAs are areas where the County deems it important to facilitate a balance between development and biological resource conservation. Where occurring within SEAs, development activities are carefully reviewed with a key focus on site design as a means for conserving fragile resources such as streams, woodlands, and threatened or endangered species and their habitats.

The project is within the City of Santa Clarita incorporated limits and is therefore not subject to the County of Los Angeles SEA program. The project is subject to the SEA requirements of the City of Santa Clarita, which require a thorough analysis of impacts to ensure that any development within a SEA is highly compatible with its resources.

SEAs are officially designated areas within LA County with irreplaceable biological resources. As specifically described on the Los Angeles County Planning Website: "The SEA Program objective is to conserve genetic and physical diversity within LA County by designating biological resource areas that are capable of sustaining themselves into the future." The SEA Ordinance establishes the permitting,



design standards, and review process for development within SEAs, balancing preservation of the County's natural biodiversity with private property rights.

Of specific note, "the SEA Program does not change the land use designation or the zoning of a property; rather it uses biological review and the application of certain development standards to balance the preservation of the County's natural biodiversity with private property rights."

The proposed land use is compatible and consistent with the existing use of the adjacent parcels. The CEQA Appendix G thresholds, as enumerated above, satisfy the evaluation required under the SEA protocols.



REFERENCES

- Baldwin, B. G., Goldman, D. H., Keil, D. J., Patterson, R., Rosatti, T. J., & Wilken, D. H. (Eds.). (2012). *The Jepson manual: Vascular plants of California* (2nd ed.). Berkeley, CA: University of California Press. 1568 pp.
- CDFG. (2009). *Protocols for surveying and evaluating impacts to special status native plant populations and natural communities*. Sacramento, CA: Author. 7 pp.
- CDFG. (2012). *Staff report on burrowing owl mitigation*. Sacramento, CA: Author.
- CNDDDB. (2023). *Occurrence for U.S. Geologic Survey 7.5 minute quadrangles*. Sacramento, CA: CDFW
- California Endangered Species Act of 1970, C.F.G.C § 2050 et seq. (2023).
- California Environmental Quality Act of 1970, 13 P.R.C. § 21000 et seq. (2023).
- California Environmental Quality Act of 1970 Guidelines, 14 C.C.R. § 15000 et seq. (2023).
- California Native Plant Society (CNPS). (2023). Inventory of rare and endangered plants (Online edition, v8-01a) 7.5 minute quadrangles and corresponding plant species accounts. Sacramento, CA: Author.
- California Native Plant Protection Act of 1977, C.F.G.C § 1904 et seq. (2023).
- Clean Water Act of 1972, 33 U.S.C. § 1251 et seq. (2014).
- Dunn, J. L., & Alderfer, J., (Eds.). (2008). *Field guide to the birds of western North America*. Washington, DC: National Geographic Society. 447 pp.
- Ehrlich, P. R., Dobkin, D. S., & Wheye, D. (1988). *The birder's handbook: A field guide to the natural history of North American birds*. New York, NY: Simon and Schuster, Inc. 785 pp.
- Federal Endangered Species Act of 1973, 16 U.S.C. § 1531 et seq. (2023).
- Harris, J. H., & Stearns, D. M. (1991). Population density, census methods, habitat relationships, and home range of the San Joaquin antelope squirrel, 1988–89. *California Department of Fish and Game, Nongame Bird and Mammal Section, Report 91-02*. Oakland, CA: CDFG. Retrieved from <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2953>
- Jennings, M. R., Hayes, M. P., & Metro Washington Park Zoo. (1994). *Amphibian and reptile species of special concern in California* (Final report to the California Department of Fish and Game, Inland Fisheries Division, Contract No. 8023). Rancho Cordova, CA: CDFG. 255 pp.
- Jepson Flora project (Eds.). (2015). Jepson eFlora. Retrieved from <http://ucjeps.berkeley.edu/IJM.html>
- Luce, B. (2005). *Eumops perotis: Western mastiff bat*. In C. Chambers & M. Herder, (Eds.), *Species accounts*. Portland, OR: Western Bat Working Group. 5 pp. Retrieved from http://www.wbwg.org/speciesinfo/species_accounts/molossidae/eupe.pdf
- Migratory Bird Treaty Act of 1918, 16 U.S.C. § 703 et seq. (2023).
- Nafis, G. (2000–2021a). North American legless lizards - *Anniella*. *A Guide to the Amphibians and Reptiles of California*. Retrieved from <http://www.californiaherps.com/lizards/pages/a.pulchra.html>



- Nafis, G. (2000–2021b). San Joaquin coachwhip – *Coluber flagellum ruddocki*. *A Guide to the Amphibians and Reptiles of California*. Retrieved from <http://www.californiaherps.com/snakes/pages/c.f.ruddocki.html>
- Nafis, G. (2000–2021c). Blainville's horned lizard – *Phrynosoma blainvillii*. *A Guide to the Amphibians and Reptiles of California*. Retrieved from <http://www.californiaherps.com/lizards/pages/p.blainvillii.html>
- Native Fish and Wildlife Endangered Species, 32 Fed. Reg. 4001 (Mar. 11, 1967). Retrieved from http://ecos.fws.gov/docs/federal_register/fr18.pdf
- Papenfuss, T. J., Parham, J. F. (2013). Four new species of California legless lizards (*Anniella*). *Breviora* 536, 1–17. Retrieved from http://mczbase.mcz.harvard.edu/specimen_images/publications/Breviora_536.pdf
- Porter-Cologne Water Quality Control Act, C.W.A. § Section 13000 et seq. (2023).
- Reid, F. A. (2006). *Mammals of North America* (Peterson field guide). Boston, MA: Houghton Mifflin Company. 579 pp.
- Sherwin, R. (2005). *Antrozous pallidus*: Pallid bat. In D. A. Rambaldini, (Eds.). *Species accounts*. Portland, OR: Western Bat Working Group. 5 pp. Retrieved from http://www.wbwg.org/speciesinfo/species_accounts/vespertilionidae/anpa.pdf
- Shuford, W. D., Gardali, T., (with Comrack, L.A.). (Eds.). (2008). *California bird species of special concern: a ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California*. Sacramento, CA: CDFG.
- Stebbins, R. C. (1985). *A field guide to western reptiles and amphibians* (Peterson field guide), (2nd ed.). Boston, MA: Houghton Mifflin Company. 336 pp.
- Stebbins, R. C. (2003). *A field guide to western reptiles and amphibians* (Peterson field guide), (3rd ed.). Boston, MA: Houghton Mifflin Company. 533 pp.
- Twisselmann, E. C. (1967). A flora of Kern County, California. *The Wasmann Journal of Biology*, 25, 1–395.
- Uptain, C. E. (1989). *Survey for Tipton kangaroo rats (Dipodomys nitratoides nitratoides) on the proposed Delano prison site, Kern County, California* (Prepared for the California Department of Corrections). Sacramento, CA: 11 pp.
- U.S. Fish and Wildlife Service (USFWS). (1996). *California condor recovery plan, third revision*. Portland, OR: Author. 62 pp.
- USFWS. (1998). *Recovery plan for upland species of the San Joaquin Valley, California*. Portland, OR: Author. Retrieved from http://ecos.fws.gov/docs/recovery_plan/980930a.pdf
- USFWS. (2011). *U.S. Fish and Wildlife Service standardized recommendations for protection of the endangered San Joaquin kit fox prior to or during ground disturbance*. Sacramento, CA: Author. 9 pp. Retrieved from http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/kitfox_standard_rec_2011.pdf
- USFWS. (2013). *California condor recovery program population size and distribution, December 31, 2013 overview page*. Retrieved from http://www.fws.gov/uploadedFiles/Region_8/NWRS/Zone_1/Hopper_Mountain_Complex/Hopper_Mountain/Sections/News/News_Items/PDFs/2013-12-31.pdf



USFWS. (2023a). *Federal endangered and threatened species that may occur in or may be affected by project in the counties and/or USGS 7 ½ minute quads you requested: quadrangle* [August]. Author. Retrieved from http://www.fws.gov/sacramento/es_species/Lists/es_species_lists-form.cfm

USFWS. (2023b). *National Wetlands Inventory Website* [August]. Washington, D.C.: Author. Retrieved from <http://www.fws.gov/wetlands/>

Williams, D. F. (1980). *Distribution and population status of the San Joaquin antelope squirrel and giant kangaroo rat*. (Nongame Wildlife Investigation Final Report E-W-4). Sacramento, CA: CDFG. 48 pp.

Williams, D. F. (1986). *Mammalian species of special concern in California* (Prepared for the State of California, The Resources Agency Department of Fish and Game). Turlock, CA: CSUS. 112 pp. Retrieved from http://esrp.csustan.edu/resources/publications/pdf/mammalian_scc_ca_esrp5.pdf

Zeiner, D. C., Laudenslayer, W. F., Jr., Mayer, K. E., & White, M., (Eds.). (1990a). *California's wildlife volume II birds* (California Statewide Wildlife Habitat Relationships System). Sacramento, CA: CDFG.

Zeiner, D. C., Laudenslayer, W. F., Jr., Mayer, K. E., & White, M., (Eds.). (1990b). *California's wildlife volume III mammals* (California Statewide Wildlife Habitat Relationships System). Sacramento, CA: CDFG.

APPENDIX A

PROJECT VICINTY AND SITE

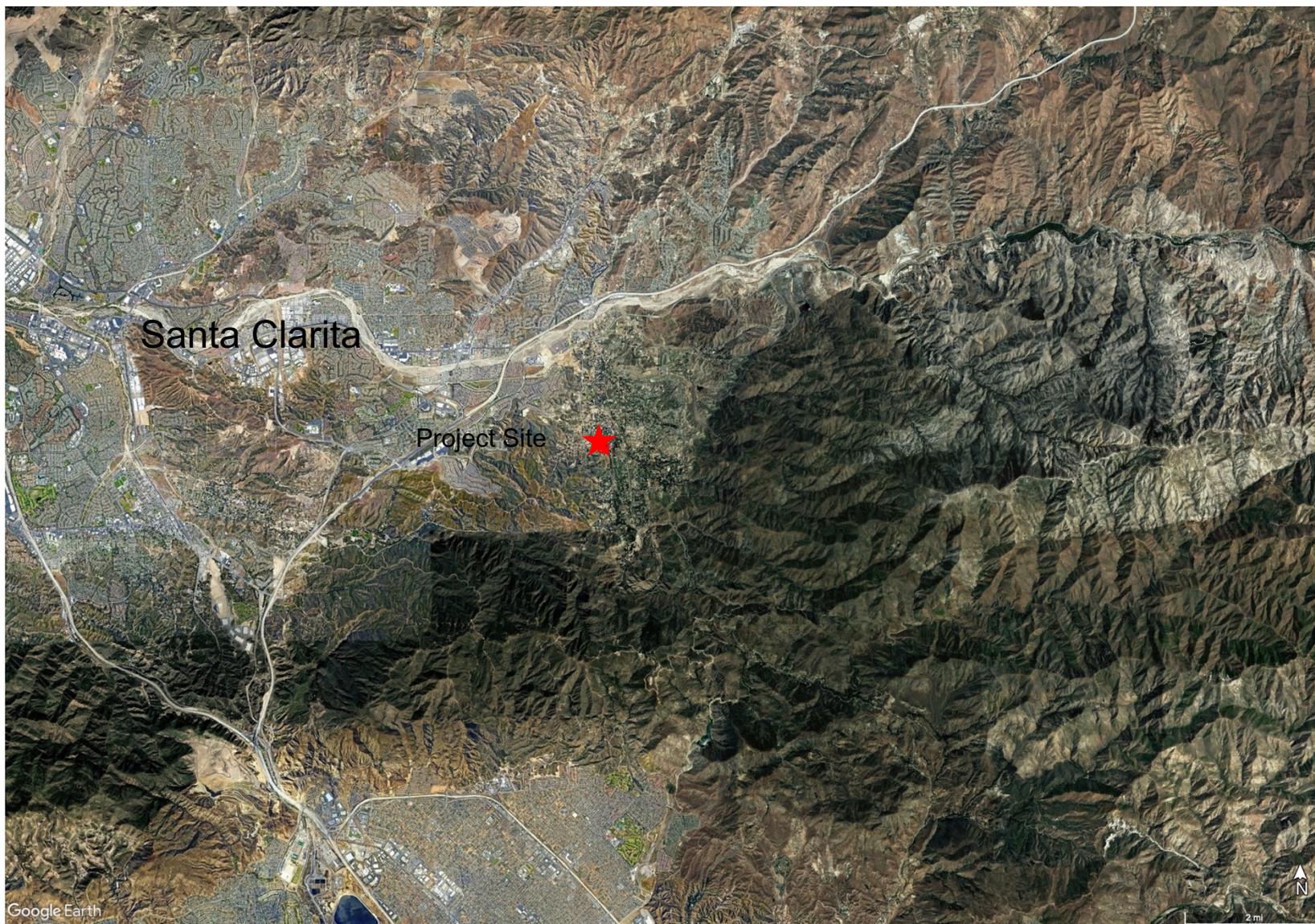


Figure A-1. Aerial photograph of the project vicinity (Google Earth Pro 2023).

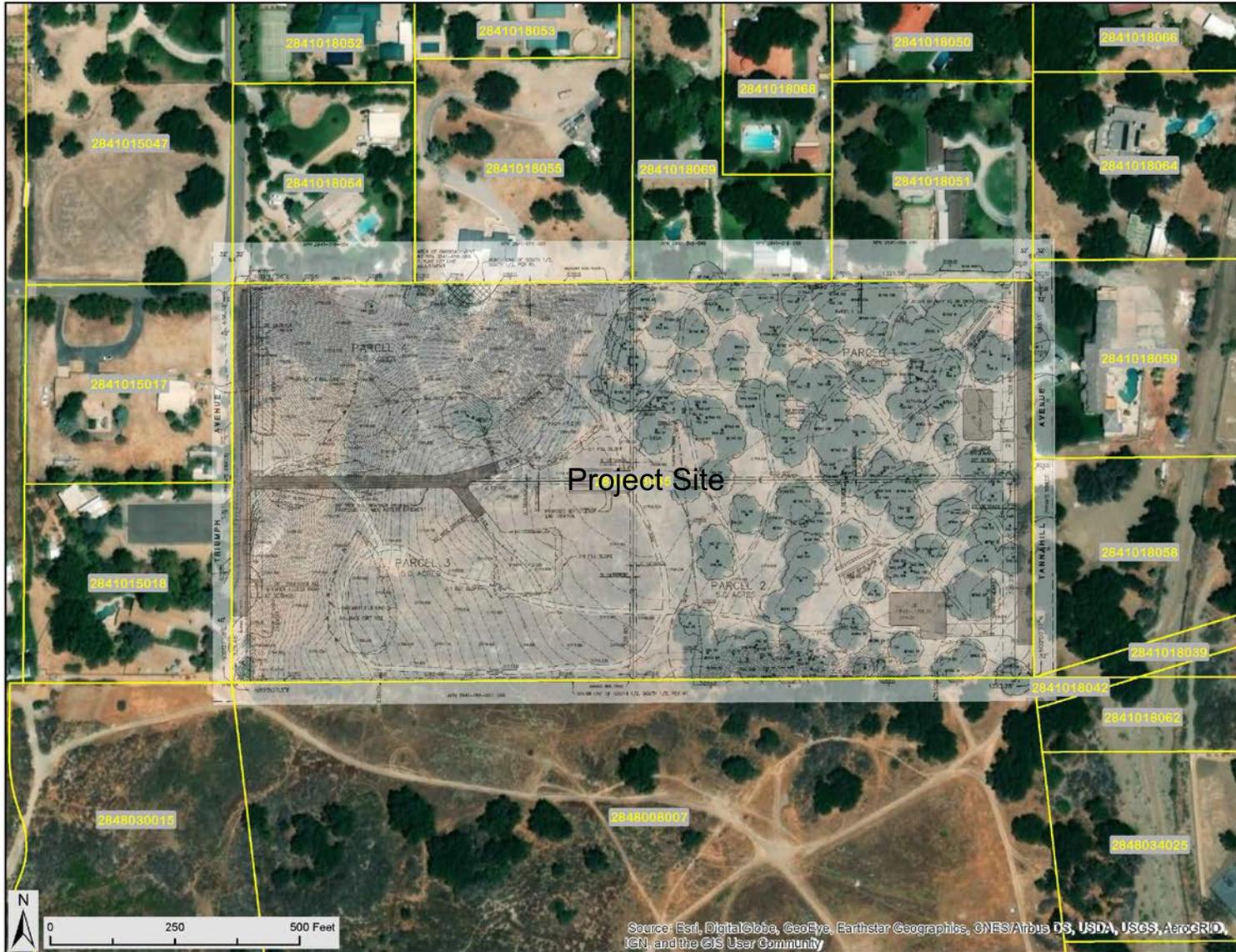


Figure A-2. Aerial photograph of APN 2841-018-035 including the project site.

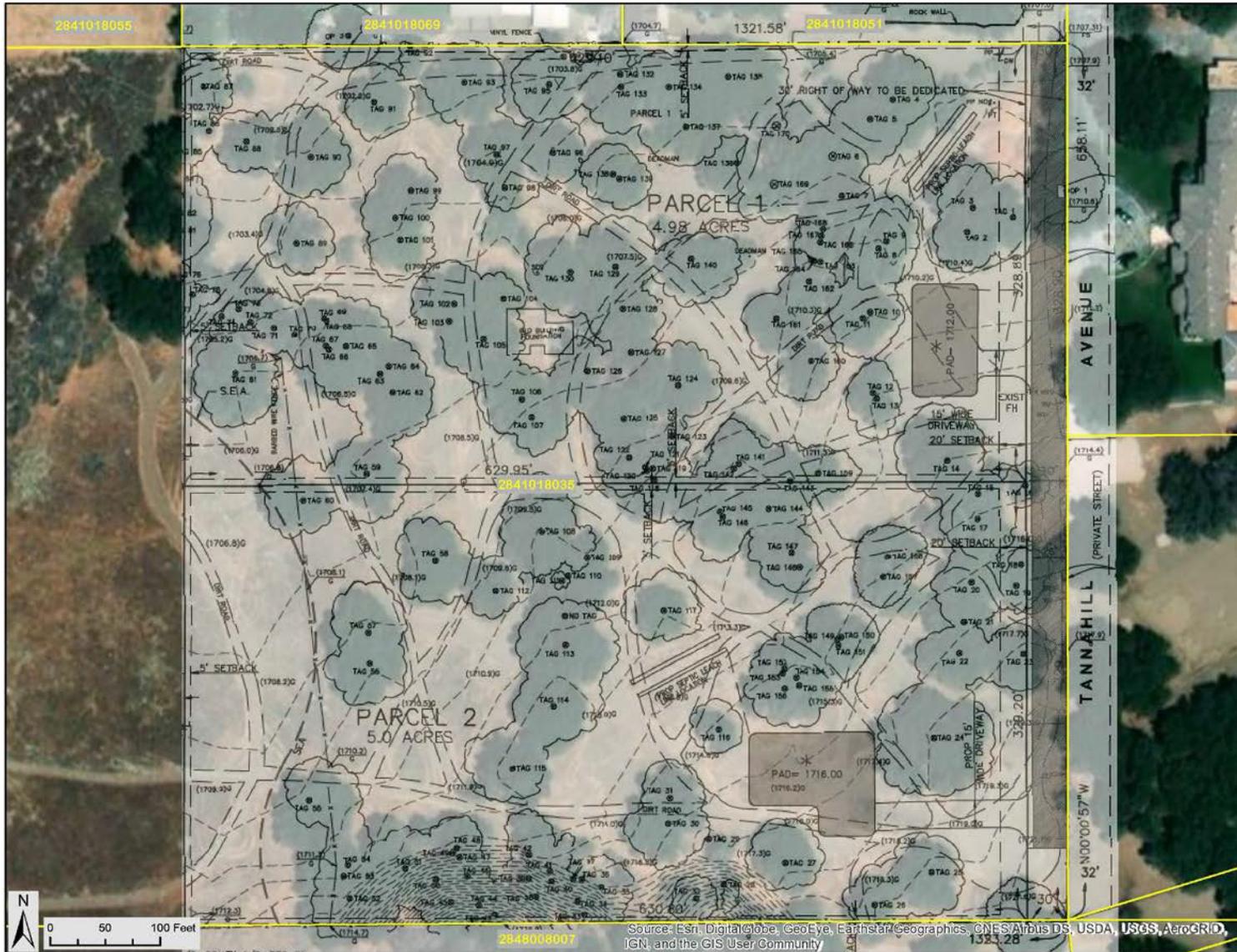


Figure A-3. Aerial photograph of the project site.

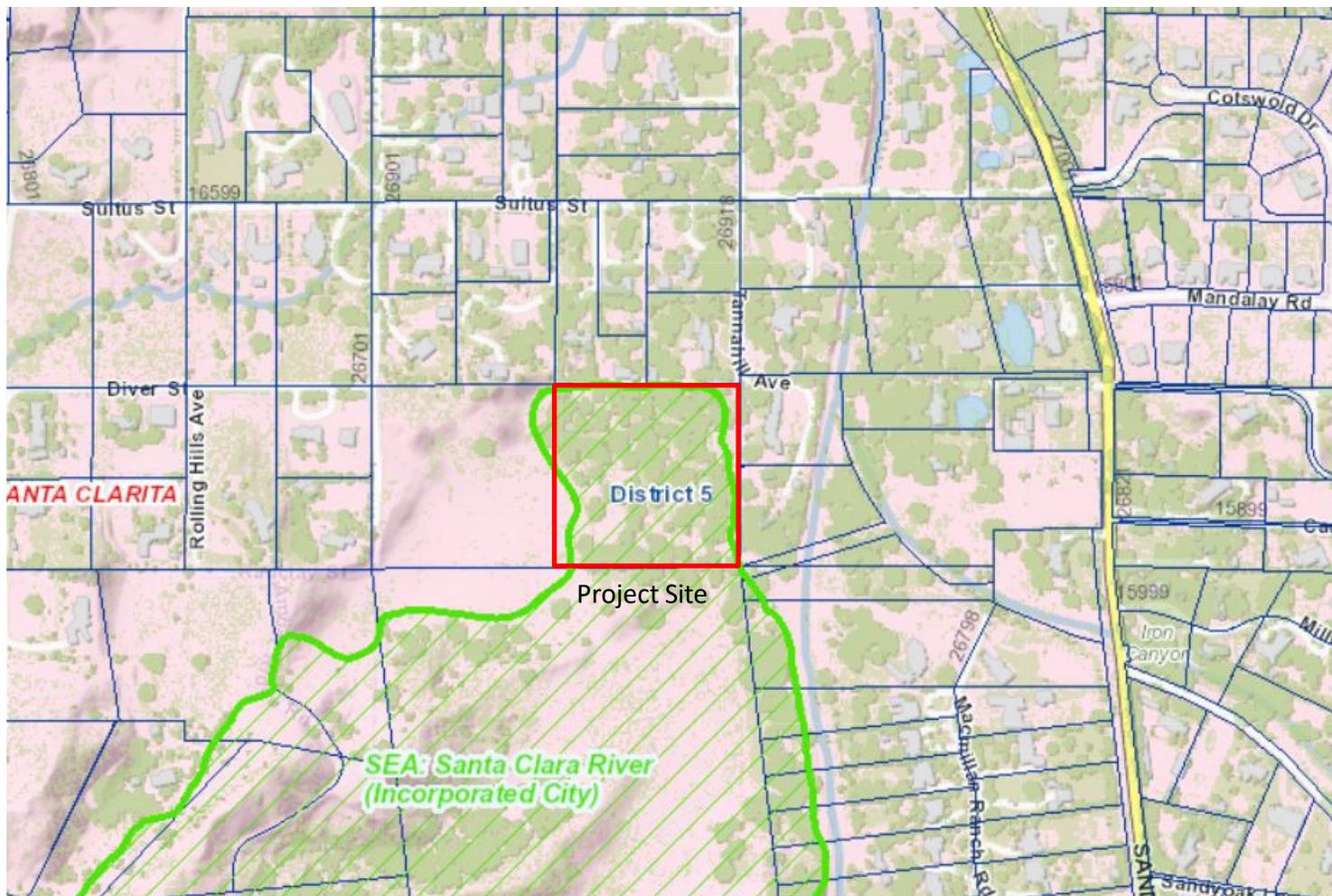


Figure A-4. Map of the project site shown at the edge of the Santa Clara River Project.



Figure A-5. Soil map of the project site (USDA, Natural Resources Conservation Service 2023).



Figure A-6. Photograph of the project site taken from the NW corner facing SE (19Aug23).



Figure A-7. Photograph of the project site taken from the SW corner facing NE (19Aug23).



Figure A-8. Photograph of the project site taken from the SE corner facing N (19Aug23).



Figure A-9. Photograph of the project site taken from the NE corner facing S (19Aug23).

APPENDIX B

SPECIAL-STATUS PLANT AND ANIMAL EVALUATION



Table B-1: Special-status Plants That May Occur in the Vicinity of the Project.

Scientific Name Common Name	Status Fed/State/CNPS	Description	Blooming Period	Field Study Results/Potential for Occurrence
<i>Arenaria paludicola</i> Marsh sandwort	E/E/1B.1	Herbaceous annual in the Caryophyllaceae occurring in marshes, swamps and areas that are wet year-round.	May to August	Not Expected. No suitable habitat for marsh sandwort exists on the project site.
<i>Berberis nevinii</i> Nevin's barberry	E/E/1B.1	Herbaceous annual in the Asteraceae found in chaparral, cismontane woodland, coastal scrub, and valley and foothill grasslands on clay or serpentinite soils between 1,476 and 3,510 feet (450–1,070 meters) in elevation.	May to November	Not Expected. No suitable soils exist for the species.
<i>Calochortus clavatus</i> <i>var. gracillis</i> Slender mariposa-lily	-/1B.2	Perennial bulbiferous herb in the Liliaceae usually found on rocky or clay, serpentinite soils in chaparral, cismontane woodland, coastal scrub, and valley and foothill grasslands between 246 and 4,265 feet (75–1,300 meters) in elevation.	May to June	Not Observed. Marginal soils exist for the species. The species does not meet the threshold to be considered "locally rare". Focused surveys would not impact the CEQA Appendix G evaluation.
<i>Calochortus palmeri</i> <i>var. palmeri</i> Palmer's mariposa-lily	-/1B.2	Perennial bulbiferous herb in the Liliaceae found in chaparral, coastal scrub, and valley and foothill grasslands often on serpentinite soils between 164 and 2,395 feet (50–730 meters) in elevation.	May to July	Not Observed. Marginal soils exist for the species. The species does not meet the threshold to be considered "locally rare". Focused surveys would not impact the CEQA Appendix G evaluation.
<i>Calochortus plummerae</i> Plummer's mariposa-lily	-/1A.2	Perennial bulbiferous herb in the Liliaceae found in chaparral, lower montane coniferous forest, and meadows and seeps on mesic soils between 3,281 and 7,841 feet (1,000–2,390 meters) in elevation. Known to occur in the Outer South Coast Ranges in San Luis Obispo and Santa Barbara Counties, in the Western Transverse Ranges in Ventura and Los Angeles Counties, the Southern Sierra Nevada Foothills through the Western Transverse Ranges in Kern County, the San Gabriel and San Bernardino Mountains in San Bernardino County, and the San Jacinto Mountains in Riverside County.	April to July	Not Observed. Marginal soils exist for the species. The species does not meet the threshold to be considered "locally rare". Focused surveys would not impact the CEQA Appendix G evaluation.



Scientific Name Common Name	Status Fed/State/CNPS	Description	Blooming Period	Field Study Results/Potential for Occurrence
<i>Calystegia peirsonii</i> Peirson's morning-glory	-/I4.2	Rhizomatous perennial herb in the Convolvulaceae found on serpentinite or sedimentary soils in chaparral, cismontane woodland, and valley and foothill grasslands between 1,394 and 4,888 feet (425–1,490 meters) in elevation.	April to June	Not Expected. No suitable soils exist for the species.
<i>Centromadia parryi</i> <i>ssp. australis</i> Southern tarplant	-/I1B.1	Annual herb in the Asteraceae found along margins of marshes and swamps, in vernal mesic valley and foothill grasslands, and in vernal pools below 1,575 feet (480 meters) in elevation.	May to November	Not Expected. No suitable soils exist for the species.
<i>Chorizanthe parryi</i> var. <i>fernandina</i> San Fernando Valley spineflower	-/E/1B.1	Annual herb in the Polygonaceae found on rocky, serpentinite soils in chaparral, cismontane woodland, and valley and foothill grasslands from 197 and 2,297 feet (60–700 meters) in elevation.	April to August	Not Expected. No serpentine soils exist on the project.
<i>Chorizanthe parryi</i> var. <i>parryi</i> Parry's spineflower	-/I1B.1	Annual herb in the Polygonaceae found on rocky, serpentinite soils in chaparral, cismontane woodland, and valley and foothill grasslands from 197 and 2,297 feet (60–700 meters) in elevation.	April to August	Not Expected. No serpentine soils exist on the project.
<i>Deinandra minthornii</i> Santa Susana tarplant	-/Rare/1B.2	Annual herb in the Asteraceae found in coastal bluff, coastal scrub, and valley and foothill grasslands below 1,411 feet (430 meters) in elevation.	May to October	Not Expected. The Project is beyond the published range of the species.
<i>Dodecahema leptoceras</i> Slender-horned spineflower	E/E/1B.1	Perennial, rhizomatous herb in the Brassicaceae found in sandy coastal scrub and dunes from 10 to 164 feet (3–50 meters) in elevation. Known to occur in Los Angeles, Santa Barbara, San Luis Obispo, and Ventura Counties, and Santa Catalina, San Miguel, and San Nicolas Islands.	March to May	Not Expected. The Project is beyond the published range of the species.
<i>Dudleya densiflora</i> San Gabriel dudleya	-/I1B.1	Perennial in the Crassulaceae found in coastal sage scrub, yellow pine forests, and chaparral.	March to June	Not Expected. Beyond the published range of the species.
<i>Harpagonella palmeri</i> Palmer's grapplinghook	-/I4.2	Annual herb found on dry, semi-barren area of chaparral, coastal scrub, and grassland below 1000 meters.	March to April	Not Expected. The Project is not appropriate habitat.
<i>Helianthus inexpectatus</i> Newhall sunflower	-/I1B.1	Perennial herb found in spring fed marsh in willow woodland at 300 meters. Generally within the Western Transverse Range.	August to October	Not Expected. The Project is not appropriate habitat.
<i>Horkelia cuneate</i> var. <i>puberula</i> Mesa horkelia	-/I1B.1	Annual herb found on dry, sandy, coastal chaparral between 70 and 870 meters. Type locality generally along the foothill edge of the Los Angeles basin.	March to July	Not Expected. The Project is not appropriate habitat.
<i>Lepechinia rossii</i> Ross' pitcher sage	-/I1B.2	Annual herb in the Lamiaceae family found on chaparral between 470 and 1200 meters.	May to September	Not Expected. The Project is beyond the published range of the species.



Scientific Name Common Name	Status Fed/State/CNPS	Description	Blooming Period	Field Study Results/Potential for Occurrence
<i>Lepidium virginicum</i> <i>var. robinsonii</i> Robinson's pepper-grass	-/-/4.3	Herbaceous annual in the Brassicaceae found in valley and foothill grasslands on alkaline and adobe clay soils between 1,099 and 3,297 feet (335–1,005 meters) in elevation. Known to occur in the South Inner Coastal Ranges from Kern and San Luis Obispo Counties.	March to May	Not Expected. The Project is beyond the published range of the species.
<i>Lupinus paynei</i> Payne's Bush Lupine	-/-/1B.1	Perennial shrub in the Fabaceae family found on sandy, coastal, and riparian scrub, and valley and foothill grassland between 220 and 420 meters.	March to April	Not Expected. Beyond the current published range of the species.
<i>Malacothamnus davidsonii</i> Davidson's bush-mallow	-/-/1B.2	Perennial shrub in the Malvaceae family found on chaparral and coastal scrub between 500 and 700 meters.	May to July	Not Expected. No perennial Malvaceae shrub was observed.
<i>Navarretia fossalis</i> Spreading navarretia	T/-/1B.1	Perennial, rhizomatous herb in the Brassicaceae found in freshwater or brackish marshes and swamps between 16 and 1,083 feet (5–330 meters) in elevation. Known to occur in Los Angeles, Orange, Santa Barbara, San Diego, and San Luis Obispo Counties. Populations historically occurring in San Bernardino County are presumed extirpated.	April to October	Not Expected. No suitable habitat exists for the species.
<i>Navarretia setiloba</i> Piute Mountains navarretia	-/-/1B.1	Annual herb in the Polemoniaceae found in coastal scrub, meadows and swamps, vernal pools, and alkaline, valley and foot hill grassland in mesic soil between 49 and 3,970 feet (15–1,210 meters) in elevation. Known to occur in Alameda, Fresno, Los Angeles, Merced, Monterey, Orange, Riverside, San Benito, Santa Clara, San Diego, and San Luis Obispo Counties. Populations historically occurring in San Bernardino County are presumed extinct.	April to July	Not Expected. The Project is beyond the current published range of the species.
<i>Opuntia basilaris</i> var. <i>brachyclada</i> Short-joint beavertail	-/-/1B.2	Perennial in the Cactaceae family found on Creosote Bush Scrub, Chaparral, Joshua Tree Woodland, Pinyon-Juniper Woodland between 1200 and 1800 meters.	April to June	Not Present. No cactus was observed. The Project does not represent suitable habitat.
<i>Orcuttia californica</i> California Orcutt grass	E/E/1B.1	Perennial stem succulent in the Cactaceae found in chenopod scrub, cismontane woodland, and valley and foothill grasslands between 394 and 1,804 feet (120–550 meters) in elevation. Requires vernal pools and wetlands within Valley Grassland occurrences.	April to May	Not Expected. No vernal pools or wetlands exist on the project.
<i>Pseudognaphalium leucocephalum</i> White rabbit-tobacco	-/-/2B.2	Annual herb in the Asteraceae found in cismontane woodland, and valley and foothill grasslands on adobe clay soils between 295 and 2,625 feet (90–800 meters) in elevation. Known to occur in the Southern Sierra Nevada Foothills from Kern County north to Fresno County.	March to April	Not Expected. The Project is beyond the published range of the species.



Scientific Name Common Name	Status Fed/State/CNPS	Description	Blooming Period	Field Study Results/Potential for Occurrence
<i>Rorippa gambellii</i> Gambel's watercress	E/T/1B.1	Perennial herb in the Brassicaceae found in freshwater-marshes.	April to October	Not Expected. No suitable habitat exists on the Project.
<i>Senecio aphanactis</i> Chaparral ragwort	-/1B.2	Perennial, rhizomatous herb in the Selaginellaceae found in cismontane woodland, lower, upper, and subalpine coniferous forest, and pinyon and juniper woodland on granitic, rocky soil between 5,249 and 8,858 feet (1,600–2,700 meters) in elevation. Known to occur in Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Tulare Counties.	July	Not Expected. The Project is well below the published elevation for the species.
<i>Streptanthus campestris</i> Southern jewelflower	-/1B.3	Perennial, rhizomatous herb in the Selaginellaceae found in cismontane woodland, lower, upper, and subalpine coniferous forest, and pinyon and juniper woodland on granitic, rocky soil between 5,249 and 8,858 feet (1,600–2,700 meters) in elevation. Known to occur in Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Tulare Counties.	July	Not Expected. The Project is well below the published elevation for the species
<i>Symphotrichum greatae</i> Greata's aster	-/1B.3	Rhizomatous herb in the Asteraceae found in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and vernal mesic areas in valley and foothill grasslands. Also found in ditches, streams, and springs below 6,693 feet (2,040 meters) in elevation. Known to occur in San Luis Obispo and Kern Counties, and is more widespread in the southeastern portion of the Transverse and Peninsular Ranges.	July to November	Not Expected. The Project is not suitable habitat for the species.

STATUS: Federal and State Listing Code

- D Delisted
- E Federally or State-listed Endangered
- R Rare
- T Federally or State-listed Threatened

CNPS

- 1A Plants presumed extirpated in California, and either rare or extinct elsewhere
- 1B.1 Plants considered rare, threatened, or endangered in California and elsewhere; seriously threatened in California
- 1B.2 Plants considered rare, threatened, or endangered in California and elsewhere; fairly threatened in California
- 2B.1 Plants considered rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California
- 4.2 Plants of limited distribution in California; fairly threatened in California



Table B-2: Special-status Animals That May Occur in the Vicinity of the Project.

Scientific Name Common Name	Status Federal/State	General Habitat	Survey Results/Regional or Nearest Occurrence*
Invertebrates			
<i>Bombus crotchii</i> Crotch bumble bee	-/E(Candidate)	Found in open grasslands and scrub habitats. Historically from sea level to over 8000 feet.	Not Present. No suitable habitat present.
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	T/-	Found in vernal pools throughout California. Exist as cysts during the dry season and reproduce when pools are filled with water again.	Not Present. No suitable habitat present.
<i>Euphydryas editha quino</i> Quino checkerspot butterfly	E/-	Occupies a variety of habitats including grasslands, coastal sage scrub, chaparral, juniper woodland, and semi-desert scrub. Historically distributed throughout the coastal slopes of southern California through the Transverse Ranges and to the edges of the Anza-Borrego Desert.	Not Observed/Not Expected. Currently only known from western Riverside County, southern San Diego County, and northern Baja California, Mexico
Fish			
<i>Catostomus santaanae</i> Santa Ana sucker	T/-	Historically, the Santa Ana sucker occupied upper watershed areas of the San Gabriel and San Bernardino Mountains down to the Pacific Ocean. The Santa Ana sucker is currently found in three disjunct populations that occupy portions of the San Gabriel, Los Angeles, and Santa Ana River basins in Southern California.	Not Present. No suitable habitat present.
<i>Gasterosteus aculeatus williamsoni</i> Unarmored threespine stickleback	E/E,SFP	The unarmored threespine stickleback has a very limited distribution, with the southern California population represented in only three drainages; Upper Santa Clara River (extremely limited), Bouquet Creek (extremely limited) and Soledad Canyon Creek (possibly extirpated).	Not Present. No suitable habitat present.
<i>Gila orcuttii</i> Arroyo chub	-/CSC	Arroyo chub are native to the streams and rivers of the Los Angeles plain in southern California, including the Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita Rivers, and Malibu and San Juan Creeks.	Not Present. No suitable habitat present.
<i>Rhinichthys osculus</i> ssp. 8 Santa Ana speckled dace	-/CSC	Speckled dace occupy a variety of aquatic habitats, but optimal habitat is in perennial streams fed by cool springs and with overhanging riparian vegetation. Optimal spawning habitat is in shallow areas of gravel or gravelly riffle edges with tributary inlets.	Not Present. No suitable habitat present.
Amphibians			
<i>Anaxyrus californicus</i> Arroyo toad	E/CSC	Found in very specific habitat types including exposed sandy stream sides with stable terraces for burrowing. Generally between 300 and 1000 meters.	Not Present. No suitable habitat present.



Scientific Name Common Name	Status Federal/State	General Habitat	Survey Results/Regional or Nearest Occurrence*
<i>Rana draytonii</i> California red-legged frog	T/CSC	Found in dense, shrubby riparian vegetation associated with deep (0.6 meters, 2 feet), still or slow-moving water; arroyo willow (<i>Salix lasiolepis</i>) seems to be most suitable, but cattails (<i>Typha</i> sp.) and bulrushes (<i>Scirpus</i> sp.) also provide good habitat.	Not Present. No suitable breeding habitat present
<i>Rana muscosa</i> Southern mountain yellow-legged frog	E/E,WL	Lives in high mountain lakes, ponds, tarns, and streams--largely in areas that were glaciated as recently as 10,000 years ago. Alpine lakes used by mountain yellow-legged frogs usually have open shorelines, margins that are grassy or muddy and have a depth greater than 2.5 meters (greater than 8.2 feet). Adults are typically found sitting on rocks along the shoreline, usually where there is little or no vegetation. Larvae are often distributed in the warm water shallow areas along the shoreline during the daytime. Mountain yellow-legged frogs also use stream habitats, especially in the northern part of their range.	Not Present. No suitable breeding habitat present
<i>Spea hammondi</i> Western spadefoot	-/CSC	Central valley and adjacent foothills, Coast Ranges from Point Conception south to the Mexico border; valley-foothill grasslands and valley-foothill hardwood, shallow temporary pools used for breeding, below 1,363 meters.	Not Present. No suitable breeding habitat present
<i>Taricha torosa</i> Coast Range newt	-/CSC	Habitat types associated with this species include oak forests, chaparral, and rolling grasslands. Adults are terrestrial requiring ponds or streams for reproduction.	Not Present. No suitable breeding habitat present.
<i>Rana draytonii</i> California red-legged frog	T/-	Found in dense, shrubby riparian vegetation associated with deep (0.6 meters, 2 feet), still or slow-moving water; arroyo willow (<i>Salix lasiolepis</i>) seems to be most suitable, but cattails (<i>Typha</i> sp.) and bulrushes (<i>Scirpus</i> sp.) also provide good habitat.	Not Present. No suitable habitat present.
Reptiles			
<i>Anniella spp.</i> California legless lizard	-/CSC	Found in coastal dunes, chaparral, pine-oak woodlands, desert scrub, and sandy washes in warm moist loose soils, below 5,085 feet (1550 meters).	Not Observed/ Low Probability of Occurrence in the Project Vicinity. Limited Project size, current habitat disturbance, and surrounding development limit the po Typically found in open sandy areas in deserts, chaparral, grassland, limit the potential of occurrence.
<i>Arizona elegans occidentalis</i> California glossy snake	-/CSC	Common throughout southern California found in desert habitats, chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grasslands from below 1830 meters.	Not Observed/ Low Probability of Occurrence in the Project Vicinity. Limited Project size, current habitat disturbance, and surrounding development



Scientific Name Common Name	Status Federal/State	General Habitat	Survey Results/Regional or Nearest Occurrence*
			limit the potential of occurrence.
<i>Aspidoscelistigris stejnegeri</i> Coastal whiptail	-/CSC	Found in woodland, chaparral, riparian areas, or desert n coastal Southern California, mostly west of the Peninsular Ranges and south of the Transverse Ranges, and north into Ventura County.	Not Observed/ Low Probability of Occurrence in the Project Vicinity. Limited Project size, current habitat disturbance, and surrounding development limit the potential of occurrence.
<i>Emys marmorata</i> Western pond turtle	-/CSC	Completely aquatic requiring calm waters such as pools or streams with vegetation banks or logs for basking. Will utilize upland habitat up to about 0.5 kilometers from water.	Not Present. No suitable habitat present.
<i>Phrynosoma blainvillii</i> Coast horned lizard	-/CSC	Inhabits valley-foothill hardwood, coniferous and riparian, as well as pine-cypress, juniper, and annual grasslands, in Sierra Nevada below 3,937 feet (1,200 meters) and in mountains of Southern California and into the adjacent valleys.	Not Observed/ Low Probability of Occurrence in the Project Vicinity. Limited Project size, current habitat disturbance, and surrounding development limit the potential of occurrence.
<i>Thamnophis hammondi</i> Two-striped garter snake	-/CSC	Primarily aquatic and generally found around pools, creeks, cattle tanks, and other water sources. Habitats include oak woodland, chaparral, and coniferous forest.	Not Present. No suitable habitat present.
Birds			
<i>Accipiter cooperii</i> Cooper's Hawk	-/WL	Found throughout southern Canada and the United States in a variety of habitat types associated with deciduous and mixed forests and open woodland habitats. Nests in coniferous, deciduous, and mixed woods, typically those with tall trees and with openings or edge habitat nearby. Increasing associated with suburban areas	Not Observed/Moderate Probability of Occurrence in the Project Vicinity. Suitable nesting habitat on the site.
<i>Agelaius tricolor</i> Tricolored blackbird	-/T(CSC)	Forages in grasslands, wetlands, rice fields, croplands, and weedy uplands dominated by mustards and thistles, etc.; breeds in marshes containing heavy growth of bulrushes, cattails, and blackberries; found throughout the Central Valley.	Not Observed/Low Probability of Occurrence in the Project Vicinity. No suitable nesting habitat on the site. Potential for marginal foraging habitat in farmlands in the vicinity of the project.
<i>Almophilia ruficeps canescens</i>	-/WL	Inhabits oak woodlands and dry uplands with grassy vegetation and bushes. It is often found near rocky outcroppings. The species	Not Observed/Moderate Probability of Occurrence



Scientific Name Common Name	Status Federal/State	General Habitat	Survey Results/Regional or Nearest Occurrence*
Southern California rufous-crowned sparrow		is also known from coastal scrublands and chaparral areas between 910 and 1830 meters.	in the Project Vicinity. Suitable nesting habitat in the vicinity of the site.
<i>Ammodramus savannarum</i> Grasshopper sparrow	-/CSC	Breeds in lowlands and foothills west of the Sierra Nevada-Cascade crest through most of California. Occurs in dense, dry grasslands with tall forbs and sparse shrubs.	Not Observed/Low Probability of Occurrence in the Project Vicinity. Typical associated habitat is not present.
<i>Artemisiospiza belli belli</i> Bell's sage sparrow	-/WL	Inhabits coastal sage scrub and chaparral. Also year-round residents of some sage scrub habitat on the California coastal slope and foothills.	Low Probability of Occurrence in the Project Vicinity. Typical associated habitat is not present.
<i>Athene cunicularia</i> Burrowing owl	-/CSC	Inhabits dry, open grasslands, rolling hills, desert floors, prairies, savannas, agricultural land, and other areas of open, bare ground. These owls will also inhabit open areas near human habitation, such as housing developments, airports, golf courses, shoulders of roads, railroad embankments, and the banks of irrigation ditches and reservoirs.	Low Probability of Occurrence in the Project Vicinity. Typical associated habitat is not present.
<i>Aquila chrysaetos</i> Golden eagle	-/SFP	Uncommon permanent resident and migrant throughout California except center of the Central Valley; forages in rolling foothills, mountain areas, sage-juniper flans and desert areas, below 12,575 feet (3,833 meters), nests on cliffs and in large trees in open areas, very susceptible to human disturbance.	Not Observed/Moderate Probability of Occurrence in the Project Vicinity. No suitable nesting habitat on the project site.
<i>Buteo swainsoni</i> Swainson's hawk	-/T	Riparian and sometimes large isolated trees used for nesting; grasslands and agricultural lands used for foraging; in California, breeds primarily in the Sacramento Valley, with occasional nesting to the south through Kern County; migrate through the Central and San Joaquin Valleys to their wintering grounds in South America.	Not Observed/Low Probability of Occurrence in the Project Vicinity. No suitable nesting sites on the project..
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	T/E	Nests in walnut and almond orchards in California, natural nesting habitat is in cottonwood-tree willow riparian forest. Known populations of breeding western yellow-billed cuckoo are several disjunct locations in California, Arizona, and western New Mexico.	Not Observed/Moderate Probability of Occurrence in the Project Vicinity. No suitable nesting habitat on the project site.
<i>Elanus leucurus</i> White-tailed kite	-/, SFP	Associated habitats include open grasslands, savannas, agriculture, wetlands, oak woodland and riparian areas with associated open space.	Not Observed/Moderate Probability of Occurrence in the Project Vicinity. Suitable nesting habitat.
<i>Empidonax traillii extimus</i> Southwestern willow flycatcher	E/E	Breeds in dense riparian tree and shrub habitat associated with rivers, lakes, and other wetlands.	Not Observed/Moderate Probability of Occurrence in the Project Vicinity. No suitable nesting habitat on the project site.



Scientific Name Common Name	Status Federal/State	General Habitat	Survey Results/Regional or Nearest Occurrence*
<i>Eremophila alpestris actia</i> California horned lark	-/WL	Resident throughout California from the coast to the deserts up to alpine dwarf-shrub habitat above tree line.	Not Observed/Moderate Probability of Occurrence in the Project Vicinity. No suitable nesting habitat on the project site.
<i>Falco mexicanus</i> Prairie falcon	-/WL	Found in generally dry, open country such as plains, prairies, and deserts, and can be relatively common in canyon country, where it is attracted to the nesting sites afforded by cliffs and rock outcrops.	Not Observed/Low Probability of Occurrence in the Project Vicinity. No suitable nesting habitat on the project site.
<i>Gymnogyps californianus</i> California condor	E/E, SFP	Forage over wide areas of open rangelands, roost on cliffs and in large trees and snags and occur mostly between sea-level and 2,743 meters (9,000 feet), and nests from 610 to 1,981 meters (2,000–6,500 feet). Require vast expanses of open savannah, grasslands, and foothill chaparral, with cliffs, large trees, and snags for roosting and nesting.	Not Observed/Moderate Probability of Occurrence in the Project Vicinity. No suitable nesting habitat present. Designated Critical Habitat 21 miles north of the project site.
<i>Haliaeetus leucocephalus</i> Bald Eagle	D/E, SFP	Uncommon permanent resident and migrant throughout California except center of the Central Valley; forages in rolling foothills, mountain areas, sage-juniper flans and desert areas, below 12,575 feet (3,833 meters), nests on cliffs and in large trees in open areas, very susceptible to human disturbance.	Not Observed/Moderate Probability of Occurrence in the Project Vicinity. No suitable nesting habitat on the project site.
<i>Lanius ludovicianus</i> Loggerhead shrike	-/CSC	Common resident and winter visitor in lowlands and foothills throughout California; species prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches; nests on stable branches in densely-foliaged shrubs or trees, usually well-concealed.	Not Observed/Moderate Probability of Occurrence in the Project Vicinity. Suitable habitat on the project site.
<i>Poliptila californica californica</i> Coastal California gnatcatcher	T/CSC	Occurs within a very limited distribution of coastal sage scrub. This habitat is characterized by low shrubs generally dominated by California sagebrush, buckwheat, salvia, and prickly-pear cactus	Not Observed/Moderate Probability of Occurrence in the Project Vicinity. Designated Critical Habitat immediately southwest of the project.
<i>Vireo bellii pusillus</i> Least Bell's vireo	E/E	Inhabits low, dense riparian growth along water or along dry parts of intermittent streams. Typically associated with willow, cottonwood, baccharis, wild blackberry, or mesquite in desert localities.	Not Observed/Low Probability of Occurrence in the Project Vicinity. No suitable nesting habitat on the project site.
Mammals			
<i>Antrozous pallidus</i> Pallid bat	-/CSC	Throughout Californian except high Sierra Nevada from Shasta County south to Kern County and the northwestern corner of the	Not Present No suitable habitat on the project.



Scientific Name Common Name	Status Federal/State	General Habitat	Survey Results/Regional or Nearest Occurrence*
		state; grasslands, shrub lands, woodlands, and forest habitats; roosts in caves, crevices, mines and hollow trees.	
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	-/CSC	Occurs throughout California except at the highest elevations; requires caves, mines, tunnels, or other structures for roosting; prefers moist habitats, feeding from brush or trees along habitat edges.	Not Observed/Not Expected. Beyond the current published range of the species.
<i>Euderma maculatum</i> spotted bat	-/CSC	Habitat types include open and dense deciduous and coniferous forests, hay fields, deserts, marshes, riparian areas, and dry shrub-steppe grasslands; roosts in undisturbed cliff faces.	Not Observed/Not Expected. Beyond the current published range of the species.
<i>Eumops perotis californicus</i> Western mastiff bat	-/CSC	Open, semi-arid to arid habitats, including conifer and deciduous woodlands, annual and perennial grasslands, chaparral, desert scrub, and urban areas; roosts in cliff faces, as well as high buildings, trees, and tunnels; uncommon resident in southwestern San Joaquin Valley.	Not Observed/Not Expected. Beyond the current published range of the species.
<i>Lasiurus cinereus</i> Hoary bat	-/-	Open habitats or habitat mosaics with access to trees for cover and open areas or habitat edges for feeding.	Not Observed/Not Expected. Beyond the current published range of the species.
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	-/-	Occupies a variety of habitat types including savannah, scrub, forest, grasslands, and desert.	Not Observed/Not Expected. Beyond the current published range of the species.
<i>Macrotus californicus</i> California leaf-nosed bat	-/CSC	Found in caves and abandoned mines in deserts of northern Mexico, baja California, southern Arizona, southern California and southern Nevada America.	Not Observed/Not Expected. Beyond the current published range of the species.
<i>Neotamias speciosus speciosus</i> Lodgepole chipmunk	-/CSC	Habitat types include subalpine mixed conifer forests containing lodgepole pine, red fir, and Jeffery pine generally between 1,500 and 3,300 meters. Also known to occur in woodlands including white fir, Douglas fir, ponderosa pine, sugar pine, incense cedar, and California black oak.	Not Observed/Not Expected. Beyond the current published range of the species.
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	-/CSC	Found in sagebrush scrub and chaparral of southwestern California and northwestern Baja California. Additional disconnected groups occur in California in the vicinity of the southern San Joaquin Valley and southern Sierra Nevada	Not Observed/Not Expected. No Neotoma middens observed during the field study.
<i>Onychomys torridus ramona</i> Southern grasshopper mouse	-/CSC	Found in valley grasslands habitats, blue oak savanna, desert associations dominated by annual grasses and California ephedra, alkali sink scrub, saltbush scrub, and upper Sonoran shrub associations, dominated by ephedra.	Not Observed/Not Expected. Uncommon in valley foothill and montane riparian habitat.



Scientific Name Common Name	Status Federal/State	General Habitat	Survey Results/Regional or Nearest Occurrence*
<i>Taxidea taxus</i> American badger	-/CSC	Uncommon resident found through California; in less disturbed grassland and shrubland habitats in San Joaquin Valley.	Not Present. No badger burrows or other sign observed during the field study.

STATUS:

Federal

- S Listed as a BLM Sensitive Species
- D Delisted
- E Listed as Endangered
- PT Proposed as Threatened
- T Listed as Threatened
- C Candidate for Endangered Status

State

- CSC California Department of Fish and Wildlife Designated Species of Special Concern
- D Delisted
- E Listed as Endangered
- SFP California Department of Fish and Wildlife Designated Fully Protected
- T Listed as Threatened

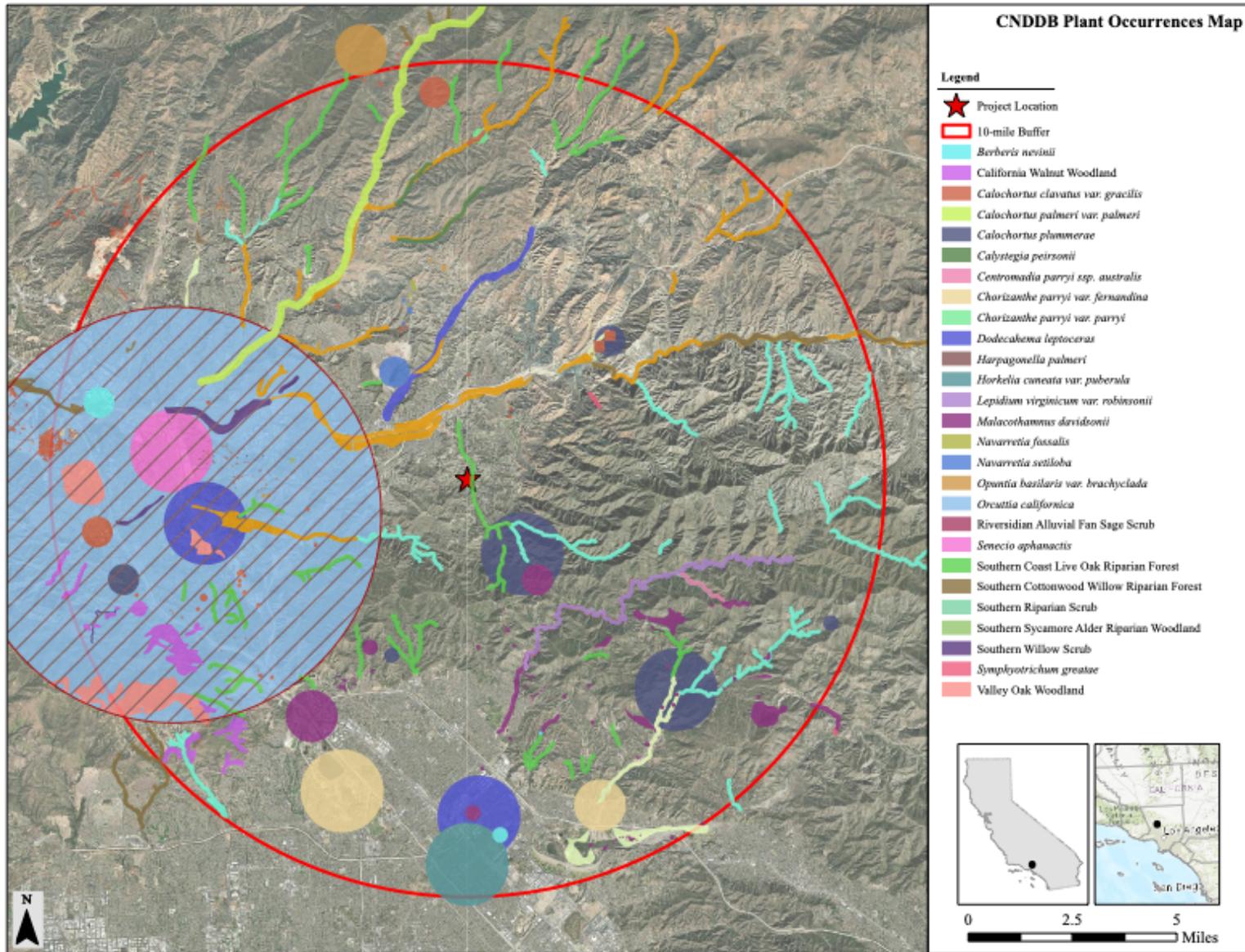


Figure B-1. CNDDDB special-status plant species occurrences within a 10-mile radius of the project (CDFW 2023).

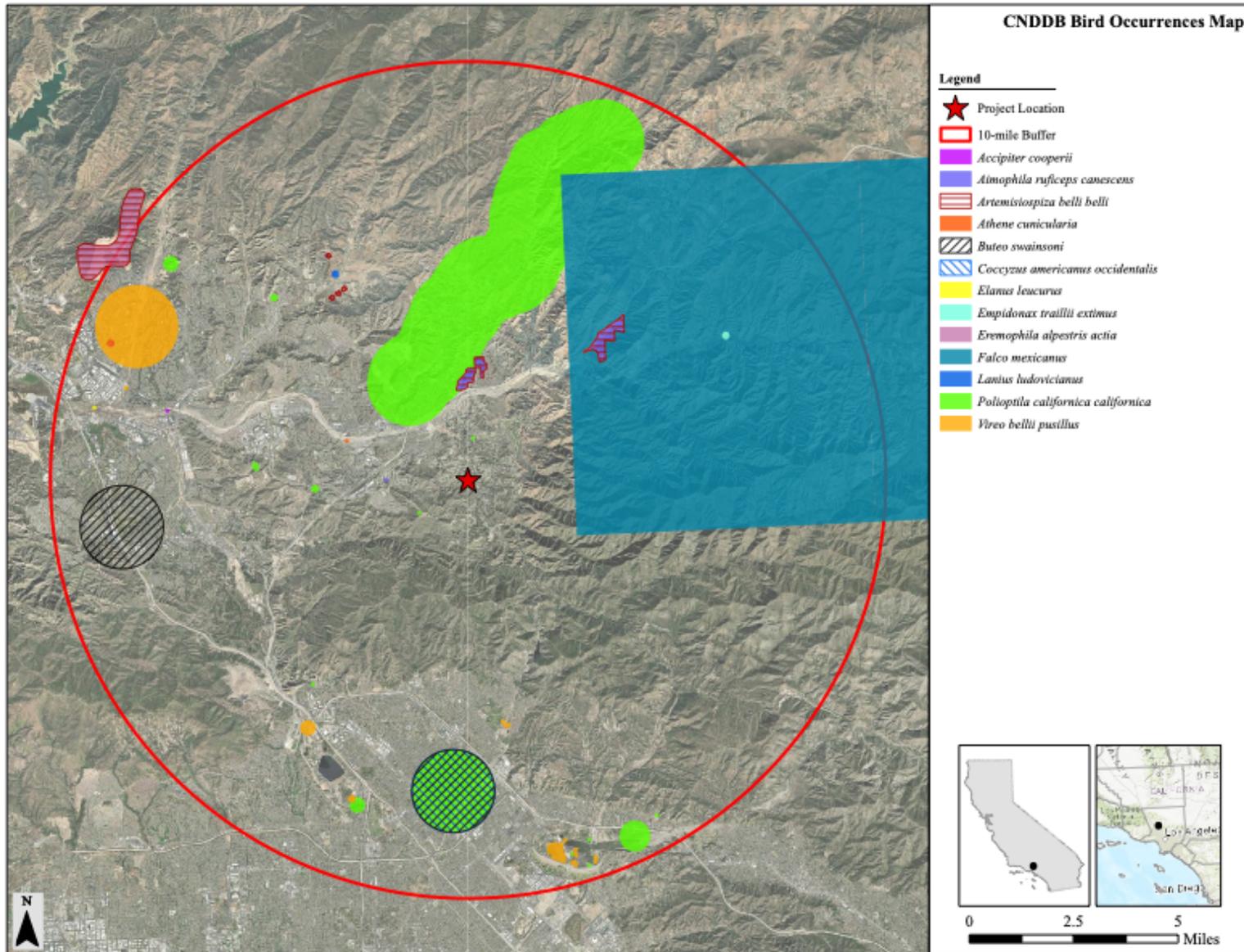


Figure B-2. CNDDDB special-status bird species occurrences within a 10-mile radius of the project (CDFW 2023).

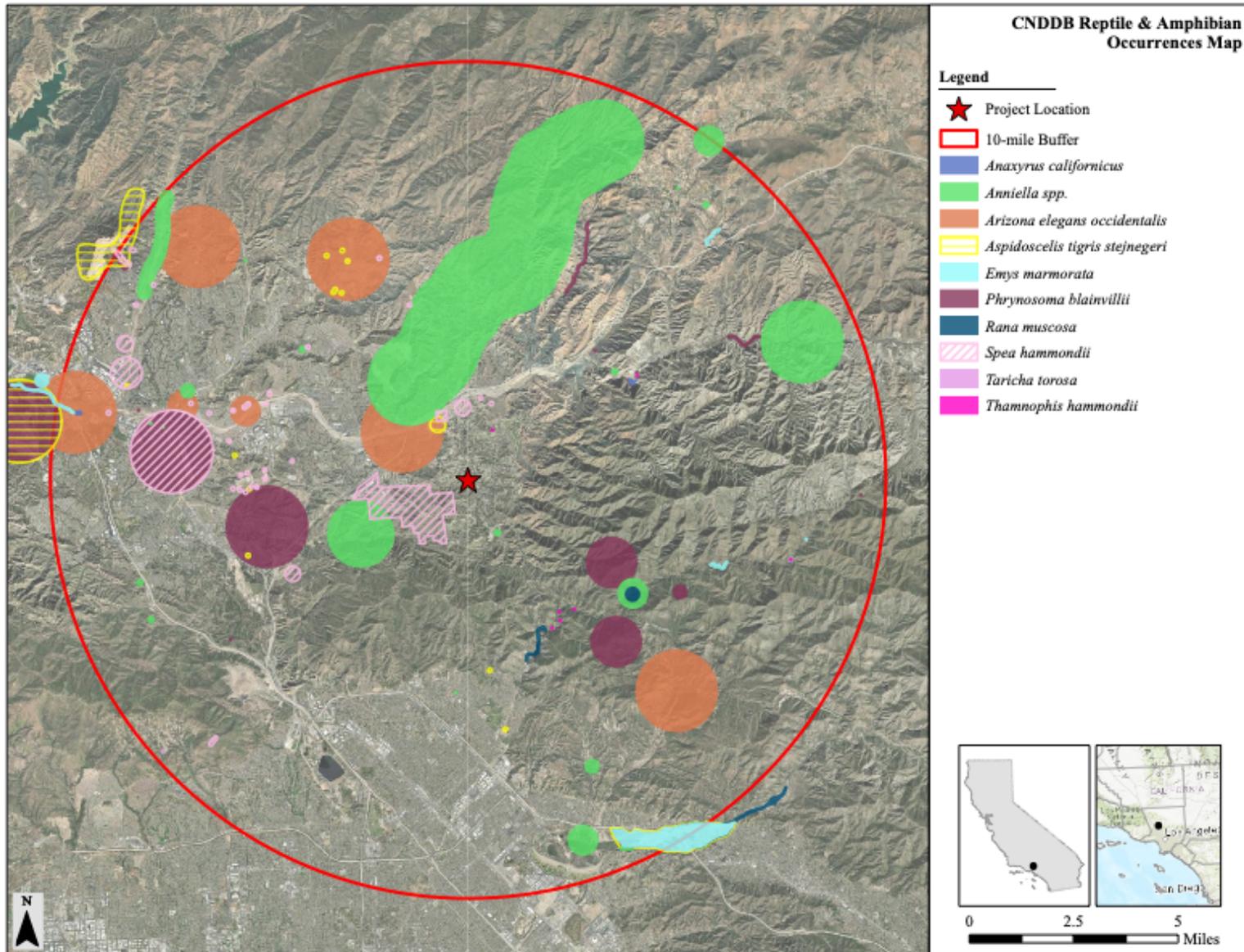


Figure B-3. CNDDDB special-status amphibian and reptile species occurrences within a 10-mile radius of the project (CDFW 2023).

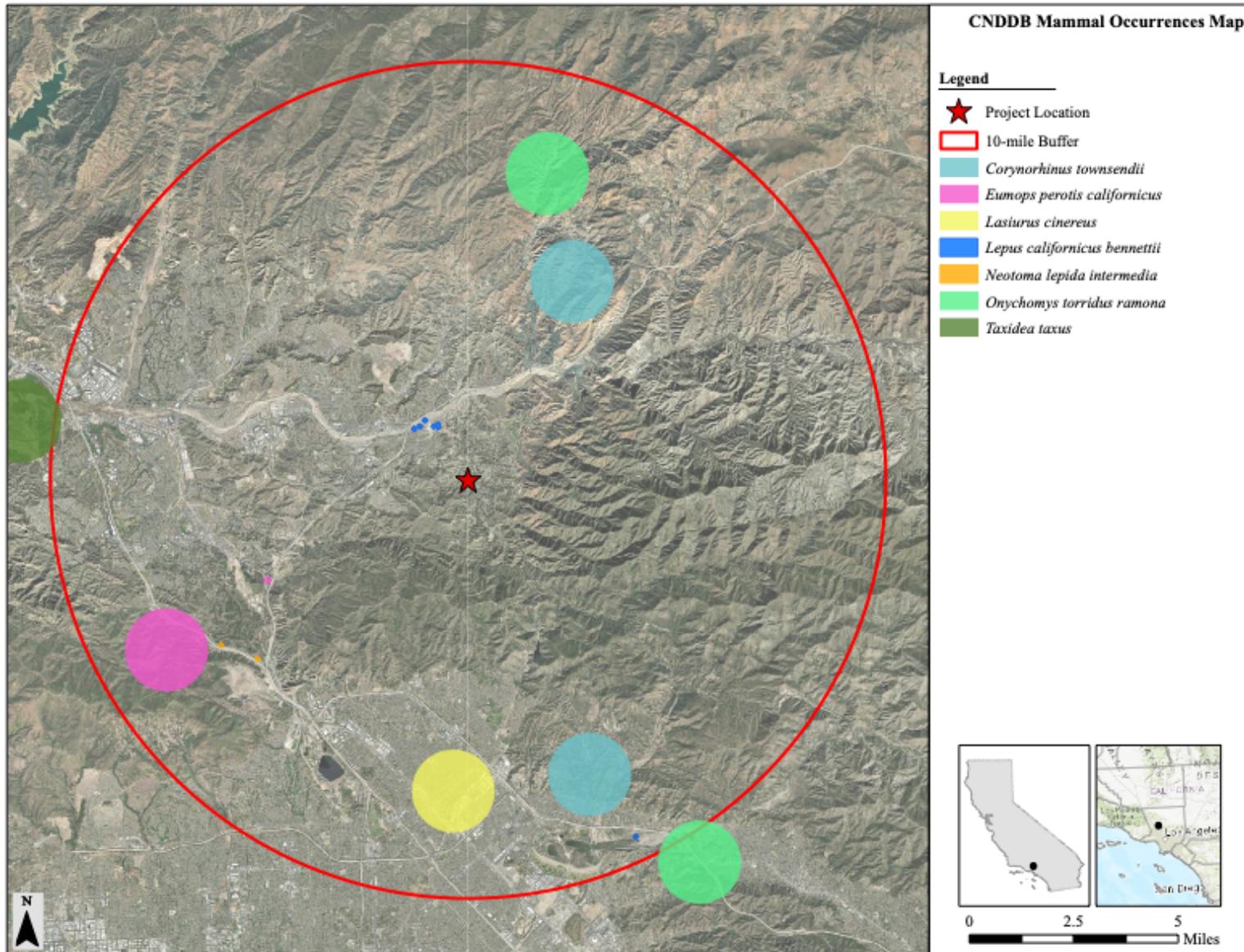


Figure B-4. CNDDDB special-status mammal species occurrences within a 10-mile radius of the project (CDFW 2023).

APPENDIX C

PLANTS AND ANIMALS OBSERVED ON THE PROJECT

FIELD STUDY CONDUCTED
19 August 2023



Table C-1. Vascular plant species observed during the field study conducted on the project site.

Scientific Name	Common Name
Adoxaceae	
<i>Sambucus</i> sp.	Elderberry
Amaranthaceae	
<i>Amaranthus albus</i>	Tumble pigweed
Asteraceae	
<i>Ambrosia acanthicarpa</i>	Flatspine bur ragweed
<i>Artemisia californica</i>	California sagebrush
<i>Pseudognaphalium californicum</i>	California cudweed
<i>Erigeron canadensis</i>	Horseweed
Boraginaceae	
<i>Amsinkia menziesii</i>	Fiddleneck
<i>Phacelia ramosissima</i>	Branching phacelia
Brassicaceae	
<i>Sisymbrium irio</i>	London rocket
<i>Sisymbrium altissimum</i>	Jim Hill mustard
Chenopodiaceae	
<i>Chenopodium album</i>	Lamb's quarters
<i>Salsola tragus</i>	Russian thistle
Euphorbaceae	
<i>Euphorbia</i> sp.	Spurge
Fagaceae	
<i>Quercus agrifolia</i>	Coast live oak
Geraniaceae	
<i>Erodium cicutarium</i>	Redstem filaree
Grossulariaceae	
<i>Ribes rubrum</i>	Currant
Lamiaceae	
<i>Marrubium vulgare</i>	Horehound
Poaceae	
<i>Avena fatua</i>	Slender wild oat

Scientific Name	Common Name
<i>Bromus madritensis ssp. rubens</i>	Red brome
<i>Cynodon sp.</i>	Bermuda grass
<i>Digitaria sp.</i>	Crabgrass
<i>Hordeum vulgare</i>	Farmer's foxtail
<i>Schismus arabicus</i>	Mediterranean grass
<i>Poa annua</i>	Annual bluegrass
Rosaceae	
<i>Prunus virginiana</i>	Chokecherry
Solanaceae	
<i>Datura wrightii</i>	Jimsonweed

Table C-2. Vertebrate animal species observed during the field study conducted on the project site.

Scientific Name	Common Name
Birds	
<i>Aphelocoma californica</i>	Scrub Jay
<i>Corvus corax</i>	Common raven
<i>Haemorhous mexicanus</i>	House finch
<i>Sayornis saya</i>	Say's phoebe
<i>Sturnus vulgaris</i>	European starling
<i>Zenaidura macroura</i>	Mourning dove
Mammals	
<i>Otospermophilus beecheyi</i>	California ground squirrel
<i>Thomomys bottae</i>	Pocket gopher (burrow)

APPENDIX D

Cultural Resources Identification Memorandum

I N T E R N A T I O N A L

Revised
October 20, 2023

February 8, 2023

Mike Ascione
Associate Planner
City of Santa Clarita
32920 Valencia Blvd., Suite 302
Santa Clarita, CA 91355

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Dear Mr. Ascione:

Michael Baker International completed a cultural resources study for the proposed Rexhall Project (project). This report includes the results of a California Historical Resources Information System records search at the South Central Coastal Information Center (SCCIC), Native American Heritage Commission (NAHC) Sacred Lands File search, archaeological survey, literature and historical map review, Santa Clarita Valley Historical Society outreach, buried archaeological site sensitivity analysis, California Register of Historical Resources evaluation of one newly recorded historic-period archaeological site (MBI-REX-MY-01), and management recommendations. The intent of this study is to identify if historical resources, as defined by California Environmental Quality Act (CEQA) Section 15064.5(a), will be impacted by the project. The City of Santa Clarita (City) is the lead agency responsible for compliance with the CEQA.

PROJECT DESCRIPTION

The project proposes to subdivide a 19.92-acre parcel into four parcels and prepare the construction of four single-family homes located at the southeast corner of Triumph Avenue and Diver Street in Santa Clarita, California. Site preparation would involve grading and constructing four home pads, septic leaching fields, and access driveways. The property is currently undeveloped. One building foundation associated with a building constructed between 1978 and 1985, and demolished by 1992, would be removed in association with site preparation activities.

PROJECT AREA

The project area is in the City of Santa Clarita, north of the San Gabriel Mountains, west of Sand Canyon, and east of the Antelope Valley Freeway (SR-14) (**Attachment 1: Figure 1**). The project area addressed in this study is defined as the boundaries of Assessor Parcel Number 2841-018-071 and includes the maximum extent of ground disturbance and project activities associated with site preparation and construction.

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 2

The project is mapped within the *Mint Canyon, California* USGS 7.5-minute topographic quadrangle map Township 4 North, Range 15 West, Section 26 (**Attachment 1: Figure 2**). The project area consists of undeveloped land with a series of improved dirt roads and trails running through it, with a stand of coast live oaks in the eastern half and the western half primarily composed of short grasses and California buckwheat (**Attachment 1: Figure 3**).

SETTING

ENVIRONMENTAL SETTING

California is divided into 11 geomorphic provinces, each defined by unique geologic and geomorphic characteristics. The project is in the central portion of the Transverse Ranges geomorphic province, marked by east–west trending mountain ranges and valleys in contrast to the northwest-trending ranges of coastal California (CGS 2002). This geomorphic province also extends offshore to include physiogeographic features, such as the northern members of the Channel Islands of Santa Cruz, Santa Rosa, and San Miguel Islands (CGS 2002). The Transverse Ranges province crosses several counties and is bound by the Pacific Ocean to the west, the Coast Ranges and Sierra Nevada geomorphic provinces to the north, the Mojave Desert geomorphic province to the east, and the Peninsular Ranges and Colorado Desert geomorphic provinces to the south.

The geology of the Santa Clarita area was mapped by Campbell et al. (2016) at a scale of 1:100,000 and by Dibblee and Ehrenspeck (1996) at a scale of 1:24,000. Geologic units underlying the project area are mapped as alluvial gravel, sand, and clay of the valley area that date to the Holocene epoch (Qa of Dibblee and Ehrenspeck 1996). The Mint Canyon formation consists of terrestrial sedimentary deposits ranging from conglomerate through sandstone to claystone that date to the Miocene epoch (Tmc of Dibblee and Ehrenspeck 1996).

The soils in the project area have been mapped as Castaic-Balcom silty clay loams, 30 to 50 percent slopes (CmF), Hanford sandy loam, 2 to 9 percent slopes (HcC), Metz loamy sand, 0 to 2 percent slopes (MfA), and Yolo loam, 2 to 9 percent slopes (YoC) (NRCS 2023). The Castaic series consists of well-drained, moderately slowly permeable soils strongly sloping to very steep that formed in residuum weathered from shale, sandstone, and mudstone (USDA 2001a). The Balcom series consists of moderately deep, well-drained soils formed in material weathered from shale and sandstone (USDA 2001b). Approximately 18.8 percent of the project area is composed of the Castaic and Balcom series, which contain clay-rich B horizons and are located on steep slopes. Steep slopes decrease the potential for archaeological potential due to erosion. Hanford series consists of deep, well-drained soils formed in alluvium derived from granite. Hanford series soils are on floodplains or alluvial fans (USDA 1999a). The Metz series consists of deep, somewhat excessively drained soils formed in alluvial material predominantly from sedimentary sources. Metz series soils are on floodplains and alluvial fans (USDA 1999b). The Yolo series consists of deep, well-drained soils formed in alluvium from mixed rocks. Yolo series soils are located on alluvial fans and flood plains (USDA 2018).

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 3

The project area is within the Venturan-Angelino Coastal Hills ecoregion of California (Griffith et al. 2016). Ecoregions denote general similarity in ecosystems and environmental resources. The vegetation associated with the Venturan-Angelino Coastal Hills ecoregion consists of shrub-covered hills and mountains, including the Santa Monica Mountains, Verdugo Mountains, and the hills of the Palos Verdes Peninsula. The Pacific Ocean influences the climate in this region with thermic soil temperatures and xeric soil moisture. Although much of this ecoregion has been modified by urban and residential development, vegetation in undisturbed areas would include California sagebrush, California buckwheat, coast live oak, chamise chaparral, and annual grasslands (Griffith et al. 2016).

CULTURAL SETTING

The division of prehistory into temporal periods provides a framework for understanding cultural change in years before present (BP). The earliest occupation of southern California occurred in the Paleocoastal period, generally dated to about 13,000 and 8,500 BP (Moratto 1984; Erlandson et al. 2007). These earliest inhabitants were highly mobile hunter-gathers. Warren (1968) and others (Sutton and Gardner 2010) defined the Encinitas Tradition, dating to about 8,500 and 3,500 BP. The Encinitas Tradition is a widespread cultural phenomenon distinguished by an abundance of manos and metates and a dearth of vertebrate faunal remains, projectile points, and mortar and pestle groundstone tools. Definitions of the Intermediate and Late Prehistoric periods continue to be employed as temporal periods, as Wallace (1955) defined them. However, the understanding of cultural practices, technology, and migrations, among other aspects, has been thoroughly deepened (as summarized by Sutton 2010).

The project area is within the boundaries of Tataviam territory. Generally, their territory included much of northern Los Angeles County and portions of Ventura County, including parts of the Santa Monica Mountains near Topanga Canyon to the west, Antelope Valley to the north, portions of the San Gabriel Mountains to the east, and south through the San Fernando Valley. Much debate has occurred regarding the linguistic origins of the Tataviam language, but Travis Hudson (1982) concluded that Tataviam spoke a Uto-Aztecan language, possibly Takic. The Tataviam utilized drainages such as the Santa Clara River, Piru, and Castaic Creeks (Caruso 1988: 3). Their habitation of the Upper Santa Clara River Valley may have provided ample trade opportunities with neighboring groups, including the Chumash and Shoshone (Caruso 1988). The closest recorded Tataviam village, *Tochonanga*, is located approximately 7.9 miles southwest of the project area (King and Blackburn 1978).

Spanish explorers first visited the coast of southern California in 1542, but European settlement did not begin in the area until 1769 when Gaspar de Portola led an exploratory mission intended to open up Alta California to settlement. The expedition reached the Santa Clara River near Castaic Junction, approximately 11 miles west of the project area, on August 8. Father Fray Juan Crespi, one of the spiritual leaders of the expedition, described the site as "very suitable for a Mission" (Perkins 1957). Mission San Fernando, approximately 9 miles south of the project area, was founded in 1797 in an attempt to colonize the Santa Clara River Valley. The establishment of

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 4

Mission San Fernando led to the subsequent enslavement of the Tataviam within the mission system (Perkins 1957).

In 1821, Mexico won its independence from Spain. The new state was secular and moved increasingly toward secularizing the mission system and dispersal of the mission properties among politically connected elites. In 1834, the missions began to be secularized, and their lands were divided. More than 600 ranchos were granted between 1833 and 1846 as the Mexican government sought to solidify its authority over Alta California amid fears of intrusion by the United States. Among these was Rancho San Francisco, a property granted to Don Antonio del Valle in 1839 (Perkins 1957). The project area is located approximately 5 miles east of the former boundaries of Rancho San Francisco (GLO 1877). In 1842, the first authenticated gold discovery occurred within Rancho San Francisco, leading to the settlement of the first mining camp in California approximately 5 miles west of the project area (Perkins 1957).

California was ceded to the United States after the Mexican-American War of 1846–1848. The discovery of gold in California led to a population boom in the 1850s and 1860s. Additionally, transportation developments in the Santa Clara River Valley transformed the region into a major travel corridor, and the establishment of Fort Tejon in 1854 cemented the area as a center of military and political power in Southern California (ICF 2021). In 1877, the Southern Pacific line connecting Los Angeles and the San Joaquin Valley was completed. In 1886, construction began on a line connecting Ventura and Soledad Canyon within 2 miles north of the project area (ICF 2021; Triem and Stone 1996).

CULTURAL RESOURCES IDENTIFICATION METHODS AND RESULTS

The methods and results of the SCCIC records search, literature and historical map search, historical society consultation, archaeological field survey, buried archaeological site sensitivity analysis, and California Register evaluation of MBI-REX-MY-01 are presented below.

SOUTH CENTRAL COASTAL INFORMATION CENTER

SCCIC staff conducted a records search (SCCIC Tracking No. 22790-8966) of the project area and half-mile search radius on October 18, 2021 (**Attachment 2**). The SCCIC, as part of the California Historical Resources Information System, an affiliate of the California Office of Historic Preservation (OHP), is the official state repository of cultural resources records and reports for Los Angeles County. As part of the records search, the following federal and California inventories were reviewed:

- Archaeological Determinations of Eligibility (OHP 2023e). The directory includes determinations for eligibility for archaeological resources in Los Angeles County.
- California Register of Historic Resources (OHP 2023a).
- California Points of Historical Interest (OHP 2023b).
- California Historical Landmarks (OHP 2023c).
- Built Environment Resource Directory (OHP 2023d). The directory includes resources evaluated for listing and listed in the National Register of Historical Places, National

MICHAEL BAKER INTERNATIONAL**RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA**

Page 5

Historic Landmarks, California Register, California Historical Landmarks, and California Points of Historical Interest in Los Angeles County.

Results**Previous Studies**

Fourteen previous cultural resource investigations have been completed within a half-mile of the project area, as described in the table below. One investigation (LA-01805) intersects the current project area and addresses approximately 97 percent of it. LA-01805 was conducted by R. W. Robinson in 1989 and consisted of an intensive pedestrian survey of the project area to identify surficial cultural resources. The investigation did not result in the documentation of any archaeological resources.

Table 1: Previous Cultural Resource Investigations

Report No.	Author(s)	Date	Title	In Project Area?	Resources in Project Area?
LA-00467	McIntyre, Michael J. and Greenwood, Roberta S.	1979	Cultural Resource Survey of a Near Sand Canyon, Upper Santa Clara River Valley, Los Angeles County, California	No	No
LA-00616	Robinson, R. W.	1979	Cultural Resources Investigation Re: Tentative Map Tract No. 37802	No	No
LA-01254	Robinson, R. W.	1981	Cultural Resources Investigation Re: Tentative Parcel Map No 14532	No	No
LA-01369	Rector, Carol H.	1984	Cultural Resources Inventory for the 1984 and Part of 1985 California Metropolitan Project Area Public Lands Sale Program	No	No
LA-01515	Bissell, Ronald M.	1986	Cultural Resources Assessment of the Mitchell Properties, Santa Clarita Valley Area, Los Angeles County, California	No	No
LA-01805	Robinson, R. W.	1989	A Cultural Resources Investigation of Seventy-Six Acres in the Sand Canyon Area of North Los Angeles County, California	Yes	No

MICHAEL BAKER INTERNATIONAL**RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA**

Page 6

Report No.	Author(s)	Date	Title	In Project Area?	Resources in Project Area?
LA-01996	Kleeb, Gerald N.	1976	Archaeological Impact Report on the Rezoning of Lots 1-4, PM 4297, MB 59-86	No	No
LA-02193	Romani, John F.	1990	Archaeological Assessment for the Proposed Santa Fe Specific Plan Southeast and Adjacent to the City of Santa Clarita, Los Angeles County, California	No	No
LA-02442	Norwood, Richard H.	1991	Cultural Resource Survey for Tentative Tract No. 50449, 12.1 Acres in Canyon Country, Los Angeles County, California	No	No
LA-04058	Wlodarski, Robert J.	1998	Cultural Resources Evaluation: Golden Valley Ranch EIR, City of Santa Clarita, Los Angeles County, California	No	No
LA-07503	McKenna, Jeanette A.	2004	A Phase I Cultural Resources Investigation of the Pineview Project Area in the Santa Clarita Area of Los Angeles County, California	No	No
LA-09470	Schmidt, James J.	2008	DWO 6059-4800; J.I. No. 8-4823: Python 16kV Infrastructure Replacement Project, 27215 Sand Canyon Road, Canyon Country, Los Angeles County, California	No	No
LA-10871	Schmidt, James	2011	Archaeological Letter Report: Python 12kV Deteriorated Pole Replacement Project (WO6059-4800; O-4887; TD504758), Sand Canyon Area, Los Angeles County, California	No	No

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 7

Report No.	Author(s)	Date	Title	In Project Area?	Resources in Project Area?
LA-11454	Orfila, Rebecca	2011	Archaeological Survey for the Southern California Edison Company: Replacement of Three Deteriorated Power Poles Near Newhall and Santa Clarita in Los Angeles County, California (WO6088-4800 O-4892 and WO6088-4800, RSO Consulting CWA 9)	No	No

Previous Resources

No previously recorded cultural resources are documented within the project area or half-mile search radius. Additionally, the Built Environment Resource Directory does not indicate any built environment resources within or adjacent to the project area (OHP 2023d).

HISTORICAL TOPOGRAPHIC MAPS AND AERIAL PHOTOGRAPHS REVIEW

Michael Baker International staff reviewed historical maps and aerial photographs for information about the land use and previous development of the project area and surrounding properties. Below is a list of the resources reviewed and a summary of the results of that review.

Historical Maps

- Survey Plat Map, Township 4 North, Range 15 West (GLO 1877)
- *Fernando, CA* 1:62,500 topographic map (USGS 1900)
- *Sylmar, CA* 1:24,000 topographic map (USGS 1929)
- *Sylmar, CA* 1:24,000 topographic map (USGS 1935)
- *San Fernando, CA* 1:62,500 topographic map (USGS 1940)
- *San Fernando, CA* 1:62,500 topographic map (USGS 1945)
- *Mint Canyon, CA* 1:24,000 topographic map (USGS 1961)
- *Mint Canyon, CA* 1:24,000 topographic map (USGS 1975)
- *Mint Canyon, CA* 1:24,000 topographic map (USGS 1988)
- *Mint Canyon, CA* 1:24,000 topographic map (USGS 1995)

Historical Aerial Images

- University of California, Santa Barbara Library (UCSB) Geospatial Collection (UCSB 2023)
- National Environmental Title Research (NETR) (NETR 2023)

Historical Databases

- California Digital Newspaper Collection (2023)

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 8

- Calisphere (2023)
- Internet Archive (2023)
- HathiTrust (2023)

In 1877, the project area was mapped within a valley east of Rancho San Francisco; a wagon road is depicted immediately to the east, but no other landscape or development features are shown within the vicinity (GLO 1877). By 1900, topographic maps revealed greater geographic detail, including the project area situated along the western portion of Sand Canyon and within 2 miles south of the Santa Clara River (USGS 1900). The Southern Pacific Railroad and the associated railway station, Humphreys, are also mapped approximately 1.2 miles northwest of the project area.

By 1935, a road was constructed within a quarter mile west of the project area and connected to what is now Sand Canyon Road, which was mapped a half mile east (USGS 1935). Between 1940 and 1975, several buildings were depicted within a half-mile of the project area, but the project area remained undeveloped (USGS 1940, 1945, 1961, 1975). Historical aerial images indicate that between 1978 and 1985, a building was constructed in the eastern portion of the project area (NETR 2023). The 1988 edition of the Mint Canyon, CA 1:24,000 topographic map (USGS 1988) is the first topographic map to identify the building within the project area. By 1992, the building is no longer visible in aerial imagery, and only a building foundation remains visible (NETR 2023).

Aerial imagery from the twentieth century shows that minimal development occurred within the project area, primarily consisting of game trails, low grasses, shrubs, and trees (UCSB 1940, 1959, 1976). The nearest permanent water source is the Santa Clarita River, located 1.5 miles northwest of the project area.

NATIVE AMERICAN HERITAGE COMMISSION SACRED LANDS FILE SEARCH

On January 4, 2023, Michael Baker International sent a letter describing the project to the NAHC in Sacramento, asking the commission to review the Sacred Lands File for any Native American cultural resources the project might affect. The NAHC responded in a letter dated January 19, 2023, that the Sacred Lands File results for the project area were negative. The letter also provided a list of Los Angeles County Native American contacts. Michael Baker International did not conduct outreach. The City will document the Assembly Bill 52 consultation separately from this report. The NAHC correspondence is included in **Attachment 3**.

HISTORICAL SOCIETY CONSULTATION

On January 12, 2023, Michael Baker International staff emailed a letter and figures depicting the project area to the Santa Clarita Valley Historical Society. The correspondence requested any information or concerns regarding historical resources within the project area. No response has been received to date (**Attachment 4**).

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 9

FIELD SURVEY METHODS AND RESULTS

Michael Baker International Archaeologist Marcel Young conducted an intensive pedestrian archaeological and built environment field survey on January 17, 2023. The entire project area was surveyed in transects spaced 15 meters apart. Project area overview photographs and notes regarding survey area conditions were taken during the survey using Esri's *Field Maps and Survey 123* applications. Ground surface visibility throughout the project area was an average of 20 percent due to dense vegetation, including invasive grasses, buckwheat, brittlebush, sagebrush, chaparral, yucca, chamise, and California live oak (**Photos 1 and 2**). One historic-period site and two historic-period isolates were documented during the survey.

One new historic-period site, MBI-REX-MY-01, was recorded during the survey. The resource consists of 26 Budweiser pull-tab beer cans, most of which are crushed or fragmented (**Photos 3 and 4**). The site dimensions measure 5 meters north/south by 6 meters east/west. The site is along a hillside with a 25 percent slope and variable aspect. The soil in the project area consists of dark brown silty clay loam, and ground surface visibility is 50 percent. The site is in poor condition due to the fragmented conditions of the artifacts and significant disturbances, including animal burrowing, pedestrian traffic, and horse trails. A DPR 523 site record was prepared for the site and is provided in **Attachment 5**.

Two historic-period isolates were also identified during the survey. Isolate 1 is a 10-fluid-ounce glass Pepsi bottle (**Photo 5**), and isolate 2 is a partially buried Ford flatbed truck that was modified (**Photo 6**).

No prehistoric resources or historic built environment resources were identified during the survey. Disturbances in the project survey area include horse and walking trails, modern two-track roads, animal burrows, dirt push piles, and modern refuse.

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 10



Photo 1: Representative example of field survey conditions (view north).



Photo 2: Representative example of field survey conditions (view west).



Photo 3: MBI-REX-MY-01 site overview (view north).



Photo 4: Example of Budweiser pull-tab beer can at MBI-REX-MY-01.



Photo 5. Pepsi bottle isolate identified within the project area.



Photo 6: Flatbed Ford truck identified within the project area.

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 13

CALIFORNIA REGISTER OF HISTORICAL RESOURCES EVALUATION

The criteria for eligibility for listing in the California Register are based on the National Register criteria. A resource must be at least 50 years of age to be eligible for listing in the California Register. A resource less than 50 years of age may be considered for listing in the California Register if it can be demonstrated that sufficient time has passed to understand its historical importance. An historical resource must be significant at the local, state, or national level under one or more of the following criteria:

Criterion 1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

Criterion 2. It is associated with the lives of persons important to local, California, or national history;

Criterion 3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic value;

Criterion 4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to meeting a significance criterion, a property must also have integrity or the ability to convey its significance under a majority of the seven aspects of integrity: location, design, materials, workmanship, setting, feeling, and association.

MBI-REX-MY-01

The site MBI-REX-MY-01 is a newly identified historic-period can scatter and thus has yet to be evaluated for listing in the California Register (OHP 2023e). The site is evaluated below in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code.

Criterion 1 – Site MBI-REX-MY-01 does not possess an apparent association with the events significant to the broad patterns of California’s history and cultural heritage. Site MBI-REX-MY-01 is composed of crushed beverage cans, most of which are ring tab cans that date to between 1965 and 1975 (Maxwell 1993). Given the recent age of the artifacts and the lack of evidence of being associated with significant events related to the broad patterns of California’s history and cultural heritage, the site is recommended not eligible for listing under Criterion 1.

Criterion 2 – Site MBI-REX-MY-01 does not possess any evidence of being associated with the lives of persons important in our past. The site is on property previously owned by William J. Rex and the Rexhall Company (CRC Enterprises 2018, 2020). William J. Rex was the founder of the motor home company Rexhall Industries (LA Times 1989), as well as having worked with other automotive manufacturing companies such as Thor West and DSG Global, Inc (Global Newswire 2023). Additionally, he holds patents related to vehicle inventions (Justia Patents 2023). However, the historic-period can scatter site does not demonstrate a meaningful association with the

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 14

productive life of any person or business important in our past. Therefore, this site is recommended not eligible under Criterion 2.

Criterion 3 – The site and its artifact constituents do not represent the distinctive characteristics of a type, period, region, or method of construction. The site consists of a refuse scatter composed of cans that date to the mid-twentieth century. Because the pull tab can is a ubiquitous object common to the time period from which it dates, the artifact assemblage associated with the site does not represent significance in terms of the type of method of construction. The style of the can opening was not restricted to or representative of a particular region. Additionally, because the site only represents refuse associated with alcohol consumption, the site neither represents the work of an important creative individual nor possesses high artistic value. Therefore, this site is recommended not eligible for listing under Criterion 3.

Criterion 4 – The site is not likely to yield valuable information which will contribute to our understanding of human history because the property is not and never was the principal source of important information pertaining to significant events, people, or distinctive characteristics of a type, period, region, or method of construction. The data potential was exhausted during the recording of the surficial artifact scatter. Therefore, this site is recommended not eligible for listing in the California Register under Criterion 4.

As mentioned previously, a resource must meet one of the criteria discussed above to be eligible for listing in the California Register, and it must retain integrity. Integrity is generally considered in relation to seven design aspects (design, setting association, feeling, location, materials, and workmanship). Site MBI-REX-MY-01 does not meet any of the California Register criteria. As such, a discussion of the site's integrity is moot. Lacking significance at the local, state, or national level, this property is recommended ineligible for listing in the California Register. As such, MBI-REX-MY-01 is not a historical resource as defined by CEQA Section 15064.5(a).

Isolates

The two historic-period isolate artifacts identified are not considered significant according to California Register criteria. Isolated finds typically do not meet the minimum criteria for inclusion in the California Register and generally require no additional investigations.

ARCHAEOLOGICAL SITE SENSITIVITY ANALYSIS

Sensitivity for buried archaeological sites is considered low based on the steep slopes, the distance to reliable permanent water, lack of previously recorded archaeological sites within the project area and vicinity, and modern disturbances in the project area.

Some soils within the project area contain clay-rich B horizons and steep slopes, which decrease the potential for archaeological preservation and deposition. Disturbances include the presence of modern trails and two-track roads, as well as animal burrowing. Historical maps show no natural perennial surface water within 1 mile of the project area. According to the SCCIC records search, no previously recorded cultural resources were identified within a half-mile of the project site. The literature review failed to identify Native American villages or place names associated with the

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 15

project area. Therefore, the buried site sensitivity for the project area is low. The historic-period archaeological data potential has been exhausted by the identification and recordation of site MBI-REX-MY-01. The project area has low sensitivity for significant prehistoric or historic-period archaeology sites due to topography, the distance to reliable permanent water, lack of previously recorded nearby sites, and modern disturbances.

SUMMARY OF FINDINGS

The SCCIC records search, literature and historical map review, NAHC Sacred Lands File search, historical society outreach, and archaeological field survey identified no historical resources within the project area, as defined by CEQA Section 15064.5(a). One historic-period can scatter site, MBI-REX-MY-01, was documented on appropriate DPR 523 series forms and evaluated for listing in the California Register in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code. The resource is recommended ineligible for listing in the California Register, and no further work is recommended for this resource. Two historic isolates were identified: an abandoned flatbed truck and a glass bottle. Isolates, by definition, lack integrity and are not considered significant. There are no historical resources, as defined by CEQA Section 15064.5(a), within the project area.

Additionally, sensitivity for buried archaeological sites is considered low based on the site's soil constituents, steep slopes, proximity to water, lack of previously recorded archaeological sites within the project area and vicinity, and modern disturbances in the project area. Nonetheless, there is a potential for disturbing previously unknown archaeological resources during excavation into the native soil. Project excavations have the potential to destroy and otherwise have a significant impact to previously unidentified significant buried archaeological resources.

RECOMMENDATIONS

Based on the results of the cultural resources identification study and evaluation efforts, we provide the following recommendations.

Archaeological Resources Inadvertent Discovery. In the event that any subsurface cultural resources are encountered during earth-moving activities, it is recommended that all work within 50 feet be halted until an archaeologist can evaluate the findings and make recommendations. Prehistoric materials can include flaked-stone tools (e.g., projectile points, knives, choppers) or obsidian, chert, or quartzite toolmaking debris; culturally darkened soil (i.e., midden soil often containing heat-affected rock, ash, and charcoal, shellfish remains, and cultural materials); and stone milling equipment (e.g., mortars, pestles, handstones). Historical materials might include wood, stone, or concrete footings, walls, and other structural remains; debris-filled wells or privies; and deposits of wood, metal, glass, ceramics, and other refuse. The archaeologist may evaluate the find in accordance with federal, state, and local guidelines, including those set forth in the California Public Resources Code Section 21083.2, to assess the significance of the find and identify avoidance or other measures as appropriate. If suspected prehistoric or historical archaeological deposits are discovered during construction, all work within the

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 16

immediate area of the discovery should be redirected and the find must be evaluated by a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983).

Human Remains Inadvertent Discovery

If human skeletal remains are found, those remains would require proper treatment in accordance with State of California Health and Safety Code Sections 7050.5-7055. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are discovered during excavation of a site. As required by state law, the requirements and procedures set forth in Section 5097.98 of the California Public Resources Code would be implemented, including notification of the County coroner, notification of the Native American Heritage Commission, and consultation with the individual identified by the Native American Heritage Commission to be the "most likely descendant." If human remains are found during excavation, excavation must stop in the vicinity of the find and any area that is reasonably suspected to overlie adjacent remains until the County coroner has been called out, and the remains have been investigated and appropriate recommendations have been made for the treatment and disposition of the remains.

Following these recommendations will ensure compliance with applicable regulations regarding the inadvertent discovery of cultural resources.

PREPARER QUALIFICATIONS

MARCEL YOUNG, ARCHAEOLOGIST

Marcel has worked in various capacities in cultural resource management since 2013. He is experienced in surveying, recording and conducting evaluations of historic and prehistoric archaeological sites in California. He is versed in conducting fieldwork within frameworks of Section 106 of the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), and CEQA. He has participated in projects in several phases of archaeology: Phase I pedestrian, Extended Phase I testing, and shovel test surveys, buried site testing, Phase III data recovery, and Phase IV monitoring.

MAXIMILIAN VAN RENSSLAER, RA, ARCHAEOLOGIST

Maximilian has worked as an archaeologist in cultural resource management since 2013 and is certified as a Principal Investigator in California and Nevada by the Bureau of Land Management. He has more than 10 years of experience recording, excavating, and evaluating historic properties in California, Nevada, Arizona, Texas, Louisiana, Oklahoma, Indiana, and Kentucky. Maximilian specializes in applying Section 106 of the NHPA, CEQA analysis, and geospatial information science (GIS). He is pursuing a Master of Professional Studies degree in Cultural and Heritage Resource Management and has a GIS graduate certificate from the University of Maryland.

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 17

JAMES T. DANIELS JR., MA, RPA, SENIOR ARCHAEOLOGIST

James is a senior archaeologist with cultural resource management experience in California, Nevada, and North Carolina. His experience includes archaeological surveys, evaluations of historic and prehistoric sites for listing in the California and National Registers, site mitigation data recoveries, mitigation monitoring, and preparation of archaeological resource management reports and cultural resources technical reports. As senior archaeologist, he supports projects needing CEQA, NEPA, NHPA, Section 106, Native American Graves Protection and Repatriation Act, Assembly Bill 52, US Army Corps of Engineers 404 permits, and local cultural resource regulation compliance. He also assists with environmental impact statements/reports and alternative mitigation measures for clients, including interpretive signage, informative website design, brochures, and ethnographic studies. He also assists in Native American consultation and coordination of Native American monitoring. James provides advanced technical services for clients, including geophysical surveys with ground penetrating radar (GPR), obsidian and ceramic sourcing using portable X-ray fluorescence (pXRF), photogrammetry, and GIS predictive modeling and data collection using Esri Field Maps. He meets the Secretary of the Interior's Professional Qualification Standards for archaeology and historic preservation.

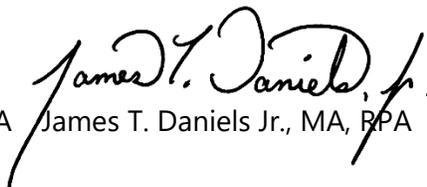
MARGO NAYYAR, SENIOR CULTURAL RESOURCES MANAGER

Senior Cultural Resources Manager Margo Nayyar provided QA/QC review of this report and evaluation. Margo is an architectural historian with 12 years of cultural management experience in California, Nevada, Arizona, Texas, Idaho, and Mississippi. Her experience includes built environment surveys, evaluation of historic-era resources using guidelines outlined in the National and California Registers, and preparation of cultural resources technical studies pursuant to CEQA and Section 106 of the NHPA, including identification studies, finding of effect documents, memorandum of agreements, programmatic agreements, and Historic American Buildings Survey/Historic American Engineering Record/Historic American Landscapes Survey mitigation documentation. She prepares cultural resources environmental document sections for CEQA environmental documents, including infill checklists, initial studies, and environmental impact reports, as well as NEPA environmental documents, including environmental impact statements and environmental assessments. She also specializes in municipal preservation planning, historic preservation ordinance updates, Native American consultation, and provision of Certified Local Government training to interested local governments. She develops Survey 123 and Esri Collector applications for large-scale historic resources surveys and authors National Register nomination packets. Margo meets the Secretary of the Interior's Professional Qualification Standards for history and architectural history.

Sincerely,



Maximilian van Rensselaer, RA



James T. Daniels Jr., MA, RPA



Margo Nayyar, MA

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 18

Archaeologist

Senior Cultural Resources
Manager

Senior Cultural Resources
Manager

ATTACHMENTS:

Attachment 1 – Figures

Attachment 2 –SCCIC Records Search Results

Attachment 3 – NAHC Sacred Lands File Search Results

Attachment 4 – Historical Society Consultation

Attachment 5 – Confidential DPR 523 Site Forms

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 19

REFERENCES

- California Digital Newspaper Collection. 2023. Online database. Accessed January 2023. <https://cdnc.ucr.edu/>.
- Calisphere. 2023. Online database. Accessed January 2023. <https://calisphere.org/>.
- Campbell, R. H., C. J. Willis, P. J. Irvine, and B. J. Swanson. 2016. *Preliminary geologic map of the Los Angeles 30 minute by 60 minute quadrangle, California: Version 2.1*. California Geological Survey. Accessed January 10, 2023. https://ngmdb.usgs.gov/Prodesc/proddesc_109250.htm.
- Caruso, Terri Lee. 1988. "Trade Among the Tataviam." Masters thesis. California State University, Northridge.
- CGS (California Geological Society). 2002. California Geomorphic Provinces Note 36. Accessed January 10, 2023. <https://www.conservation.ca.gov/cgs/Documents/Publications/CGS-Notes/CGS-Note-36.pdf>.
- CRC Enterprises. 2018. Grading Concept for APN 2841-018-071. Prepared for Rexhall Company. On file with Michael Baker International.
- . 2020. Cross Slope Analysis for APN 2841-018-071. Prepared for Rexhall Company. On file with Michael Baker International.
- Dibblee, T. W. and H. E. Ehrenspeck. 1996. *Geologic map of the Mint Canyon quadrangle, Los Angeles County California*. Map Scale 1:24,000. Dibblee Geological Foundation. Accessed January 10, 2023. https://ngmdb.usgs.gov/Prodesc/proddesc_71700.htm.
- Erlandson, Jon M., Rick C. Torben, Terry L. Jones, and Judith F. Porcasi. 2007. "One If by Land, Two If by Sea: Who Were the First Californians?" In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar. Lanham, MD: AltaMira Press.
- GLO (General Land Office). 1877. Survey Plat Map, Township 4 North, Range 15 West. Accessed January 11, 2023. https://gloreports.blm.gov/details/survey/default.aspx?dm_id=286426&sid=pemvdr2d.pda&surveyDetailsTabIndex=1#surveyDetailsTabIndex=0.
- Global Newswire*. 2020. "DGS Global, Inc. Taps Industry Veteran, William J Rex, as President of New EV Bus and Motor Home Division of Imperium Motors". December 29, 2020. Accessed January 27, 2023. <https://www.globenewswire.com/en/news-release/2020/12/29/2151333/0/en/DSG-Global-Inc-Taps-Industry-Veteran-William-J-Rex-as-President-of-New-EV-Bus-and-Motor-Home-Division-of-Imperium-Motors.html>.

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 20

Griffith, Glenn E., James M. Omernik, David W. Smith, Terry D. Cook, Ed Tallyn, Kendra Mosely, and Colleen B Johnson. 2016. "Ecoregions of California." Accessed January 10, 2023. <https://pubs.er.usgs.gov/publication/ofr20161021>.

HathiTrust. 2023. Online database. Accessed January 2023. <https://www.hathitrust.org/>.

Heizer, Robert F., ed. 1978. *California*. Vol. 8 of *Handbook of North American Indians*. William C. Sturtevant, general editor. Washington, DC: Smithsonian Institution.

Hudson, Travis. 1982. "The Alliklik-Tataviam Problem." *Journal of California and Great Basin Anthropology* 4(2): 222-232.

ICF. 2021. Soledad Canyon Cultural and Paleontological Resources Assessment Report. Prepared for City of Santa Clarita. Accessed January 30, 2023. <https://www.santa-clarita.com/home/showpublisheddocument/20488/637782751247130000>.

Internet Archive. 2023. Online database. Accessed January 2023. <https://archive.org/>.

Justia Patents. 2023. "Patents by Inventor William J. Rex". Accessed January 27, 2023. <https://patents.justia.com/inventor/william-j-rex>.

King, Chester and Thomas C. Blackburn. 1978. "Tataviam." In Heizer 1978.

Los Angeles Times. 1989. "Little RV Maker That Wants To: Tiny Rexhall Industries Is Going Strong, but Faces a Tough Climb to the Big Time". August 1, 1989. Accessed January 27, 2023. <https://www.latimes.com/archives/la-xpm-1989-08-01-fi-537-story.html>.

Maxwell, D. B. S. 1993. "Beer cans: A guide for the archaeologist." *Historical Archaeology* 27 (1): 95-113. <https://doi.org/10.1007/BF03373561>.

Moratto, Michael J. 1984. *California Archaeology*. New York: Academic Press.

National Park Service. 1983. *Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines*.

NETR (National Environmental Title Research). 2023. Historic aerial views of the project area. Accessed January 11, 2023. <https://www.historicaerials.com/viewer>.

NRCS (Natural Resources Conservation Service). 2023. Electronic georeferenced soil map. Accessed January 2023. <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.

OHP (California Office of Historic Preservation). 2023a. California Inventory of Historic Resources. Sacramento: California Department of Parks and Recreation. Electronic database. Accessed January 6, 2023. <https://ohp.parks.ca.gov/ListedResources/?view=county&criteria=30>.

MICHAEL BAKER INTERNATIONAL

RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 21

- . 2023b. California Points of Historical Interest. Sacramento: California Department of Parks and Recreation. Electronic database. Accessed January 6, 2023. <https://ohp.parks.ca.gov/ListedResources/?view=county&criteria=30>.
- . 2023c. California Historical Landmarks. Sacramento: California Department of Parks and Recreation. Electronic database. Accessed January 6, 2023. <https://ohp.parks.ca.gov/ListedResources/?view=county&criteria=30>.
- . 2023d. Built Environment Resource Directory for Los Angeles County. Electronic database. Accessed January 6, 2023. https://ohp.parks.ca.gov/?page_id=30338.
- . 2023e. Archaeological Determinations of Eligibility for Los Angeles County. Sacramento: California Department of Parks and Recreation. Electronic database. On file at the South Central Coastal Information Center.
- Perkins, Arthur B. 1957. "Rancho San Francisco: A Study of a California Land Grant." In *The Historical Society of Southern California Quarterly* 39: 99-126. Accessed January 30, 2023. <https://scvhistory.com/scvhistory/perkins-rsf-1957.htm>.
- Sutton, Mark Q. 2010. "The Del Rey Tradition and Its Place in the Prehistory of Southern California." *Pacific Coast Archaeological Society Quarterly* 44 (2): 1-54.
- Sutton, Mark Q., and Jill K. Gardner. 2010. "Reconceptualizing the Encinitas Tradition of Southern California." *Pacific Coast Archaeological Society Quarterly* 42 (4): 1-64.
- Triem, Judy and Mitch Stone. 1996. *National Register of Historic Places Registration Form for Rancho Camulos*. Accessed January 30, 2023. https://historicrosources.com/reps/camulos_nrhp.pdf.
- UCSB (University of California, Santa Barbara). 1940. "Flight AJX-1940" Aerial photograph by Fairchild Aerial Surveys. Accessed January 11, 2023. https://mil.library.ucsb.edu/apcatalog/report/report.php?filed_by=AXJ-1940.
- . 1959. "Flight AJX-1959." Aerial photograph by The Aeroflex Corporation. Accessed January 11, 2023. https://mil.library.ucsb.edu/apcatalog/report/report.php?filed_by=AXJ-1959.
- . 1976. "Flight TG-7600." Aerial photograph by Teledyne Geotronics. Accessed January 11, 2023. https://mil.library.ucsb.edu/apcatalog/report/report.php?filed_by=TG-7600.
- . 2023. Aerial photograph database. Accessed January 11, 2023. https://mil.library.ucsb.edu/ap_indexes/FrameFinder/.
- USDA (United States Department of Agriculture). 1999a. "Hanford Series." Accessed January 9, 2023. https://soilseries.sc.egov.usda.gov/OSD_Docs/H/HANFORD.html.

MICHAEL BAKER INTERNATIONAL

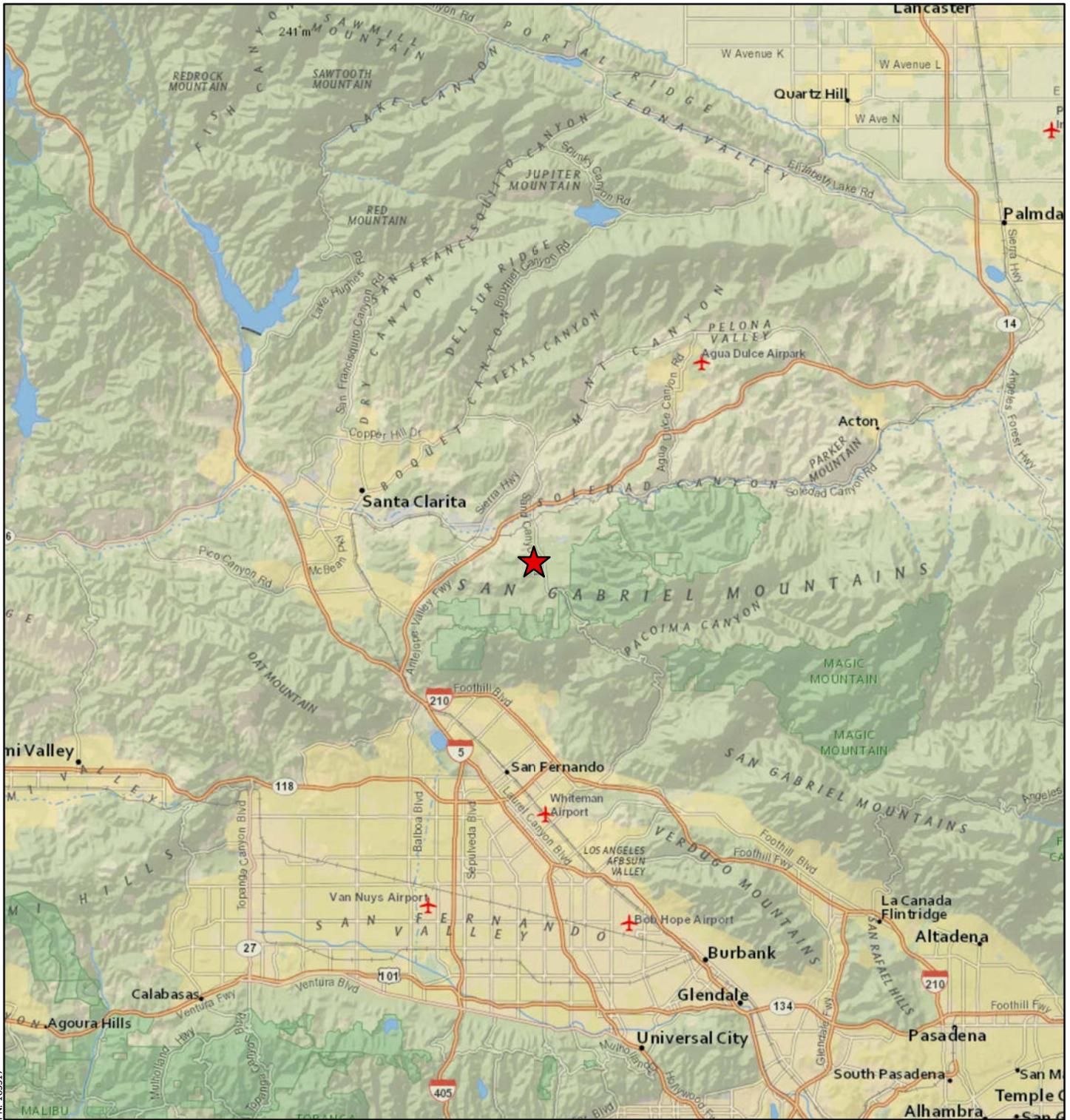
RE: CULTURAL RESOURCES IDENTIFICATION MEMORANDUM FOR THE REXHALL PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY, CALIFORNIA

Page 22

- . 1999b. "Metz Series." Accessed January 9, 2023.
https://soilseries.sc.egov.usda.gov/OSD_Docs/M/METZ.html.
- . 2001a. "Castaic Series." Accessed January 9, 2023.
https://soilseries.sc.egov.usda.gov/OSD_Docs/C/CASTAIC.html.
- . 2001b. "Balcom Series." Accessed January 9, 2023.
https://soilseries.sc.egov.usda.gov/OSD_Docs/B/BALCOM.html.
- . 2018. "Yolo Series." Accessed January 9, 2023.
https://soilseries.sc.egov.usda.gov/OSD_Docs/Y/YOLO.html.
- USGS (United State Geological Survey). 1900. *Fernando, California*. 1:62,500. Electronic resource map. Accessed January 2023. <https://ngmdb.usgs.gov/topoview/viewer/#>.
- . 1929. *Sylmar, California*. 1:24,000. Electronic resource map. Accessed January 2023.
<https://ngmdb.usgs.gov/topoview/viewer/#>.
- . 1935. *Sylmar, California*. 1:24,000. Electronic resource map. Accessed January 2023.
<https://ngmdb.usgs.gov/topoview/viewer/#>.
- . 1940. *San Fernando, California*. 1:62,500. Electronic resource map. Accessed January 2023. <https://ngmdb.usgs.gov/topoview/viewer/#>.
- . 1945. *San Fernando, California*. 1:62,500. Electronic resource map. Accessed January 2023. <https://ngmdb.usgs.gov/topoview/viewer/#>.
- . 1961. *Mint Canyon, California*. 1:24,000. Electronic resource map. Accessed January 2023.
<https://ngmdb.usgs.gov/topoview/viewer/#>.
- . 1975. *Mint Canyon, California*. 1:24,000. Electronic resource map. Accessed January 2023.
<https://ngmdb.usgs.gov/topoview/viewer/#>.
- . 1988. *Mint Canyon, California*. 1:24,000. Electronic resource map. Accessed January 2023.
<https://ngmdb.usgs.gov/topoview/viewer/#>.
- . 1995. *Mint Canyon, California*. 1:24,000. Electronic resource map. Accessed January 2023.
<https://ngmdb.usgs.gov/topoview/viewer/#>.
- Wallace, William J. 1955. "A Suggested Chronology for Southern California Coastal Archaeology." *Southwestern Journal of Anthropology* 11 (3): 214-230.
- Warren, Claude N. 1968. "Cultural Tradition and Ecological Adaptation on the Southern California Coast." *Archaic Prehistory in the Western United States*. Portales, NM: Eastern New Mexico University.

Attachment 1

Figures

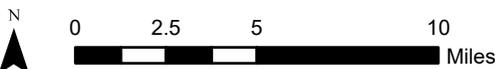


PN: 169517

 Project Location

REXHALL PROJECT

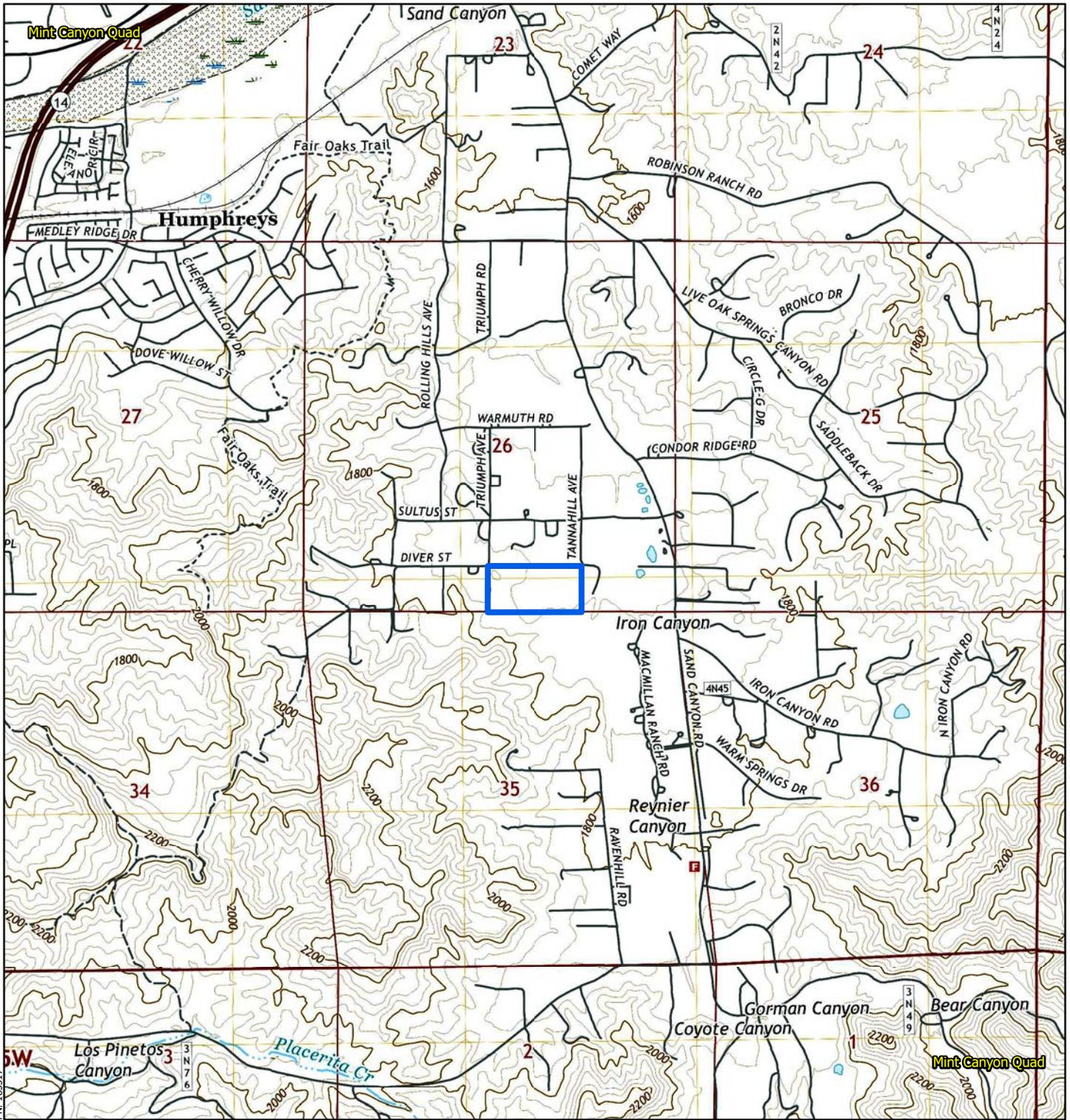
Michael Baker
INTERNATIONAL



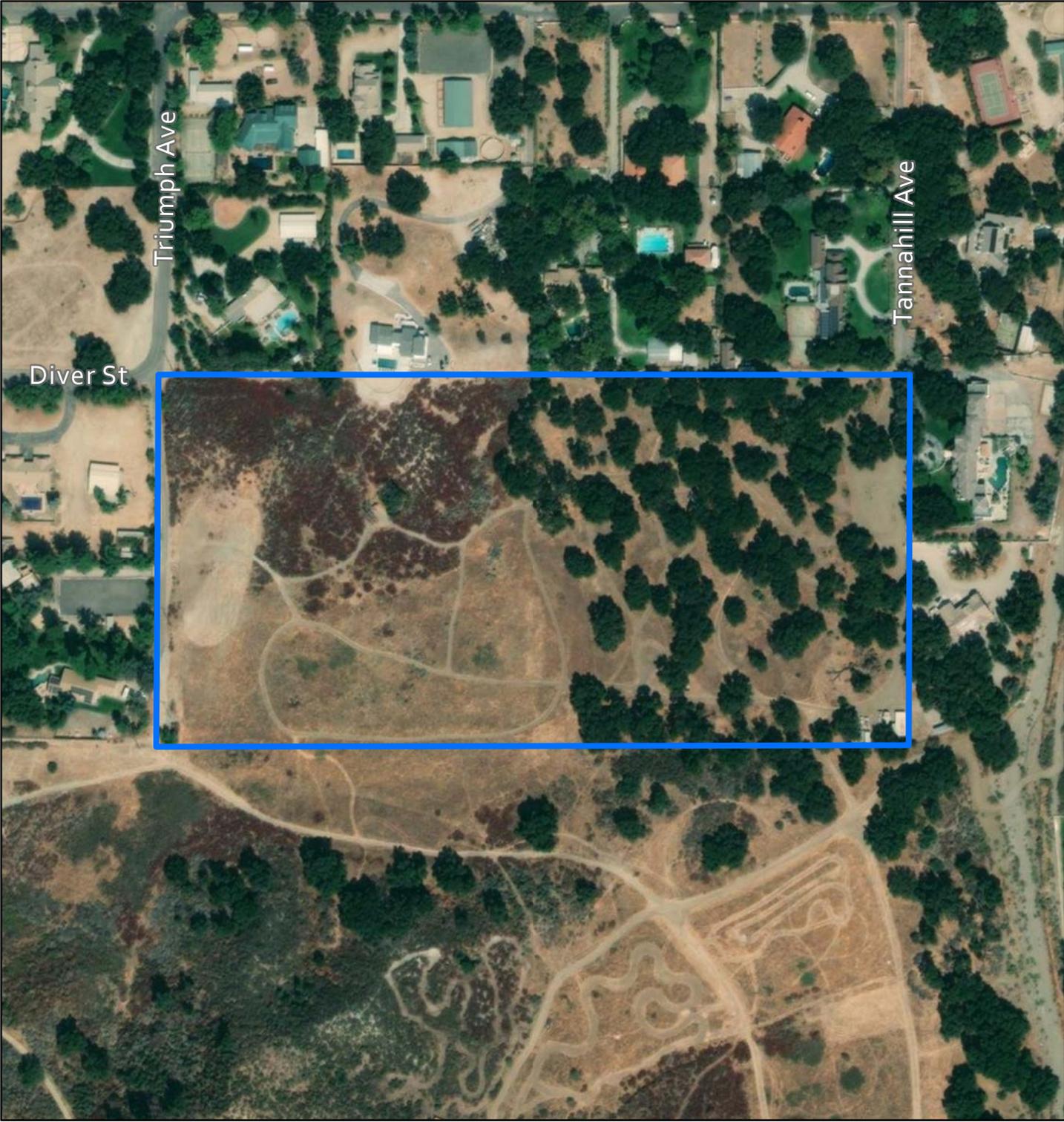
Regional Vicinity

Source: Esri, ArcGIS Online, National Geographic World Map: Santa Clarita, California

Figure 1



 Project Area



Triumph Ave

Tannahill Ave

Diver St

PN: 185517



Area of Potential Effects



Source: Esri, ArcGIS Online, World Imagery: Santa Clarita, California

REXHALL PROJECT

Project Area

Figure 3

Attachment 2

SCCIC Records Search Results

South Central Coastal Information Center

California State University, Fullerton
Department of Anthropology MH-426
800 North State College Boulevard
Fullerton, CA 92834-6846
657.278.5395 / FAX 657.278.5542
sccic@fullerton.edu

California Historical Resources Information System
Orange, Los Angeles, and Ventura Counties

10/18/2021

Records Search File No.: 22790.8966

Chris Wendt
Michael Baker International
2729 Prospect Park Drive Suite 220
Rancho Cordova CA 95670

Re: Records Search Results for the Rexhall Subdivision Project

The South Central Coastal Information Center received your records search request for the project area referenced above, located on the Mint Canyon, CA USGS 7.5' quadrangle. Due to the COVID-19 emergency, we have temporarily implemented new records search protocols. With the exception of some reports that have not yet been scanned, we are operationally digital for Los Angeles, Orange, and Ventura Counties. See attached document for your reference on what data is available in this format. The following reflects the results of the records search for the project area and a ½-mile radius:

As indicated on the data request form, the locations of resources and reports are provided in the following format: custom GIS maps shape files hand drawn maps

Resources within project area: 0	None
Resources within ½-mile radius: 0	None
Reports within project area: 1	LA-01805
Reports within ½-mile radius: 13	SEE ATTACHED LISTS

- Resource Database Printout (list):** enclosed not requested nothing listed
- Resource Database Printout (details):** enclosed not requested nothing listed
- Resource Digital Database (spreadsheet):** enclosed not requested nothing listed
- Report Database Printout (list):** enclosed not requested nothing listed
- Report Database Printout (details):** enclosed not requested nothing listed
- Report Digital Database (spreadsheet):** enclosed not requested nothing listed
- Resource Record Copies:** enclosed not requested nothing listed
- Report Copies:** enclosed not requested nothing listed
- OHP Built Environment Resources Directory (BERD) 2019:** available online; please go to https://ohp.parks.ca.gov/?page_id=30338
- Archaeo Determinations of Eligibility 2012:** enclosed not requested nothing listed
- Los Angeles Historic-Cultural Monuments** enclosed not requested nothing listed

Historical Maps: enclosed not requested nothing listed
Ethnographic Information: not available at SCCIC
Historical Literature: not available at SCCIC
GLO and/or Rancho Plat Maps: not available at SCCIC
Caltrans Bridge Survey: not available at SCCIC; please go to
<http://www.dot.ca.gov/hq/structur/strmaint/historic.htm>
Shipwreck Inventory: not available at SCCIC; please go to
http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp
Soil Survey Maps: (see below) not available at SCCIC; please go to
<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the [California Historical Resources Information System](#),

Michelle Galaz
Assistant Coordinator

Enclosures:

(X) Emergency Protocols for LA, Orange, and Ventura County BULK Processing Standards – 2 pages

(X) GIS Shapefiles – 14 shapes

(X) Report Database Printout (details) – 14 pages

(X) Report Digital Database (spreadsheet) – 14 lines

(X) Report Copies – (within project area) – 7 pages

(X) Invoice # 22790.8966

Emergency Protocols for LA, Orange, and Ventura County BULK or SINGLE PROJECT Records Searches IF YOU HAVE A GIS PERSON ON STAFF ONLY!!

These instructions are for qualified consultants with a valid Access and Use Agreement.

WE ARE ONLY PROVIDING DATA THAT IS ALREADY DIGITAL AT THIS TIME.

Some of you have a fully digital operation and have GIS staff on board who can process a fully digital deliverable from the Information Center. IF you can accept shape file data and do not require a custom map made for you by the SCCIC, and you are willing to sort the data we provide to you then these instructions are for you. Read further to be sure. You may have only one project at this time or some of you have a lot of different search locations that can be processed all at once. This may save you a lot of time getting results back and if we process your jobs in bulk, and you may enjoy significant cost savings as well.

Bulk processing will work for you if you have a GIS person on staff who can sort bulk data for you and make you any necessary project maps. This type of job can have as many job locations as you want but the point is that we will do them in bulk – at the same time - not one at a time. We send all the bulk data back to you and you sort it. This will work if you need searches in LA, Orange, or Ventura AND if they all have the same search radius and if all the other search criteria is the same– no exceptions. This will not work for San Bernardino County because we are not fully digital for San Bernardino County. You must submit all your shape files for each location at the same time and this will count as one search. If you have some that need a different radius, or different search criteria, then you should submit that job separately with its own set of instructions.

INSTRUCTIONS FOR BULK PROCESSING:

Please send in your requests via email using the data request form along with the associated shape files and pdf maps of the project area(s) at 1-24k scale. PDFs must be able to be printed out on 8.5X 11 paper. We check your shape file data against the pdf maps. This is where we find discrepancies between your shape files and your maps. This is required.

Please use this data request form and make sure you fill it out properly.

<http://web.sonoma.edu/nwic/docs/CHRISDataRequestForm.pdf>

DELIVERABLES:

1. A copy of the Built Environment Resources Directory or BERD for Los Angeles, Orange, Ventura, or San Bernardino County can now be found at the OHP Website for you to do your own research. This replaces the old Historic Properties Directory or HPD. We will not be searching this for you at this time but you can search it while you are waiting for our results to save time.
2. You will only get shapefiles back, which means that you will have to make your own maps for each project location.

3. You will get a bulk processed bibliographies for resources and reports as selected; you will not get individual bibliographies for each project location.
4. You will get pdfs of resources and reports if you request them, provided that they are in digital formats. We will not be scanning records or reports at this time.
5. You will get one invoice for the bulk data processing. We can't bill this as individual jobs on separate invoices for you. If there are multiple project names, we are willing to reference all the job names on the invoice if needed. If there a lot of job id's we may ask you to send them in an email so that we can copy and paste it into the invoice details. If you need to bill your clients for the data, you can refer to our fee schedule on the OHP website under the CHRIS tab and apply the fees accordingly.
6. We will be billing you at the staff rate of \$150 per hour and you will be charged for all resources and report locations according to the "custom map charges". This is in lieu of the \$12 per GIS shape file data fee that we normally charge for GIS files and this will only apply during the Covid 19 emergency. You will also be billed 0.15 per pdf page, or 0.25 per excel line as is usual.
7. Your packet will be mailed to you on a CD or via Dropbox if you have an account. We use 7-zip to password protect the files so you will need both. We email you the password.

I may not have been able to cover every possible contingency in this set of instructions and will update it if necessary. You can email me with questions at sccic@fullerton.edu

Thank you,

Stacy St. James

South Central Coastal Information Center

Los Angeles, Orange, Ventura, and San Bernardino Counties

SCCIC Records Search Results
(Confidential):
on file with City

Attachment 3
NAHC Sacred Lands File
Search Results

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission

1550 Harbor Blvd, Suite 100

West Sacramento, CA 95691

916-373-3710

916-373-5471 – Fax

nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Rexhall Subdivision Project

County: Los Angeles

USGS Quadrangle Name: Mint Canyon, CA

Township: 4N **Range:** 15W **Section(s):** 26

Company/Firm/Agency: Michael Baker International

Street Address: 3100 Zinfandel Drive, Suite 125

City: Rancho Cordova **Zip:** 95670

Phone: 775-666-5524

Fax: _____

Email: max.vanrensselaer@mbakerintl.com

Project Description: The project proposes to subdivide an approximately 19.92-acre parcel into four parcels and preparation of the property for construction of four single-family homes. Site preparation would involve grading and construction of home pads, septic leaching fields, and access driveways.

NATIVE AMERICAN HERITAGE COMMISSION

January 19, 2023

Max Van Rensselaer
Michael Baker International

Via Email to: max.vanrensselaer@mbakerintl.com

Re: Rexhall Subdivision Project, Los Angeles County

Dear Mr. Van Rensselaer:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green
Cultural Resources Analyst

Attachment



CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Sara Dutschke
Miwok

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Buffy McQuillen
Yokayo Pomo, Yuki,
Nomlaki

COMMISSIONER
Wayne Nelson
Luiseño

COMMISSIONER
Stanley Rodriguez
Kumeyaay

COMMISSIONER
[Vacant]

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
**Raymond C.
Hitchcock**
Miwok/Nisenan

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

**Native American Heritage Commission
Native American Contact List
Los Angeles County
1/19/2023**

Barbareno/Ventureno Band of Mission Indians

Dayna Barrios, Chairperson
Phone: (805) 890 - 6855
barrios_dayna@yahoo.com
Chumash

Barbareno/ Ventureno Band of Mission Indians

Annette Ayala, CRM Committee Chair
188 S. Santa Rosa Street
Ventura, CA, 93001
Phone: (805) 515 - 9844
annetteayala78@yahoo.com
Chumash

Chumash Council of Bakersfield

Julio Quair, Chairperson
729 Texas Street
Bakersfield, CA, 93307
Phone: (661) 322 - 0121
chumashtribe@sbcglobal.net
Chumash

Coastal Band of the Chumash Nation

Gabe Frausto, Vice Chair
P.O. Box 4464
Santa Barbara, CA, 93140
Phone: (805) 324 - 0135
cbcn22vicechair@gmail.com
Chumash

Coastal Band of the Chumash Nation

Mia Lopez, Chairperson
P. O. Box 4464
Santa Barbara, CA, 93140
Phone: (805) 324 - 0135
cbcntribalchair@gmail.com
Chumash

Fernandeno Tataviam Band of Mission Indians

Rudy Ortega, Tribal President
1019 Second Street, Suite 1
San Fernando, CA, 91340
Phone: (818) 837 - 0794
Fax: (818) 837-0796
thcp@tataviam-nsn.us
Tataviam

Gabrieleno Band of Mission Indians - Kizh Nation

Andrew Salas, Chairperson
P.O. Box 393
Covina, CA, 91723
Phone: (626) 926 - 4131
admin@gabrielenoindians.org
Gabrieleno

Gabrieleno/Tongva San Gabriel Band of Mission Indians

Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com
Gabrieleno

Gabrielino /Tongva Nation

Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com
Gabrielino

Gabrielino Tongva Indians of California Tribal Council

Christina Conley, Tribal Consultant and Administrator
P.O. Box 941078
Simi Valley, CA, 93094
Phone: (626) 407 - 8761
christina.marsden@alumni.usc.edu
Gabrielino

Gabrielino Tongva Indians of California Tribal Council

Robert Dorame, Chairperson
P.O. Box 490
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com
Gabrielino

Gabrielino-Tongva Tribe

Charles Alvarez,
23454 Vanowen Street
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com
Gabrielino

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Rexhall Subdivision Project, Los Angeles County.

**Native American Heritage Commission
Native American Contact List
Los Angeles County
1/19/2023**

**Northern Chumash Tribal
Council**

Violet Walker, Chairperson
P.O. Box 6533 Chumash
Los Osos, CA, 93412
Phone: (760) 549 - 3532
violetsagewalker@gmail.com

**Soboba Band of Luiseno
Indians**

Joseph Ontiveros, Cultural
Resource Department
P.O. BOX 487 Cahuilla
San Jacinto, CA, 92581 Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

**San Fernando Band of Mission
Indians**

Donna Yocum, Chairperson
P.O. Box 221838 Kitanemuk
Newhall, CA, 91322 Vanyume
Phone: (503) 539 - 0933 Tativiam
Fax: (503) 574-3308
ddyocum@comcast.net

**San Luis Obispo County
Chumash Council**

Chumash

**Santa Rosa Band of Cahuilla
Indians**

Lovina Redner, Tribal Chair
P.O. Box 391820 Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
lsaul@santarosa-nsn.gov

**Santa Ynez Band of Chumash
Indians**

Kenneth Kahn, Chairperson
P.O. Box 517 Chumash
Santa Ynez, CA, 93460
Phone: (805) 688 - 7997
Fax: (805) 686-9578
Chairman@chumash.gov

**Soboba Band of Luiseno
Indians**

Isaiah Vivanco, Chairperson
P. O. Box 487 Cahuilla
San Jacinto, CA, 92581 Luiseno
Phone: (951) 654 - 5544
Fax: (951) 654-4198
ivivanco@soboba-nsn.gov

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Rexhall Subdivision Project, Los Angeles County.

Attachment 4

Historical Society Consultation

From: [vanRensselaer, Max](#)
To: ALAN@SCVHISTORY.COM; info@scvhistory.com
Cc: [Daniels, James](#)
Subject: Rexhall Development Project - Public Comment Request
Date: Thursday, January 12, 2023 12:35:16 PM
Attachments: [Santa Clarita Valley HS_combined.pdf](#)

Good afternoon,

I am reaching out to you to request input about effects to cultural resources regarding the proposed Rexhall Development Project. Please see the attached letter and contact me with any comments or questions.

Thank you,

Maximilian van Rensselaer | Archaeologist

5470 Kietzke Lane, Suite 300, PMB#205 | Reno, NV 89511 | [M] (775) 666-5524

max.vanrensselaer@mbakerintl.com | www.mbakerintl.com



January 12, 2023

ALAN POLLACK, PRESIDENT
SANTA CLARITA VALLEY HISTORICAL SOCIETY
24101 NEWHALL AVENUE
P.O. BOX 221925
NEWHALL, CALIFORNIA 91322
VIA EMAIL: ALAN@SCVHISTORY.COM

**RE: REXHALL DEVELOPMENT PROJECT, CITY OF SANTA CLARITA, LOS ANGELES COUNTY,
CALIFORNIA**

Dear Mr. Pollack:

Michael Baker International is conducting a cultural resources study supporting the Rexhall Development Project (project) in Santa Clarita, California. The City of Santa Clarita is conducting an environmental review on plans to construct a residential development, as shown in the attached maps. The project proposes to subdivide an approximately 19.92-acre parcel into four parcels and prepare the construction of four single-family homes. The project site is located at Diver Street between Triumph Avenue to the west and Tannahill Avenue to the east. The project is subject to the California Environmental Quality Act (CEQA).

We are contacting you to identify cultural resources the proposed project may impact. Please notify us if your organization has any information or concerns about historical resources on the project site. This is not a research request; it is solely a request for public input related to any concerns that the Santa Clarita Valley Historical Society may have. If you have any questions or comments, please get in touch with me at your earliest convenience at max.vanrensselaer@mbakerintl.com or 775-666-5524. Thank you for your time and assistance.

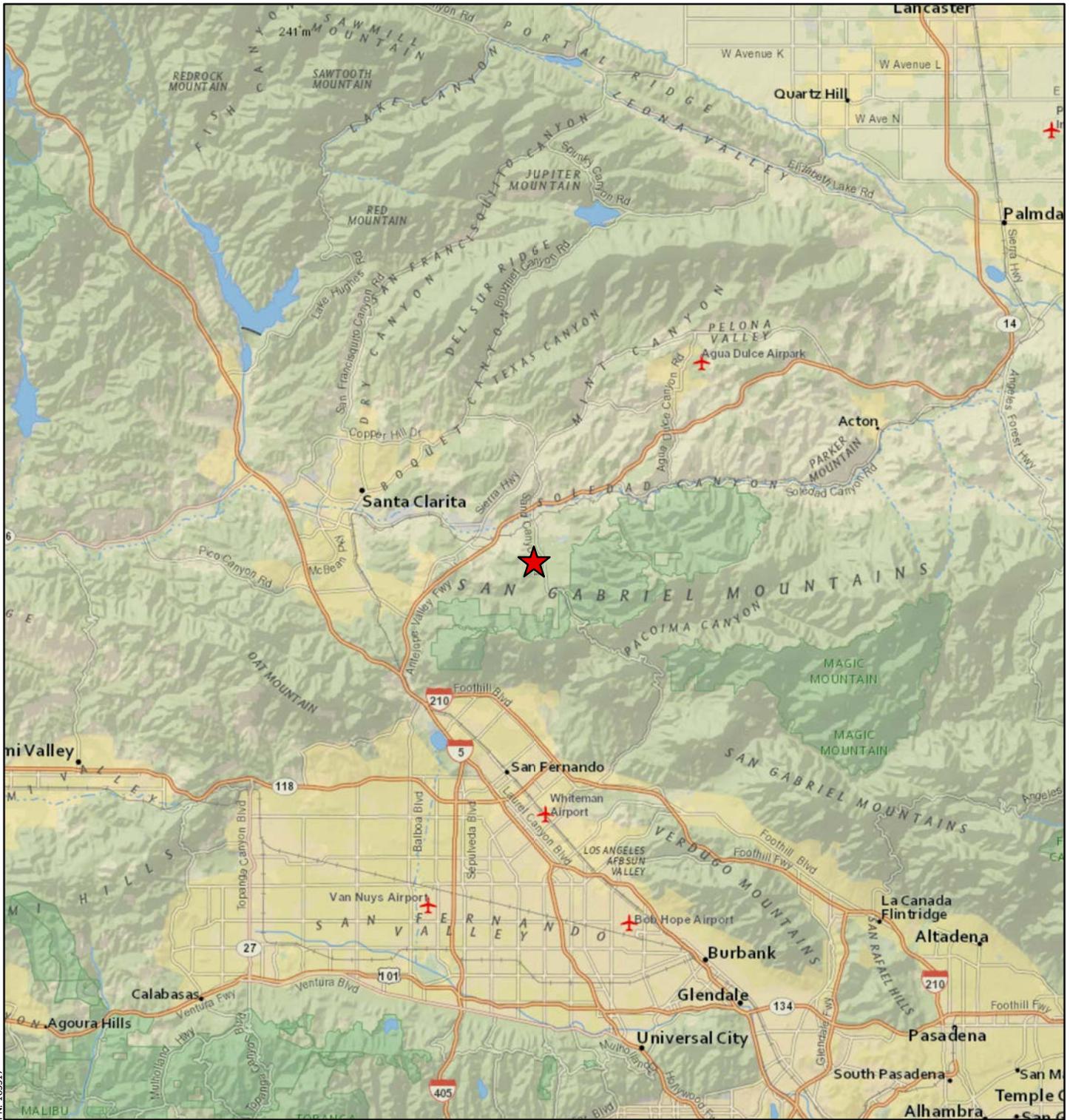
Sincerely,



Max van Rensselaer, R.A.
Archaeologist

Attachments:

Attachment 1 - Figures



PN: 169517

 Project Location

REXHALL PROJECT

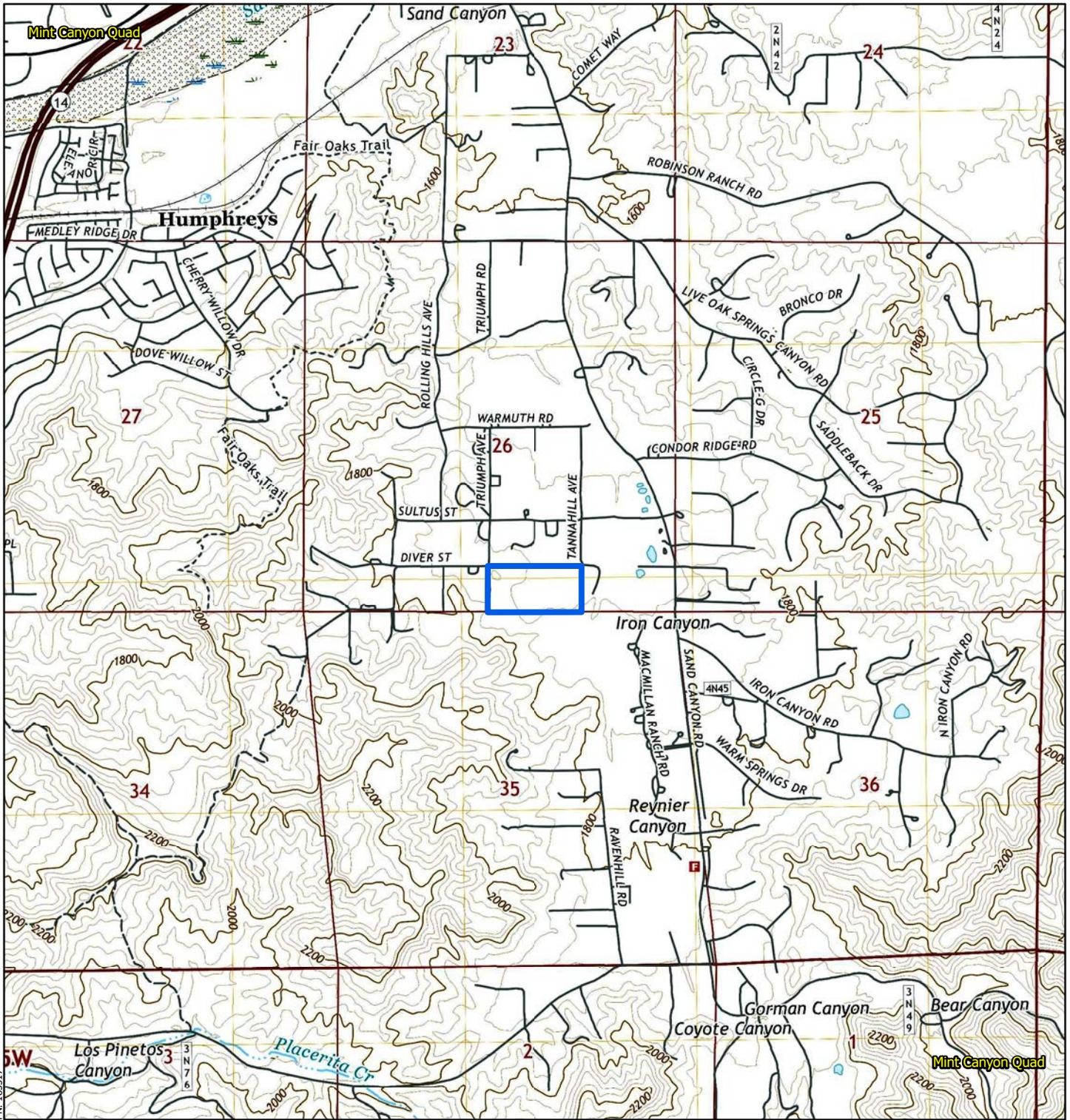
Michael Baker
INTERNATIONAL



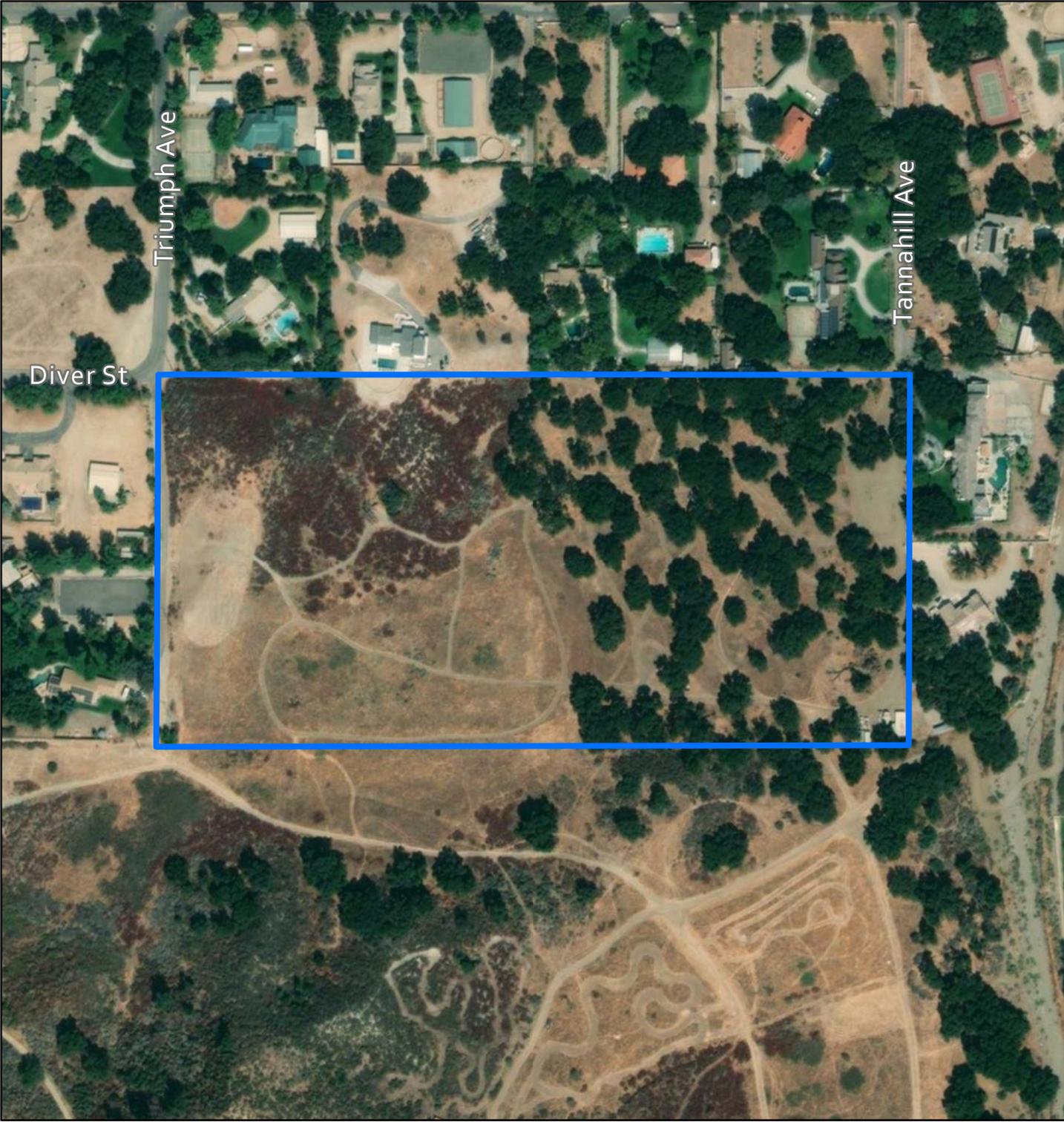
Regional Vicinity

Source: Esri, ArcGIS Online, National Geographic World Map: Santa Clarita, California

Figure 1



 Project Area



PN: 185517



Area of Potential Effects



Attachment 5
Confidential DPR 523 Site Forms
Bound Separately

APPENDIX E

Preliminary Geotechnical Report and Percolation Feasibility Study

AZ GEO TECHNICS, INC.
Geotechnical and Environmental Consultants

38713 9th Street East
Palmdale, Ca. 93550
Phone: (661) 273-3123 Fax: (661) 273-4245

**PRELIMINARY
GEOTECHNICAL REPORT
FOR PROPOSED SUBDIVISION**

PROJECT NUMBER

GT-3503-S

SITE LOCATION

BETWEEN TRIUMPH AND TANNAHILL AVENUE
IN THE CITY OF SANTA CLARITA,
COUNTY OF LOS ANGELES,
STATE OF CALIFORNIA.

LEGAL DESCRIPTION

APN: 2841-018-035

DATE

November 11, 2017

PREPARED FOR

Bill Rex

A Z Geo Technics, Inc.

Geotechnical, Environmental and General Building Services

REX
GT-3503-S
Page 1

NOVEMBER 11, 2017

BILL REX
REXHALL COMPANY
45640 23RD STREET WEST
LANCASTER, CA 93536

SUBJECT: PRELIMINARY SOILS REPORT FOR A SITE LOCATED IN BETWEEN TRIUMPH AND TANNAHILL AVENUE @ THE NORTHWEST CORNER OF RADCLAY STREET, IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.
APN: 2841-018-035 ("Site")

Dear Mr. Rex:

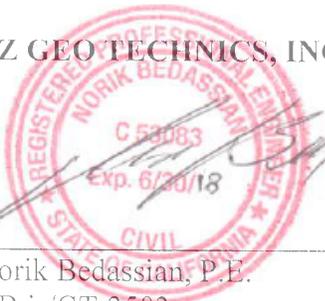
Pursuant to your authorization, AZ Geo Technics, Inc., referred to herein as "**Consultant**", has visited the Site and performed a preliminary soils evaluation for **Bill Rex**, referred to herein as "**Client**". The findings and recommendations contained in this "Report" are based upon four (4) specific exploratory borings/trenches and observations as noted within our described limitations. The materials immediately adjacent to or beneath those observed may have different characteristics and no representations are made as to the quality or extent of materials not observed.

Client, and/or Clients' contractor(s)/agents, are the responsible parties for the implementation of all recommendations during the life of the project. To the best of Consultants' knowledge, the evaluation covered in this limited study is in accordance with applicable recommendations. Any variances not approved in writing by Consultant would nullify this Report for any use. No other warranties are expressed or implied. Please note, this Report is valid for only one (1) year from the date hereof, subject to Consultants' review and approval prior to further use.

If you have any questions regarding this Report, please contact our office at your convenience. We appreciate this opportunity to be of service and will be available for future developments at your convenience.

Respectfully submitted for,

AZ GEO TECHNICS, INC.



Norik Bedassian, P.E.
NB:jr/GT-3503

SCOPE

The scope of this limited evaluation consisted of the following geotechnical steps:

- A. Review of literature, reports, and maps made available by Client pertinent to the Site.
- B. Preliminary Site reconnaissance and subsurface exploration.
- C. Laboratory analysis of selected representative bulk and relatively undisturbed samples.
- D. Preparation of this Report presenting our findings, conclusions, and recommendations.

PROPOSED DEVELOPMENT

The proposed development is reported to be a subdivision of four lot. "Client" prepared the Tentative Tract Map. The Site are intended for a one or two-story single-family residential dwelling(s). This study was performed for the proposed building pad areas, associated driveways, and on-Site utility construction only. Though no building plans were made available to Consultant at the time of the preparation of this Report, this type of structure is typically wood framed with continuous and/or isolated pad footings. Structural loads are anticipated to be light to moderate. Should something other than what is represented here be utilized during construction, Consultant should be notified immediately to review the proposed changes and modify this Report if necessary.

BACKGROUND OF SUBJECT SITE

The Site is currently vacant.

SITE DESCRIPTION

The Site is located in the City of Santa Clarita, County of Los Angeles, State of California. The Site is bounded on the north by number of residence, on the south by vacant lot, on the east by number of residence, and on the west by number of residence. The Site is approximately twenty (20) acres in size, rectangular in shape, and mostly accessible. The Site terrain is relatively flat to fooling hills.

The surface is sparsely covered with native vegetation / weeds / oak trees. Signs / No signs of watercourses or rock outcroppings were observed on the Site.

FIELD SUB-SURFACE INVESTIGATION AND LABORATORY TESTING RESULTS

Subsurface evaluation consisted of four (4) exploratory trenches, excavated to a maximum depth of fifteen (15) feet in order to determine the condition of the near-surface natural material. The trenches were logged and reviewed. Representative bulk and undisturbed samples were collected for laboratory testing. Bulk (disturbed) samples of the near surface soil were observed from the cuttings developed during excavation operations. The subsurface conditions shown on the Trench Logs apply only at the specific locations and to the dates indicated. It is not warranted to be a representative of subsurface conditions at any other locations and times.

Expansive Soils

The potential expansion characteristics of the near-surface soils are classified as low expansive in accordance with CBC Standards No. 1805A.8, Expansion Index Test. General guidelines for the proposed construction are based on soil expansion. Upon completion of rough pad grades, evaluation of foundation bearing materials should be made in accordance with CBC Standards No. 1805A.8.1. Specific recommendations for construction should be made after evaluation of foundation bearing materials.

Artificial Fill

No artificial fill or structural fill was encountered during the excavation operations.

Surface Erosion Potential

No evidence of significant erosion was observed on the Site. By nature, on-Site soil is cohesive and must be considered to be susceptible to surface erosion. The velocity of the concentration of drainage must be reduced by Rip Rap, grading, and landscaping the area to prevent possible erosion.

SHRINKAGE AND SUBSIDENCE

It is estimated that there will be a minimum of ten percent (10%) shrinkage approximately six (6) inches below surficial soil at an average density of ninety three percent (93%) compaction relative to the maximum dry density, due to the reworking of the surface soils (excluding rocks and organics). Natural ground subsidence is estimated to be as much as one-half (1/2) of an inch, depending significantly on the methods and the compaction equipment used. Some additional losses are anticipated due to the preparation and removal of surface and sub-surface obstructions, such as trees and rock outcroppings.

SETTLEMENT

It is estimated that after grading, in accordance with our recommendations/supervision, the settlement of the foundation system is expected to occur on initial load application. A maximum of one-half (1/2) of an inch settlement is anticipated, but differential settlement is anticipated not to exceed one-fourth (1/4) of an inch within a thirty (30) foot span.

ON-SITE SEWAGE DISPOSAL

It is Consultants' opinion that the proposed private on-Site sewage disposal system, via leach line at the Site (which has been tested) will not have any adverse effect as to the stability of the Site.

DRAINAGE

All pads drainage should be sheet flow and transferred to an appropriate non-erosive drainage device. The drainage will not be allowed to pond on the pad.

SUBSURFACE CONDITIONS

Based on our findings from the Site observation and exploratory trenches, the on-Site earth materials generally consist of older alluvium (Oal). These materials are typically moderately dense to dense sands, silts and clays in varying degrees of combinations. Please refer to the Trench Logs for a brief description of the on-Site earth materials encountered during the excavation operations.

Top Soil	Light Brown Silty Sand
Near Surface Materials	Light Brown Silty Sand with gravel
Subsurface At Depth Explored	Light Brown Silty Sand/gravel/cobbles
Depth To Groundwater	None encountered
Depth To Bedrock	None encountered

FOUNDATION RECOMMENDATIONS

Foundations may be conventional spread or continuous wall footings, provided they are as follows:

- ▶ Minimum continuous footings widths: Twelve (12) inches (one-story)
Fifteen (15) inches (two-story)
Eighteen (18) inches (three-story)
- ▶ Minimum column footing width: Two (2) Feet

Minimum footing depths (in inches) below lowest adjacent final grade are as follows:

Expansion Index	Expansion Classification	One Story Structure Perimeter or Bearing Walls	One Story structure Interior or Non-Bearing	Two Story Structure Perimeter or Bearing Walls	Two Story Structure Interior or Non-Bearing	Three Story Structure Perimeter or Bearing Walls	Three Story Structure Interior or Non-Bearing
0 – 20	Very Low	12	12	18	18	24	18
21 – 50	Low	12	12	18	18	24	18
51 – 90	Medium	15	12	20	18	24	18
91 - 130	High	18	12	24	18	30	18

Foundation reinforcement in addition to minimum structural requirements for dead, live and seismic loads:

Expansion Classification	Expansion Index	No. 4 ReBars Top and Bottom
Very Low	0 to 20	Two (2)
Low	21 to 50	Two (2)
Medium	51 to 90	Two (2)
High	91 to 130	Two (2)

SLABS-ON-GRADE

The concrete for slabs-on grade should conform to the requirements contained in the CBC Standard No. 1805A.8.2 and the City of Santa Clarita Amendments. The concrete slab thickness *minimums* do not preclude more stringent requirements of which may be imposed by the architect, structural engineer, or building official. These *minimums* are as follows:

Expansion Classification	Expansion Index	Minimum Slab Thickness
Very Low	0 to 20	Four (4) inches
Low	21 to 50	Four (4) inches
Medium	51 to 90	Five (5) inches
High	91 to 130	Six (6) inches

Slab Reinforcement

The concrete slab reinforcement *minimums* do not preclude more stringent requirements of which may be imposed by the architect, structural engineer, or building official. These *minimums* are as follows:

Expansion Classification	Expansion Index	Slab Reinforcement
Very Low	0 to 20	No. 3 Rebar @ 24" on center, each way
Low	21 to 50	No. 3 Rebar @ 18" on center, each way
Medium	51 to 90	No. 4 Rebar @ 18" on center, each way
High	91 to 130	No. 4 Rebar @ 14" on center, each way

Moisture Vapor Barrier

Where moisture sensitive materials are to be placed on the slab, the slab should be underlain by a moisture vapor barrier (polyethylene plastic vapor barrier). Moisture barriers should have a minimum thickness of ten (10) mil. and should be protected by a two (2) inch thick layer of sand (above and below) in order to reduce the possibility of punctures and to aid in obtaining a satisfactory concrete cure. The moisture barrier must be properly lapped and/or sealed, as well as sealed around all plumbing structures and other openings. The slab areas should be presaturated to near optimum moisture content of the sub-grade material to a minimum depth of six (6) inches prior to placing sand and moisture barrier.

BEARING

Soil Bearing

For the proposed construction, foundations should be designed for an allowable bearing value not to exceed two thousand (2000) pounds per square foot (psf) on compacted material. This value is for dead loads plus the adjusted live load, which may be increased by one-third ($\frac{1}{3}$) for short term seismic and wind effects.

LATERAL LOADS

Resistance to lateral loads will be provided by passive earth pressure and base friction. For footing bearing against compacted fill, passive earth pressure may be considered to be developed at a rate of three hundred fifty (350) pounds per square foot (psf) per foot of depth. Base friction may be computed as four-hundreds (0.40) times the normal dead load. Base friction and passive earth pressure may be combined directly.

RETAINING WALLS

Retaining Wall Foundation Soils

Retaining walls should be founded on clean, non-deleterious natural or compacted competent material. Consultants' representative should observe soil materials exposed at the bottom of the proposed retaining wall footings. If these materials visually appear to be potentially expansive (e.g. clays and elastic silts), the expansion index testing should be performed in order to confirm the expansion characteristics of the material and Consultant should then make the appropriate recommendations.

Retaining Wall Design Parameters

Based upon a review of the current plans, retaining walls may be designed for a maximum height of **five (5)** feet.

The allowable net bearing pressure for retaining wall footings, at least one (1) foot wide and one (1) foot deep below the lowest adjacent grade which should be founded on competent natural soils or on at least two (2) feet of compacted fill to a minimum of ninety percent (90%) relative compaction, is **two-thousand (2000)** psf.

If retaining walls are constructed to retain on-Site compacted fill materials, they should be designed to resist lateral pressures equal to those exerted by an equivalent fluid having a density of not less than that shown in the following table.

Based upon analyses, the following Lateral Earth Pressures may be used in the design of any proposed retaining walls or similar structures:

	Driving Earth Pressure*	Resisting Earth Pressure*
Well Drained Level Soil	30 pcf	350 psf
Well Drained 2:1 Backfill Soil	40 pcf	

* Equivalent fluid pressure (psf) per foot of soil height.

SEISMIC COEFFICIENTS

Based on the California Building Code (CBC 2013), the site is located at Region 1. Due to the proposed structure’s occupancy category and the severity of the design earthquake ground motion at the site, the proposed structure will be assigned to a Seismic Design Category. Under the Earthquake Design Regulations of Chapter 16, Section 1613 of the CBC 2013, the following coefficients and factors apply to lateral – force design for structures at the site:

Site Classification CBC 2013	
Section 1613.5.2	
Latitude	34.394199 N
Longitude	118.420536 W
S _s =	20783
F _a =	1.00
S ₁ =	0.973
F _v =	1.50
Site Class	D
F _a S _s = S _{MS} =	2.783
F _v S ₁ = S _{MI} =	1.460
$\frac{2}{3}$ S _{MS} = S _{DS} =	1.855
$\frac{2}{3}$ S _{MI} = S _{DI} =	0.973

PGA=1.029

HYDRO-CONSOLIDATION

The disturbed and loose soil is underlain by sediments, which are subject to hydro-consolidation. This is a phenomenon by which metastable soils undergo rapid consolidation upon introduction of sufficient quantity of water or an increase in ambient loading. These soils are generally of low density and low moisture content.

The soils encountered beneath the Site were very dense below a depth of five (5) feet. Samples obtained below this depth had in-place dry densities of approximately (109.1) pounds per cubic foot (pcf). The moisture contents were found to be within percent (100%) of optimum moisture.

In addition to the density data, the result of a consolidation test performed on a selected sample is included in this Report.

Based upon available data, it is our opinion that hydro-consolidation of on-Site soils do not present any unusual risk for this Site provided that the recommendations contained in this Report are followed.

Over-excavating the building area, Site processing, control of landscape irrigation, and minimal changes from existing grades will further lessen the possibility of hydro-consolidation.

SUMMARY AND CONCLUSIONS

General Conclusions

The following conclusions are presented based upon the results of our findings and analysis of field and laboratory data at the time and locations as shown. No representation is made to any other areas or consistency of the conditions. Environmental testing was not a part of the report.

1. Proposed construction is feasible from a geotechnical point of view provided the soil recommendations presented in this Report have been implemented during construction.
2. The area of the proposed Site is underlain by massive Silty Sand with gravel. The soils are dense, and moist.
3. On-Site soils are primarily fine to coarse granular with an anticipated expansion potential.
4. No groundwater or evidence of seepage was encountered within the trenches.
5. Any change of plans must be approved by Consultant prior to construction.
6. At the time of further review and/or during construction, additional recommendations or changes may be provided depending on the future findings of the proposed development.

Liquefaction Potential

The primary factors influencing liquefaction potential include groundwater, soil type, and intensity of ground shaking. Liquefaction potential is greatest in saturated, loose, and poorly graded sand.

Based on our investigation, the sub-surface material is classified as a dense mixture of sand, clay, silts, and groundwater at a depth of below fifty (50) feet.

Therefore, considering the above characteristics, the potential for soil liquefaction and other secondary seismic hazards such as lurch cracks and seismically induced settlement are considered to be minor at the Site.

CITY OF SANTA CLARITA BUILDING ORDINANCE 02-08, SECTION 18, 02,03

It is the opinion of this firm that the proposed development will be safe against any geotechnical hazards from landslides, settlement, or slippage, and the proposed work will not adversely affect adjacent property in compliance with the City of Santa Clarita Building Code, provided our recommendations are followed.

RECOMMENDATIONS

General Site Grading

All Grading shall be performed in accordance with the General Earthwork and Grading Specifications (Enclosed) *except* as modified in the text of this Report.

The geotechnical exploration trench backfill is uncompacted and is unsuitable for support of structures. If any structure or other improvements (including paved access roads) are located over or immediately adjacent to the uncompacted fill, it is recommended that the backfill be over-excavated and replaced with engineered compacted fill.

Construction should allow for all plumbing and utility services to be connected with flexible connections and/or provided with convenient shut-offs. Structures should be designed in accordance with at least minimum code standards for Seismic Zone 4 as described in the City of Santa Clarita Amendments to 2013 California Building Code.

Diversion and reduction of the concentrated run-off(s) should be provided to minimize erosion of the on-Site slopes and improvements.

If Grading plans are required, all recommendations must be shown on the Grading plans prior to our review, approval, and signature; otherwise all recommendations should be addressed on the Plot Plan.

Any Site Grading should be in conformity with existing building codes contains specific considerations for grading and forms a part of this Report.

Field review of the Site Grading by Consultant, if requested as recommended, will be an additional expense and will be billed at current fee schedule rates in effect at the time of the Site Grading.

Building Area Preparation

The minimum upper four (4) feet of soils across the Site are considered unsuitable to support any structure due to possible hydro-consolidation potential. These soils should be mitigated in structural areas by a minimum over excavation of the upper four (4) feet below original grade. The resultant ground surface should be scarified an additional six (6) inches and moisture conditioned to optimum moisture and compacted to a minimum of ninety percent (90%) relative compaction prior to fill placement. All lateral over-excavation shall be extended to the equivalent of the depth of over-excavation beyond the building footprint, but not be less than five (5) feet (under any circumstances). If the building pad is to be created by cut and fill transitional, the cut area must be over-excavated thirty-six (36) inches below the bottom of the footing.

The Site should be cleared of surface and sub-surface obstructions including any existing debris, pavement, existing foundations, existing utilities, vegetation, residual top soils, and other deleterious materials. Removed materials and debris should be disposed of off-Site. All cavities created by the removal of buried obstructions should be backfilled with suitable compacted materials. Vertical temporary excavations greater than five (5) feet in height will require sloping or shoring in accordance with the requirements of OSHA.

The non-structural area shall be over-excavated to a minimum depth of twelve (12) inches from the natural grade or finish grade, whichever is lowest, and re-compacted to a minimum of ninety percent (90%) relative to maximum dry density.

Preparation Of Paving Areas

All surfaces to receive concrete or asphaltic concrete paving should be over-excavated and scarified to a minimum depth of twenty-four (24) inches, or mitigated to the Consultants' satisfaction based on exposed conditions. The scarified bottom should be moisture conditioned and re-compacted to a minimum relative compaction of ninety percent (90%) prior to placing any additional fill.

Regarding preliminary pavement sections, no "R" Value tests were conducted on samples of the proposed parking area sub-grade soils. During Site Grading, sample(s) should be tested, secured from the exposed pavement sub-grade areas, and evaluated for review or revision of the following preliminary pavement sections. Based upon "R" Value estimated, the following sections may be used for developing preliminary earth quantities and paving cost estimates:

Asphalt Concrete Pavement Sections:

Traffic Index 4.0 (Automobile and Light Truck Parking Areas): 3.0" Asphalt Concrete on 4.0" Crushed Aggregate Base or equivalent.

Traffic Index 5.0 (Automobile and Light Truck Drive Lanes): 4.0" Asphalt Concrete on 4.0" Crushed Aggregate Base or equivalent.

Asphalt concrete pavement section recommendations are based on the assumption that the pavement section is placed on a minimum twelve (12) inch thick layer of compacted sub-grade as recommended in this Report. Aggregate base material should be properly moisture conditioned and compacted to at least ninety five percent (95%) of the maximum dry density as determined by ASTM D - 1557 test procedures using mechanical compaction equipment. Pavement sections should be verified with the jurisdictional authority prior to the time of construction.

Electrically insulate each buried steel pipeline from dissimilar metals, cement-mortar coated and concrete encased steel, also electrically insulate above ground steel pipe using dielectric fittings to prevent dissimilar metal corrosion cells and to facilitate the application of cathodic protection.

Apply cathodic protection to steel piping as per NACE International RP - 0169 - 92. As an alternative for steel waterlines to a dielectric coating and cathodic protection, apply a mortar coating as per AWWA Standard C - 205.

Other Protective Measures

Electrically insulate (isolate) below-grade ferrous metals by means of dielectric fittings in exposed metal structures breaking grade.

All steel and wire concrete reinforcement of structures and foundations in contact with Site soils should have at least five tenths (0.5) of an inch greater cover than required by the ACI code and a water-cement ratio of five tenths (0.5) or less.

GEOTECHNICAL OBSERVATION AND TESTING SERVICES

Consultant should provide continuous observation and testing during Grading of the subject Site. It is the responsibility of Client to notify Consultant of the date of the pre-grade meeting as well as notifying the inspector of record. The recommendations provided in this report are based on preliminary design information and sub-surface conditions disclosed by widely spaced trenches. The outlined sub-surface conditions should be verified in the field during construction. Consultant should prepare a final as-grade soil report and maps summarizing all conditions encountered and any field modification to the recommendations provided herein. The primary aspects of geotechnical observation and testing may include the following on an as needed basis:

- Observation of all removal and over excavation.
- Observation and material testing during fill placement.
- Geologic mapping of cut slopes (if recommended).
- Observation of footing excavations.
- After pre-saturation of the slab areas, but prior to placement of sand and visqueen.
- During utility trench excavation backfilling and compaction.
- Prior to construction of pavement, parking, and driveway areas to perform R-Value tests (if needed).
- During compaction of sub-grade and aggregate base.
- When any unusual conditions are encountered.

It is the responsibility of Client to ensure the above testing/observations are satisfied and that Consultant is given forty-eight (48) hours prior notice. Any grading performed at the subject Site that does not conform to the recommendations in this Report is the sole liability of Client.

LIMITATIONS

This Report is issued with the understanding that it is the responsibility of the Client to ensure that the information and recommendations contained herein are called to the attention of all parties concerned, including but not limited to future owners, agents, designers and contractors, as well as that the necessary steps are taken to ensure that such recommendations are carried out under any and all circumstances/conditions.

Conclusions and recommendations presented in this Report are based on soil conditions as encountered at the test locations and may not necessarily represent areas between and beyond the trenches and / or borings. No representation is made to the quality or chemical characteristic of on-Site soil. This Report is not transferable without written consent of Consultant. This Report shall not be used for any appraisal purposes or cost evaluation.

If conditions other than those noted in this Report are encountered, Consultant should be notified immediately so that supplementary recommendations can be provided.

Consultant will be available to make a final review of the project plan and specifications and to assist in assuring correct interpretation of this Report's recommendations for use in applicable sections.

A representative of Consultant should inspect all Grading operations, including Site clearing and stripping. The presence of Consultants' field representative will be for the purpose of providing observation and field testing, and will not include any supervising or directing of the actual work of the Contractor (its employees or agents). Neither the presence of Consultants' field representative nor the observations and testing by Consultant shall excuse the Contractor in any way for defects discovered in Contractors' work.

It is understood that Consultant will not be responsible for job or Site safety on this project, which will be the responsibility of Client and Client's contractor.

Again, it is imperative that all recommendations provided herewith to be adhered to throughout the life of the project. No changes or variations shall be allowed without written approval of Consultant.

The conclusions and recommendations presented in this Report are based upon preliminary field and laboratory observation described herein and information available at this time within the limits prescribed by Client. It is possible that conditions between sampling locations may vary. Should conditions be encountered in the field that appear different than those described in this Report, Consultant should be contacted immediately in order to evaluate their effect and prepare additional recommendations.

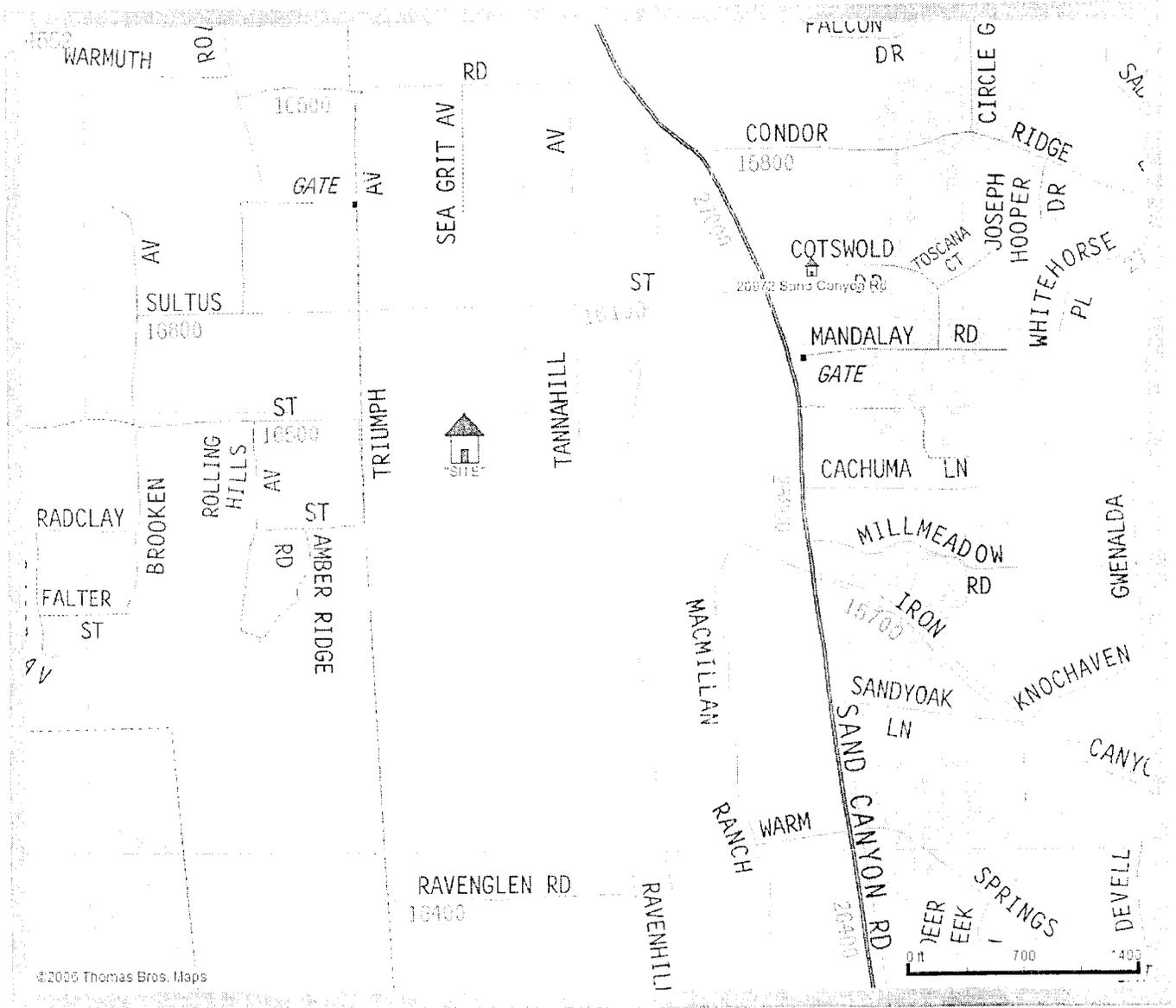
This Report concludes Consultants' services under the scope of services and Consultant makes no other representations or any other warranties, expressed or implied.

If this Report or portions hereof are provided to contractors or included in specifications, it should be understood by all parties that they are provided for preliminary information only, and should be used as such. The Report and its contents resulting from this evaluation are not intended or represented to be suitable for reuse on extensions or modifications of the project, or for use on any other project. Furthermore, this Report is issued to **Client Name** and is not transferable; any further use of this Report beyond one year of the date of this Report will require written consent by Consultant. Consultant must negotiate any additional work clarification or investigations and services. Any variance from Consultants' prescribed requirements would nullify this Report, and Client indemnifies Consultant and its representatives of all liability and obligation. The amount paid for this Report is the total liability of Consultant and its representatives toward all parties and any claimant.

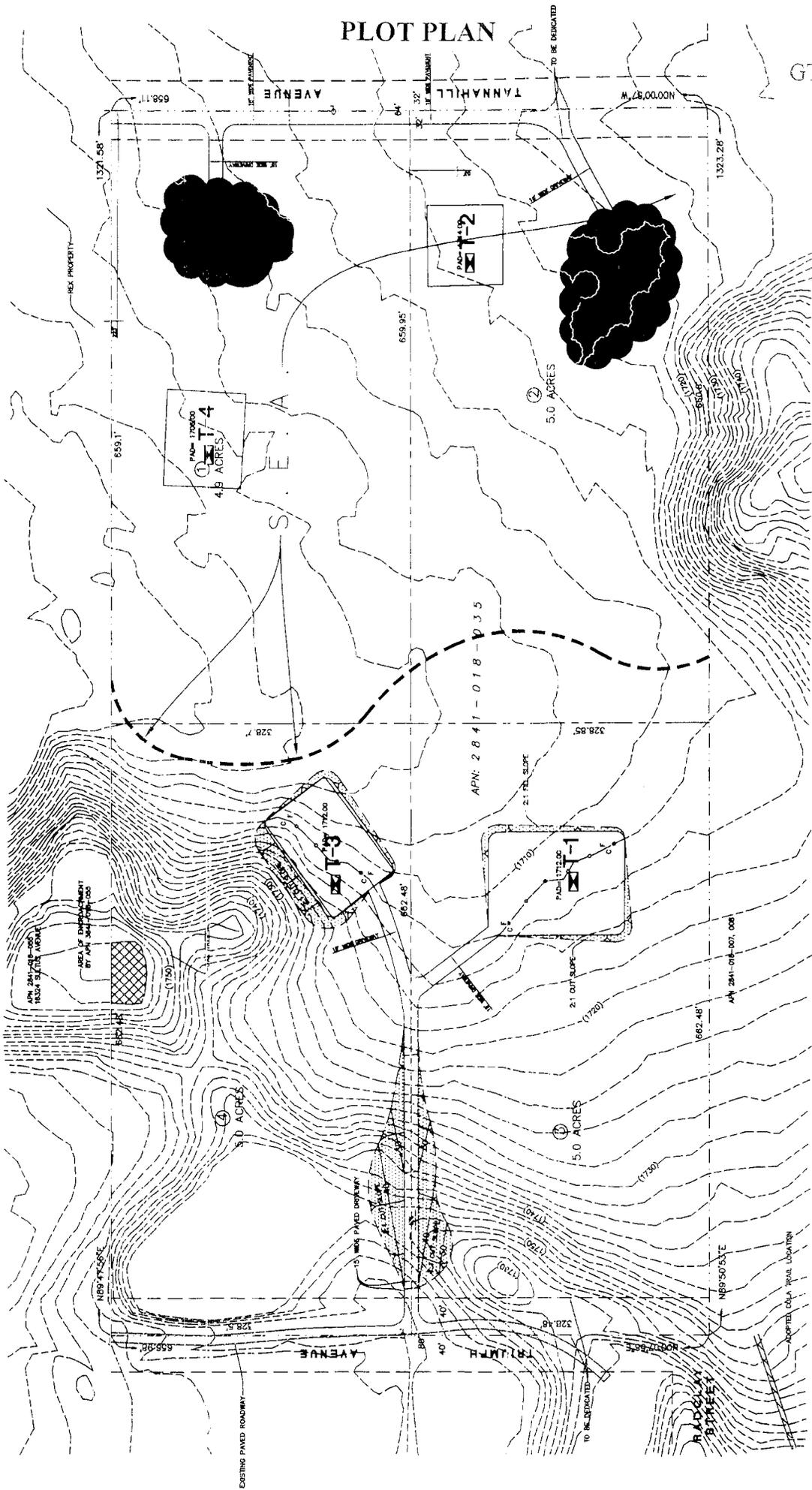
This Report does not cover any environmental, geologic, or flood hazards. If any such hazards exist, a geology report will be required.

ENCLOSURES

VICINITY MAP



PLOT PLAN



TRENCH LOGS

TRENCH LOG SUMMARY

Date: 9/6/2017		Project Number: GT-3503			Logged By: JR	
Client: Bill Rex		Location: Tannahill Avenue, Santa Clarita			Trench No: T-1	
Depth	Sample Number	Dry Density (pcf)	Percent Moist.	Blow Count	USCS	Description
0						Top Soil/ Silty Sand with trace Gravel/ Dry/ Fine to Medium/ Slightly Dense
1						
2	⊗				SM/	Dark Brown to Brown/ Silty Sand to Gravelly Sand/
3	A		7.7%		GW	Fine to Coarse/ Slightly Moist/ Moderately Dense
4	②	93.6	16.5 %	13/19	SM	Dark Brown to Brown/ Poorly Graded Silty Sand/ Fine to Coarse/ Moist/ Moderately Dense
5						
6	⊗				SM	Same As Above – with Gravel and Trace Cobbles
7						
8	⊗				SM	Same As Above
9						Same As Above -- Dense
10						
11						
12						
13						
14						
15						End of Trench @ -15' No Groundwater No Bedrock

○ = Ring Sample

□ = Bulk Sample

⊗ = No Recovery

TRENCH LOG SUMMARY

Date: 9/6/2017		Project Number: GT-3503			Logged By: JR	
Client: Bill Rex		Location: Tannahill Avenue, Santa Clarita			Trench No:T-2	
Depth	Sample Number	Dry Density (pcf)	Percent Moist.	Blow Count	USCS	Description
0					SM	Light Brown/ Fine to Coarse/ Silty Sand to Sandy
1						Silt with roots/ Rootlets and Gravel/ Dry/ Dense
2						
3						
4					SP	Light Brown/ Fine to Coarse/ Gravelly Silty Sand
5						with Trace Roots/ Slightly Moist/ Moderate Dense to Dense
6						
7					GW	Brown to Light Greyish Brown/ Fine to Coarse/ Gravelly Sand to Silty Sand with Gravel Cobbles
8						And Trace Boulders/ Slightly moist/ Dense
9						
10					SM	Same as above
11						
12						
13						Same as above
14						
15						End of Trench @ -15' No Groundwater No Bedrock

○ = Ring Sample

□ = Bulk Sample

⊗ = No Recovery

TRENCH LOG SUMMARY

Date: 9/6/2017		Project Number: GT-3503			Logged By: JR	
Client: Bill Rex		Location: Tannahill Avenue, Santa Clarita			Trench No: T-3	
Depth	Sample Number	Dry Density (pcf)	Percent Moist.	Blow Count	USCS	Description
0						Light Brown/ Fine to Coarse/ Silty Sand with
1					SM	Gravel/ Dry to Very Slightly Moist/ Moderately
2						Dense
3					SM	Light Brown/ Fine to Coarse/ Silty Sand with
4						Gravel/ Dry to Very Slightly Moist/ Moderately
5						Dense
6					SM/	Very Light Brown/ Fine to Coarse/ Gravelly Sand
7					GW	with Cobbles/ Slightly Moist/ Dense
8						Brown to light Greyish Brown/ Fine to Coarse/
9						Gravelly Sand with Cobbles and Trace Boulders/
10						Slightly Moist/ Dense
11						Same as above
12					SM	
13						Same as above
14						
15						End of Trench @ -15'
						No Groundwater
						No Bedrock

○ = Ring Sample

□ = Bulk Sample

⊗ = No Recovery

TRENCH LOG SUMMARY

Date: 9/6/2017		Project Number: GT-3503			Logged By: JR	
Client: Bill Rex		Location: Tannahill Avenue, Santa Clarita			Trench No: T-4	
Depth	Sample Number	Dry Density (pcf)	Percent Moist.	Bow Count	USCS	Description
0					SM	Brown/ Fine to Coarse/ Silty Sand to Sandy
1						Silt with roots/ Rootlets and Gravel/ Dry/ Dense
2						
3						
4					SP	Brown/ Fine to Coarse/ Gravelly Silty Sand
5						with Trace Roots/ Slightly Moist/ Moderate Dense to Dense
6						
7					GW	Brown to Light Greyish Brown/ Fine to Coarse/ Gravelly Sand to Silty Sand with Gravel Cobbles
8						And Trace Boulders/ Slightly moist/ Dense
9						
10					SM	Same as above
11						
12						
13						Same as above
14						
15						End of Trench @ -15' No Groundwater No Bedrock

○ = Ring Sample

□ = Bulk Sample

⊗ = No Recovery

LABORATORY TESTING

PLATE: M-1
J.O.: GT-3503
DATE: 11/15/2017

Maximum Dry Density & Optimum Moisture Curve

Sample Identification	Sample Description	Maximum Dry Density (PCF)	Optimum Moisture (%)
A	Silty Sand w/ Gravel	133.2	7.9

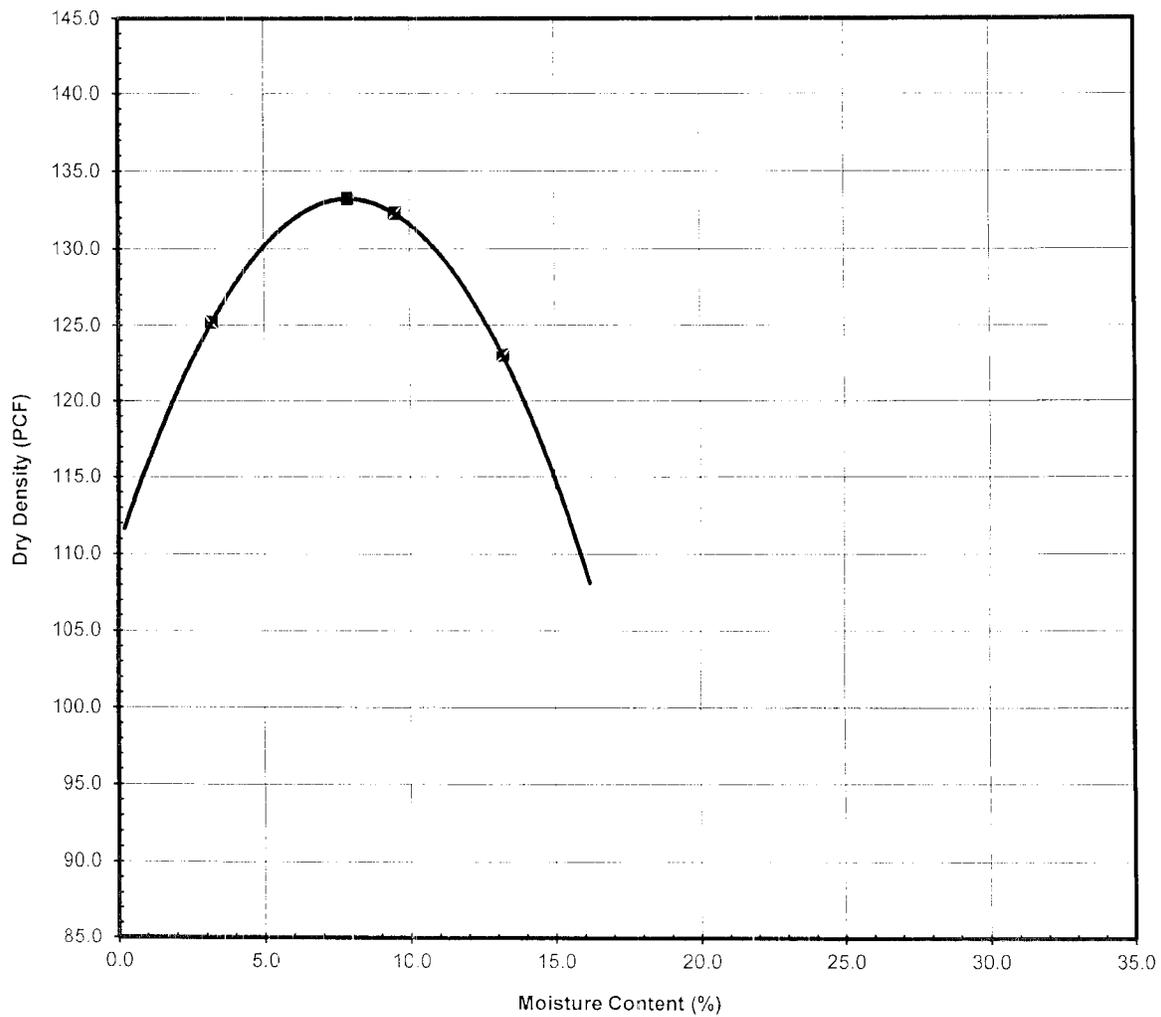


PLATE: S-1
 J.O.: GT-3503
 DATE: 11/20/2017

Direct Shear Test Diagram

Sample Identification	Sample Description	Sample Test State	Test Type
T-1 @ 4' #2	Silty Sand w/ trace Gravel	Saturated	Ultimate
Wi=16.5%	Wf=21.4%	Ws=96.3 pcf	
	Phi (Degrees)	25.1	
	Cohesion (PSF)	199.3	

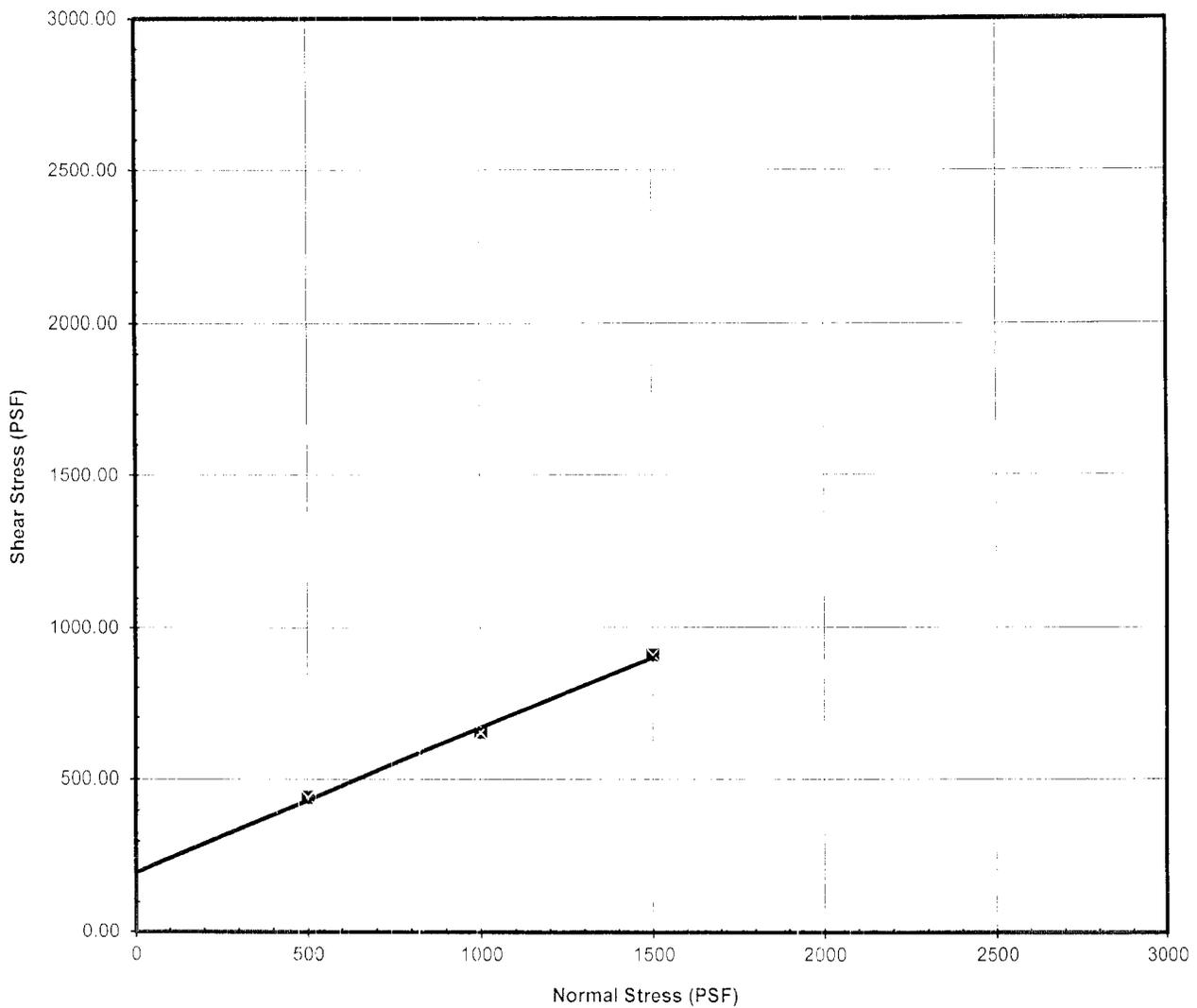
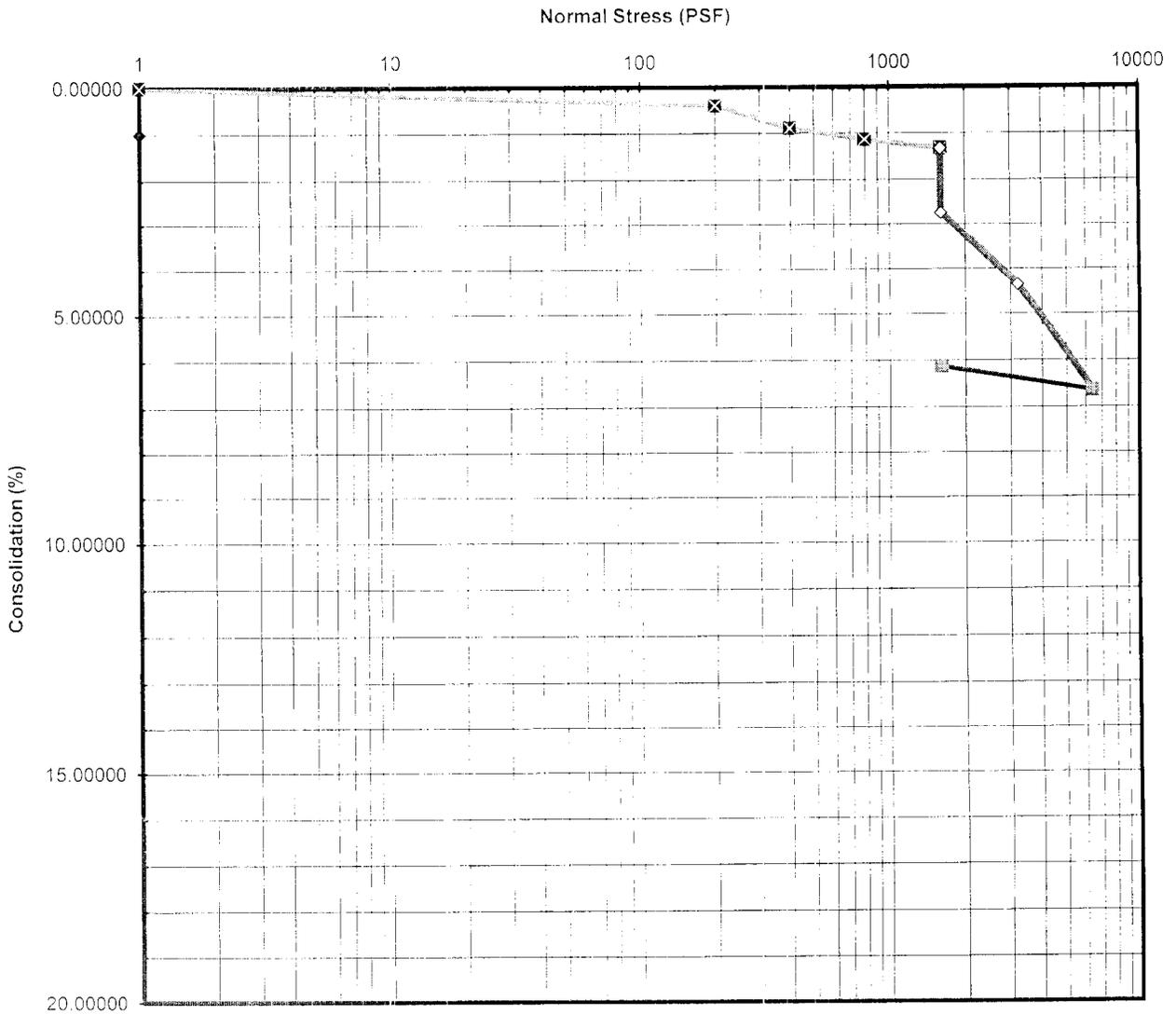


PLATE: HC-1
 J.O.: GT-3503
 DATE: 11/14/2017

Consolidation Pressure Curve

Sample Identification	Sample Description
T-1 @ -4' #2	Silty Sand w/ trace Clay & Gravel
Wi=16.5% Wi=24.6%	Ws=93.6 pcf



DESCRIPTION OF LABORATORY TESTING

Undisturbed Samples

Undisturbed samples for additional testing in our laboratory are obtained per Modified California Sampler D3550-01, by driving a sampling spoon into the material. A split barrel type spoon sampler was used, having an inside diameter of two and five tenths (2.5) inches, with a tapered cutting tip at the lower end and a ball valve at the upper end. The barrel is lined with thin brass rings, each one (1) inch in length. The spoon penetrated into the soil below the depth of the ***boring or trench*** at approximately twelve (12) inches to eighteen (18) inches. The central portion of the sample is retained for testing. All samples in the natural field condition are placed in airtight containers and transported to the laboratory. Bulk samples, representative of the surface and near-surface materials, are obtained.

Classification

Typical materials were subjected to mechanical grain-size analysis by wet sieving from U.S. Standard brass screens (ASTM D - 422). Hydrometer analyses were performed where appreciable quantities of fines were encountered. The data was evaluated in determining the classification of the materials. The grain-size distribution curves are presented in the test data and the Unified Soil Classification is presented in both the test data and the ***Trench and / or Boring Logs***.

Moisture and Density Test

Moisture content and dry density determinations were performed on relatively undisturbed samples obtained from the test trenches. The results of these tests are presented in the ***Boring / Trench Logs***. Where applicable, only moisture content was determined from “undisturbed” or disturbed samples.

Expansion Index Test

The Expansion Index Test, ASTM D4829-03, evaluated the expansion potential of selected materials. Specimens are molded under a given compactive energy approximately to the optimum moisture content and approximately fifty percent (50%) saturation or approximately ninety percent (90%) relative compaction.

The prepared one (1) inch thick by four (4) inches in diameter specimens are loaded to an equivalent one hundred forty-four (144) psf surcharge and are inundated with tap water until a volumetric equilibrium is reached.

Consolidation

Compression tests are performed on undisturbed and/or remolded samples in a two and five tenths (2.5) inches diameter, and one (1) inch high brass ring. Consolidometers, like the direct shear machine, are designed to receive the specimens in the rings in field condition. Porous stones, placed at the top and bottom of each specimen, permit the free flow of water from the sample during the test. Settlement accompanying each increment of load is measured by a dial indicator reading to one ten thousandths (0.0001) of an inch. To simulate possible adverse field conditions, moisture was added to an axial load of fifteen hundred (1,500) lbs./sq.ft. and Test Method: ASTM D – 2435 - 2004 was followed.

Standard Penetration Test

Standard Penetration Testing is performed in the trench per ASTM D – 1586 - 99 by driving a split spoon sampler ahead of the trench or boring at selected levels. The number of hammer blows required to drive the sampler twelve (12) inches with a one hundred forty (140) lb. Hammer dropped thirty (30) inches is identified as the Standard Penetration Resistance (SPT). Many correlations have been made between SPT values and soil properties. Empirical correlations also permit the blows of different energy or sampler sizes, such as ring samples, to be converted to SPT values.

Direct Shear

Direct shear tests were performed on selected undisturbed and/or remolded samples, which were soaked for a minimum of twenty-four (24) hours under a surcharge equal to the applied normal force during testing. After transfer of the sample to the shear box, and reloading the sample, pore pressures set up in the sample due to the transfer were allowed to dissipate for a period of approximately one (1) hour prior to application of shearing force. The samples were tested under various normal loads, a different specimen being used for each normal load.

The samples were sheared in a motor-driven, strain-controlled, direct-shear testing apparatus at a strain rate of five hundredths (0.05) of an inch per minute. After a travel of three tenths (0.300) of an inch of the direct shear machine, the motor was stopped and the sample was allowed to “relax” for approximately fifteen (15) minutes.

The “relaxed” and “peak” shear values were recorded. It is anticipated that, in the majority of samples tested, the fifteen (15) minutes relaxing of the sample is sufficient to allow dissipation of pore pressures set up in the samples due to application of shearing force. The relaxed values are therefore judged to be a good estimation of effective strength parameters. The test results were plotted on “Table 2 – Direct Shear Test”.

Residual Direct Shear Test

The samples were sheared, as described in the preceding paragraph, with the rate of shearing of five hundredths (0.05) of an inch per minute. The upper portion of the specimen was pulled back to the original position and the shearing process was repeated until no further decrease in shear strength was observed with continued shearing (at least three times resheared). There are two methods to obtain the shear values: (a) the shearing process was repeated for each normal load applied and the shear value for each normal load recorded. One or more than one specimen can be used in this method; (b) only one specimen was needed, and a very high normal load (approximately nine thousand (9,000) psf) was applied from the beginning of the shearing process. After the equilibrium state was reached (after “relaxed”), the shear value for that normal load was recorded. The normal loads were then reduced gradually without shearing the sample (the motor was stopped). The shear values were recorded for different normal loads after they were reduced and the sample was “relaxed”.

Atterberg Limits

The Atterberg Limits were determined in accordance with ASTM D – 4318 - 2005 for engineering classification of the fine-grained materials.

Maximum Density Test

The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D – 1557 - 2007 (five (5) layers). The results of these tests are presented in the test data.

Soluble Sulfates

The California Materials Test Method No. 417 determined the soluble sulfate contents of selected samples.

Resistivity Test

The resistivity test and selected samples and the results were determined by the California Materials Test Method # 643 as prescribed and forwarded from the California Department of Transportation Materials Lab determined the resistivity test, selected samples, and results. The sample was prepared for testing as follows: Bulk sample material was sieved through a number eight (8) sieve and sixteen hundred (1,600) grams of natural material was collected, weighed, and dried. The sample was removed from the oven and thirteen hundred (1,300) grams of material was separated and prepared as follows: The sample was oven dried and one hundred fifty (150) ml of distilled (deionized) water was added to the material and mixed thoroughly and placed into a calibrated soil box suitable for use with a Nilson Model 400 resistivity meter. The sample was compacted into the soil box by hand level with the top of the soil box.

The material was then tested for resistivity and removed from the soil box and an additional one hundred (100) ml of distilled (deionized) water was added. With two hundred fifty (250) ml. of water added to the sample the material was returned to the soil box in the manner mentioned hereinabove and the material was tested again. Both test results were recorded in an appropriate manner for recording such data.

TABLE I

Maximum Density Test Results

ASTM D - 1557

Sample	Soil Description	USCS	Maximum Dry Density (pcf)	Optimum Moisture (%)
A	Silty Sand / Gravel	SM	133.2 pcf	7.9 %

TABLE II

Direct Shear – Undisturbed Saturated Samples

Trench	Angle Of Friction (degrees)	Cohesion (psf)
T-1 @ 4'	25.1 °	199.3 psf

APPENDIX

GENERAL EARTHWORK AND GRADING SPECIFICATIONS

General

These specifications and the Grading details attached to the Grading Plans, if required, represent **AZ Geo Technics, Inc.s'** minimum requirements for Grading and other associated operations on construction projects. These specifications and recommendations of the regulatory agencies should be considered a portion of the project specifications.

Clients' contractor (prior to Site Grading) should arrange to meet at the Site along with Client, the design engineer and/or architect, the soils engineer (Consultant), and representatives of the governing authorities. *All parties should be given at least forty-eight (48) hours notice.*

It is Clients' contractor's responsibility to prepare the ground surface to receive the fills, spread, mix, and compact the fill in accordance with the job specifications. Clients' contractor should also have suitable and sufficient equipment in operation to handle the amount of fill being placed.

PREPARATION OF AREA TO BE FILLED

Clearing And Grubbing

All structures marked for removal: timber, logs, trees, brush, and other rubbish shall be removed, piled, and burned or otherwise disposed of off-Site. This is to leave the areas that have been disturbed with a neat appearance and free from unsightly debris.

A thorough search shall be made of the Site for all existing structures to be removed and for possible underground storage tanks and/or septic tanks as well as cesspools. Concrete irrigation lines shall be crushed in place and all metal underground lines shall be removed from the Site.

All trees to be removed from the Site shall be pulled in such a manner so as to remove as much of the root system as possible. Any existing brush, topsoil, loose fill, and porous soils shall be excavated to competent native materials.

Prior to placement of any fill soils, the exposed surface shall be scarified, cleansed of debris, and re-compacted to ninety percent (90%) of the laboratory standard under the direction of the soils engineer (Consultant). This is to be done in accordance with the following guidelines for placing, spreading, and compacting fill materials.

Processing

The existing ground, which is determined to be satisfactory for support of fill, shall be scarified to a minimum depth of six (6) inches. Existing ground, which is not satisfactory, shall be over excavated. Scarification shall continue until the soils are broken down and free of large clay lumps and until the working surface is reasonably uniformed and free of uneven features which would inhibit uniform compaction.

Moisture Conditioning

Over-excavated and processed soils shall be watered, dried-back, and blended or mixed as required to attain uniform moisture content. For field-testing purposes, "near optimum" moisture should be considered to mean "optimum moisture to three percent (3%) above optimum moisture".

Prior to placement of additional compacted fill following a Grading delay, the exposed surface of previously compacted fill should be reprocessed. This should be accomplished by scarification, watering conditioning, and then re-compacted to a minimum of ninety percent (90%) of the laboratory maximum dry density.

No Additional fill should be placed following a period of flooding, rainfall, or over watering until damage assessments have been made and remedial Grading performed.

Benching

Where fills are to be placed on the ground with slopes steeper than five to one (5:1) the ground shall be stepped or benched. The lowest bench shall be a minimum of fifteen (15) feet wide and two (2) feet deep. This should expose firm material; it also should be approved by the soils engineer (Consultant). Other benches shall be excavated into firm material to a minimum width of four (4) feet. If Grading plans are required, typical benching and keying details are included in the Grading details on the Grading plans.

Approval

All areas to receive fill, including processed areas, removal areas, and toe-of-fill benches shall be approved by the soils engineer (Consultant) prior to fill placement.

AI. Grading operations should be inspected by a soils engineer (Consultant). The presence of the soils engineer (Consultant) will be for the purpose of providing observation and field-testing. This will not include any supervision of the actual work by Clients' contractor. Clients' contractor's employees and/or agents.

It is understood that the soils engineer (Consultant) will not be responsible for job or site safety on this project, which will be the sole responsibility of Client.

It should be stressed that operations undertaken at the Site without the presence of the soils engineer (Consultant) may result in exclusion of certain areas from the final compaction report.

Fill Placement

All fill material should be placed in layers a maximum of six (6) to eight (8) inches thick, moisture conditioned (as necessary), and compacted to a minimum relative compaction of ninety percent (90%) of their maximum dry density as determined by Test Method ASTM D - 1557 - 78.

FILL MATERIAL

General

Material to be placed as fill shall be free of organic matter and other deleterious substances. This shall be approved by the soils engineer (Consultant). Soils of poor gradation and expansion at strength characteristics shall be placed in areas designated by the soils engineer (Consultant) or shall be mixed with other soils to serve as satisfactory fill material.

Import materials shall meet the following minimum requirements:

- A. Plasticity index not to exceed twelve (12).
- B. R-Value not less than twenty-five (25).

Oversized Material

Rocks eight (8) inches and smaller may be utilized within the compacted fill provided that they are placed in such a manner that nesting of the rock is avoided. Fill should be placed and thoroughly compacted to the minimum requirement over and around all rock.

During the course of grading operations rocks or similar irreducible materials greater than twelve (12) inches may be generated. These rocks should not be placed within the compacted fill unless placed as recommended by the soils engineer (Consultant).

Rocks that are greater than twelve (12) inches but less than three (3) feet that are generated during Grading, may be placed within an approved compacted fill provided that it is in accordance with the recommendations in the Grading details on the Grading plans, if any. Rocks greater than three (3) feet should be broken down or disposed of off-Site. Rocks up to three (3) feet should be placed ten (10) feet below the finished grade and should not be closer than fifteen (15) feet from any slope face. Where practical oversized material should not be placed below areas where structures or deep utilities are proposed.

Oversized material should be placed in windrows on a clean over-excavated/unyielding compacted fill or firm natural ground. Select native or imported granular soils (SE = 30 or better) should be placed or thoroughly flooded over as well as around all windrowed rock (such that no voids remain). Windrows of oversized material should be staggered so that successive strata of oversized material are not in the same vertical plane.

COMPACTION

After each layer has been placed, mixed, and spread evenly it shall be thoroughly compacted to no less than ninety percent (90%) of the maximum density in accordance with ASTM D - 1557. Compaction shall be by sheepsfoot rollers, multiple-wheel pneumatic tire rollers, or other types of rollers. Rollers shall be of such design that they will be able to compact the fill to the specified density. Rolling shall be accomplished while the fill material is at the specified moisture content. Rolling of each layer shall be continuous over its entire area. The roller shall make sufficient trips to ensure that the desired density has been attained.

Fill slopes shall be compacted by means of sheepsfoot rollers or other suitable equipment. Compacting operations shall be continued until the slopes are stable, but not too dense for planting; and that there is no appreciable amount of loose soil on the slopes. Compacting of the slopes may be done progressively in increments of two (2) to four (4) feet in fill height; or after the fill is brought to its total height.

Field density tests of each compacted layer of fill shall be made by the soils engineer (Consultant). Density tests may be made at intervals not exceeding two (2) feet of fill height provided that at least every one thousand (1,000) cubic yards of fill are tested. Where sheepsfoot rollers are used, the soils may be disturbed to a depth of several inches. Density test shall be taken in the compacted material below the disturbed surface.

When these tests indicate that the density of a layer or portion is below the required density, that layer or portion shall be reworked until the required density has been attained.

The fill operations shall be continued in six (6) inch compacted layers (as specified above) until the fill has been brought to the finished slopes and grades as shown on the approved Grading plans, if applicable.

SITE PROTECTION

Precautions should be taken to protect the Site from flooding, ponding, or inundation by improper surface drainage. Temporary provisions should be made during the rainy season to direct surface drainage away from the Site. Plastic sheeting should be kept on hand to prevent unprotected slopes from becoming saturated.

Where necessary, Clients' contractor should install check dams, de-silting basins, sandbags, and other devices to control erosion.

Following periods of rainfall, Clients' contractor should arrange a walk-through with the soils engineer (Consultant) to visually assess rain related damage. At the request of the soils engineer (Consultant), Clients' contractor shall make all excavations as necessary to evaluate the extent of rain related damage. Rain related damage might include erosion, silting, saturation, swelling, structural distress, or any other adverse condition observed by the soils engineer (Consultant). Soils adversely affected should be over-excavated and replaced with compacted fill as directed by the soils engineer (Consultant).

SLOPES

Compacted fill or backrolled slopes should be limited to a slope ratio of no steeper than two to one (2:1). All compacted fill slopes shall be overbuilt and cut back to grade, exposing the firm compacted fill liner core.

The actual amount of overbuilding shall be increased until the desired compacted slope surface condition is achieved. Care should be taken by Clients' contractor to provide thorough mechanical compaction to the outer edges of the overbuilt slope surface.

If excavations for cut slopes expose loose, cohesion less, significantly fractured or otherwise unsuitable material; over-excavation, and replacement with a compacted stabilization fill should be done. Stabilization fill construction should conform to the requirements of the Grading details outlined on the Grading plans, if applicable. For cut slopes made in the direction of the prevailing drainage, a non-erodible diversion swale (brow ditch) should be provided at the top-of-cut.

SLOPE MAINTENANCE

In order to enhance surficial slope stability, slope planting should consist of de-rooted vegetation requiring little water. Plants native to Southern California and plants that are relative to native plants are generally desirable. Plants native to other semi-arid and arid areas may also be appropriate. A qualified Landscape Architect should be contracted for specific recommendations.

DRAINAGE

Canyon sub-drain systems should be installed in accordance with the Grading details on the Grading plans, if applicable. Typical sub-drains for compacted fill buttresses, slope stabilizations, or side hill masses should also be installed in accordance with grading details on the Grading plans, if applicable.

All roof, pad, and slope drainage should be directed away from slope area structures to approved disposal areas via gutters, down spouts, or swales. For pad areas created above cut natural slopes, a positive drainage should be established away from the top-of-slopes. This may be accomplished by using a berm and/or appropriate pad gradient. A recommended overall gradient away from the top-of-slope should be two percent (2%) or greater. For-drainage immediately away from structures, a minimum five percent (5%) gradient should be maintained.

Pad drainage may be reduced to one percent (1%) for projects where no slopes exist, either natural or manmade.

TRENCH BACKFILLS

Utility trench backfill can be best placed by mechanical compaction. Unless otherwise specified, compaction shall be a minimum of ninety percent (90%) of the laboratory maximum density. As an alternative, where specifically approved by the soils engineer (Consultant) clean sand (sand equivalent thirty (30)) may be thoroughly jetted in place. Jetting should only be considered to apply to trenches no greater than two (2) feet in width and four (4) feet in depth. Following jetting operations, trench backfill should be thoroughly compacted by mechanical means.

AZ GEO TECHNICS, INC.
Geotechnical and Environmental Consultants

38713 9th Street East
Palmdale, California 93550
Phone: (661) 273-3123 Fax: (661) 273-4245

**PERCOLATION FEASIBILITY STUDY
VIA LEACH LINE**

PROJECT NO.

GT-3503-P

SITE LOCATION:

BETWEEN TRIUMPH AND TANNAHILL AVENUE
IN THE CITY OF SANTA CLARITA,
COUNTY OF LOS ANGELES,
STATE OF CALIFORNIA.

LEGAL DESCRIPTION:

APN # 2841-018-035

DATE

November 11, 2018

PREPARED FOR

Bill Rex

A Z Geo Technics, Inc.

Geotechnical, Environmental and General Building Services

NOVEMBER 11, 2018

BILL REX
REXHALL COMPANY
45640 23RD STREET WEST
LANCASTER, CA 93536

SUBJECT: PERCOLATION FEASIBILITY STUDY FOR PRIVATE SEWAGE DISPOSAL SYSTEMS ON A PROPOSED FOUR LOT SUBDIVISION LOCATED IN BETWEEN TRIUMPH AND TANNAHILL AVENUE @ THE NORTHWEST CORNER OF RADCLAY STREET, IN THE CITY OF SANTA CLARITA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.
APN: 2841-018-035 ("Site")

Dear Mr. Rex:

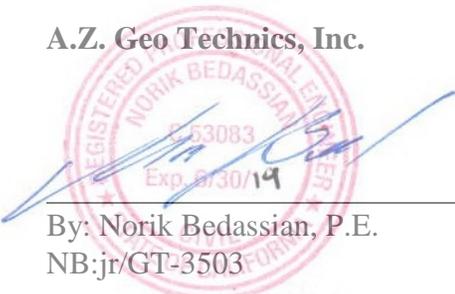
Pursuant to your authorization, **A.Z. Geo Technics, Inc.**, referred to herein as "**Consultant**", has visited the Site and performed a percolation evaluation for **Bill Rex**, referred to herein as "**Client**". The findings and recommendations contained in this "Report" are based upon four (4) specific exploratory trenches on each proposed lot for a total of twenty-four (24) test pits as noted within our described limitations.

Client, and/or Clients' contractor(s)/agents, are the responsible parties for the implementation of all recommendations during the life of the project. Any variances not approved in writing by Consultant would nullify and void this Report for any use. No other warranties are expressed or implied. Please note, this Report is valid for only one (1) year from the date hereof, subject to Consultants' review and approval prior to further use.

If you have any questions regarding this Report, please contact our office at your convenience. We appreciate this opportunity to be of service and will be available for future developments at your convenience.

Respectfully submitted for:

A.Z. Geo Technics, Inc.


By: Norik Bedassian, P.E.
NB:jr/GT-3503

PROPOSED DEVELOPMENT

The proposed development is reported to be a four (4) lot subdivision. Though no building plans were made available to Consultant at the time of the preparation of this Report, it was represented by Client that the proposed single-family dwellings shall be one or two story structures with the number of bedrooms and bathrooms to be determined at a later date.

Should something other than what is represented here be utilized during construction, Consultant should be notified immediately to review the proposed changes and modify this Report as necessary.

BACKGROUND OF SUBJECT SITE

At the time of the preparation of this Report, the subject Site is vacant.

SITE DESCRIPTION

The Site is located in the City of Santa Clarita, County of Los Angeles, State of California. The Site is bounded on the north, east and west by Single-Family Dwellings, and on the south by vacant land. The Site is approximately twenty (20) acres in size, rectangular in shape, and mostly accessible. The Site terrain is relatively flat with some gentle slopes.

Surface and Sub-Surface Water

At the time of the preparation of this report, no surface water or ponding were observed. No groundwater was encountered during the field exploration.

Vegetation

At the time of the reconnaissance, the Site was sparsely covered with native vegetation. There are numerous Oak trees scattered throughout the property, which have been surveyed and tagged with numbers by an Oak tree specialist.

Rock Outcroppings

No rock outcrops were observed at the subject Site during the site reconnaissance.

FIELD EXPLORATION

Subsurface evaluation consisted of one (1) exploratory trench, excavated to a depth of fifteen (15') feet on each proposed lot for a total of four (4) exploratory trenches. This was done in order to determine the condition of the near-surface natural material as well as to determine the presence/absence of groundwater and/or evidence of historical groundwater, if any. *Please refer to the Trench Logs for a description of the subsurface materials observed in the exploratory trench.* The subsurface conditions shown on the Trench Logs apply only at the specific locations and dates indicated. It is not warranted to be a representative of subsurface conditions at any other locations and/or times

PERCOLATION TEST PROCEDURES

Percolation testing involved the excavation of six (6) percolation test pits on each proposed lot, excavated to a depth of approximately five (5') feet below the ground surface. Once the percolation test pits were excavated, a one (1) foot by one (1) foot hole was excavated one (1) foot deep at the bottom of the percolation test trenches to be used as the test hole. The test hole was completely submerged with water, in accordance with approved test method. The initial pre-saturation was performed approximately 24 hours prior to the performance test.

After the 24-hour pre-saturation, the test holes were filled again with water. The performance test began when the hole was completely filled and that time recorded. Additional timed readings were made for each one (1) inch of fall of water. Please refer to the attached Table for actual readings.

Percolation testing was completed after recording the time between the 5th and 6th inch below the top of the hole.

All testing was performed in accordance with the Los Angeles County Health Department requirements.

SUBSURFACE CONDITIONS

Based on our findings from the Site observation and exploratory trenches, the on-Site earth materials

generally consist of materials described as follows. Please refer to the Trench Logs for a brief description of the on-Site earth materials encountered during the excavation operations.

Top Soil	Sandy Silt with Organics
Near Surface	Silty Sand to Sandy Silt w/ Gravel & trace roots
Subsurface at Depth Explored	Silty Sand w/ Gravel & trace Cobbles
Depth to Groundwater	None Encountered
Depth to Bedrock	None Encountered

Historic High Groundwater

Based upon observations from exploratory trench TP-1, there was no evidence to suggest the presence of high ground water. Consultant is not expecting the groundwater to rise within ten (10') feet of the bottom of the proposed percolation trench throughout the year.

CONCLUSION AND RECOMMENDATIONS

Based on Consultants' observation and analysis of the field data, it is Consultants' opinion that the subject Site is feasible for installation of an individual sewage disposal system under normal use and conditions, depending on the proposed disposal area and the final project plan.

The data was obtained through Consultants' percolation feasibility study on the date and approximate locations of our exploration; however, this should not be considered to preclude more restrictive requirements that may be imposed by City or County requirements. Prior to approval, building layouts will be shown on the plot plan, due to the size of the lot.

Areas not explored by Consultants' percolation test pits or trenches are not assumed to be consistent with areas tested. Other areas not for disposal, delineated on the enclosed Plot Plan, must be tested on an individual basis.

Consultant will be available to make a final review of the project plan and specifications to assist in assuring correct interpretation of this Report's recommendations for use in applicable sections. It is the responsibility of Client and/or Clients' Contractor to ensure that all recommendations are carried out properly and all backfill of the trench/the percolation test pits are periodically checked as well as restored to acceptable conditions. This Report is issued to the Client named on this Report only and is not transferable without written

consent of Consultant. Furthermore, all systems must be cared for properly. Adequate maintenance should be scheduled and records should be kept.

LIMITATIONS

Consultant has performed these services within the limits described by Client. There is no other warranty or representation, either expressed or implied.

The conclusions and recommendations in this Report are based upon data obtained from the field percolation test per County/City agencies' requirements. It should not be assumed or expected that the conditions between locations are similar to those encountered at the individual locations. It is possible that conditions between sampling locations may vary. Should conditions be encountered in the field that appear different from those described in this Report, Consultant should be contacted immediately in order that Consultant might evaluate their effect.

If this Report or portions hereof are provided to contractors or included in specifications, it should be understood by all parties that they are provided for preliminary information only and should be used as such.

This Report and its contents resulting from this investigation are not intended or represented to be suitable for reuse, extensions, modifications of the project, or for use on any other project. Any variance from Consultants prescribed requirements/recommendations would nullify this Report and Client and/or Clients' Contractor would indemnify Consultant and its representatives from any and all liabilities and/or obligations.

Consultant will be further available to assist in assuring correct interpretation of this Report's conclusions and recommendations.

PERCOLATION TEST DATA

LOT #1

(Ryon Method)

Date of Pre-Saturation September 12, 2017

Date of Test September 13, 2017

	Test Hole No. P-1	Test Hole No. P-2	Test Hole No. P-3	Test Hole No. P-4	Test Hole No. P-5	Test Hole No. P-6
	Depth = 5'					
6 Inches	7 min.	10 min.	9 min.	7 min.	11 min.	8 min.

Lot #1 Time Interval Between 5th and 6th Inch

Test Hole No. P-1	Test Hole No. P-2	Test Hole No. P-3	Test Hole No. P-4	Test Hole No. P-5	Test Hole No. P-6
7 min.	10 min.	9 min.	7 min.	11 min.	8 min.

*Use a minimum of seventeen (17) minutes for design purposes.

PERCOLATION TEST DATA

LOT #2

(Ryon Method)

Date of Pre-Saturation September 12, 2017

Date of Test September 13, 2017

	Test Hole No. P-1	Test Hole No. P-2	Test Hole No. P-3	Test Hole No. P-4	Test Hole No. P-5	Test Hole No. P-6
	Depth = 5'					
6 Inches	7 min.	10 min.	10 min.	11 min.	11 min.	9 min.

Lot #2 Time Interval Between 5th and 6th Inch

Test Hole No. P-1	Test Hole No. P-2	Test Hole No. P-3	Test Hole No. P-4	Test Hole No. P-5	Test Hole No. P-6
7 min.	10 min.	10 min.	11 min.	11 min.	9 min.

*Use a minimum of seventeen (17) minutes for design purposes.

PERCOLATION TEST DATA

LOT #3

(Ryon Method)

Date of Pre-Saturation September 12, 2017

Date of Test September 13, 2017

	Test Hole No. P-1	Test Hole No. P-2	Test Hole No. P-3	Test Hole No. P-4	Test Hole No. P-5	Test Hole No. P-6
	Depth = 5'					
6 Inches	16 min.	12 min.	8 min.	10 min.	11 min.	12 min.

Lot # 3 Time Interval Between 5th and 6th Inch

Test Hole No. P-1	Test Hole No. P-2	Test Hole No. P-3	Test Hole No. P-4	Test Hole No. P-5	Test Hole No. P-6
16 min.	12 min.	8 min.	10 min.	11 min.	12 min.

*Use a minimum of seventeen (17) minutes for design purposes.

PERCOLATION TEST DATA

LOT #4

(Ryon Method)

Date of Pre-Saturation September 12, 2017

Date of Test September 13, 2017

	Test Hole No. P-1	Test Hole No. P-2	Test Hole No. P-3	Test Hole No. P-4	Test Hole No. P-5	Test Hole No. P-6
	Depth = 5'					
6 Inches	10 min.	18 min.	29 min.	25 min.	17 min.	31 min.

Lot #4 Time Interval Between 5th and 6th Inch

Test Hole No. P-1	Test Hole No. P-2	Test Hole No. P-3	Test Hole No. P-4	Test Hole No. P-5	Test Hole No. P-6
10 min.	18 min.	29 min.	25 min.	17 min.	31 min.*

*Use thirty-one (31) minutes for design purposes.

PERCOLATION TEST DATA CALCULATIONS

BY THE RYON METHOD

LEACH TRENCH

Ryon Formula: $A = \frac{T + 6.24}{29} \times \frac{C}{2} =$

A = square feet of leaching area per gallon of effluent in 24 hours

T = time in minutes for 6th inch of drop

C = capacity of septic tank

Septic Tank @ 2000 Gallons.

LOT #'s 1, 2 & 3 : $A = \frac{17 + 6.24}{29} \times \frac{2000}{2} = 802 \text{ ft}^2$

LOT # 4 : $A = \frac{31 + 6.24}{29} \times \frac{2000}{2} = 1285 \text{ ft}^2$

LEACH FIELDS

For leach fields, the leaching area should be increased by fifty percent (50%).

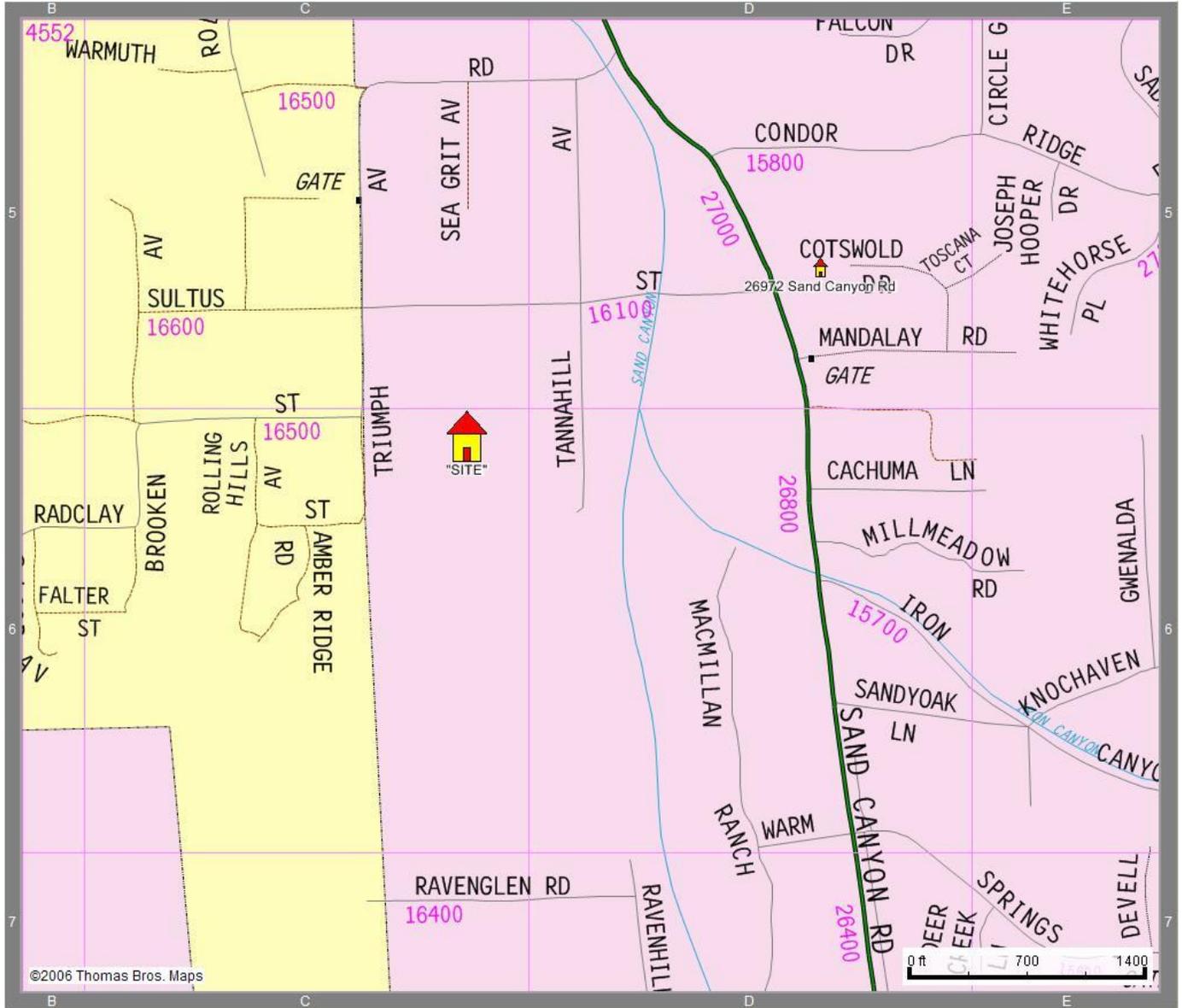
REQUIRED LEACHING AREAS FOR LOTS 1, 2 & 3

Septic Tank Capacity (gallons)	Trench Depth (feet)	No. of Leach Trenches	Trench Length (feet)	Absorption Area (sq. ft.)	Gravel Depth (feet)	Fill Cover (feet)	Trench Separation (feet)
2000	5'	2	60'	802	3'	2'	8'

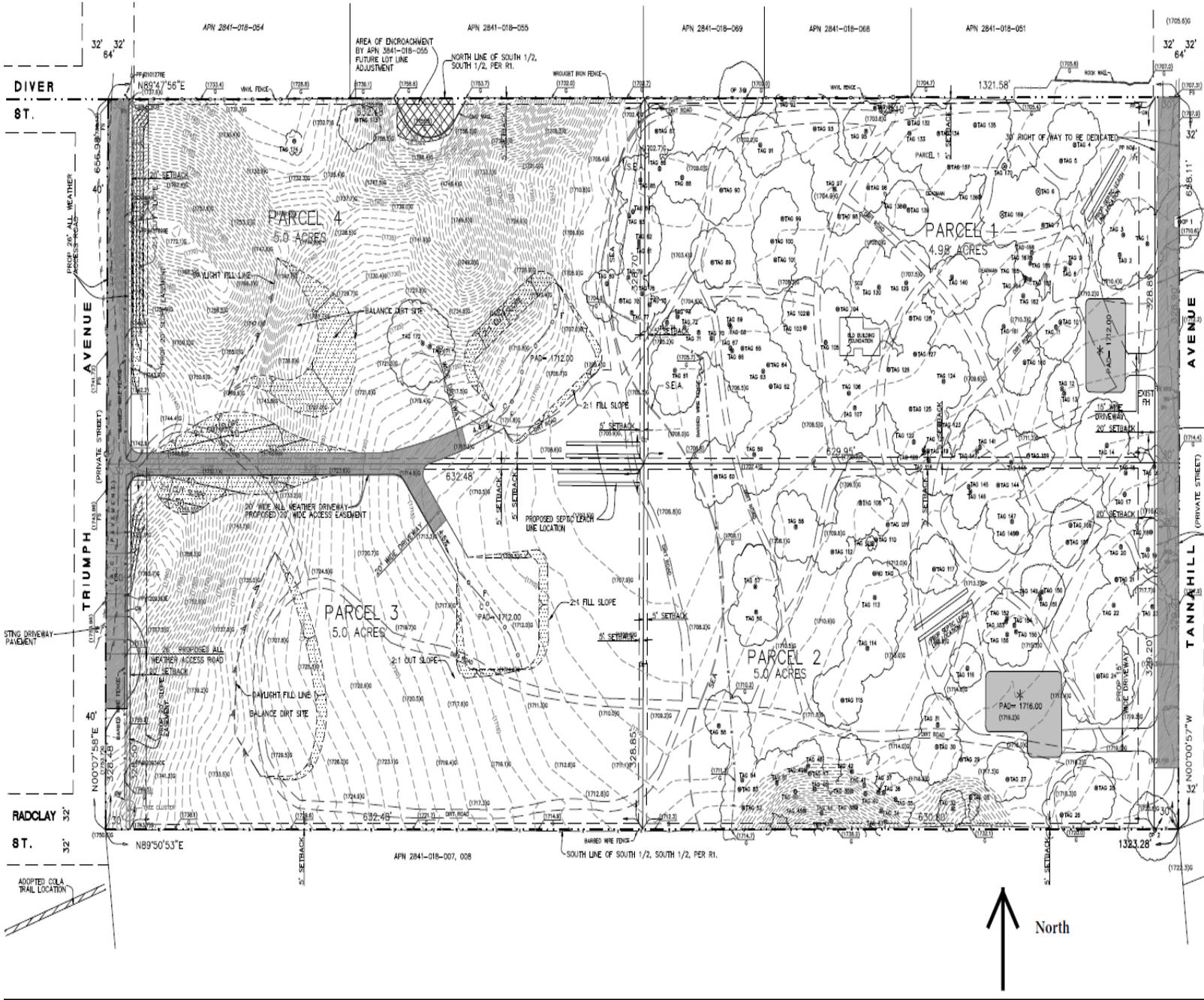
REQUIRED LEACHING AREAS FOR LOT # 4

Septic Tank Capacity (gallons)	Trench Depth (feet)	No. of Leach Trenches	Trench Length (feet)	Absorption Area (sq. ft.)	Gravel Depth (feet)	Fill Cover (feet)	Trench Separation (feet)
2000	5'	2	95'	1285	3'	2'	8'

VICINITY MAP



LEACH LINE LOCATION PLAN



Size of Leach Lines

Depth:	5.0 ft.	Width:	3.0 ft.	Lot # 1, 2 & 3 = 2 lines @ 60' each
Distance to Building:		8.0 ft.		Lot # 4 = 2 lines @ 95' each
				Distance Between Trenches: 8 ft.
Depth of Rock:		3.0 ft.		Soil Type: Silty Sand w/ Gravel
Size of Tank:		2000 GAL.		Scale: 1" = 40'

CONSTRUCTION CONSIDERATIONS

1. The width of the absorption trenches should be at least thirty-six (36) inches nine hundred fourteen and four tenths millimeters (914.4mm). The individual laterals (preferably) should not be over one hundred (100) feet long.
2. All smeared or compacted surfaces should be raked to a depth of one (1) inch and loose material shall be removed before the gravel is placed in the trench.
3. The pipe, laid in a trench of sufficient width and depth, should be surrounded by clean graded gravel/rock, broken hard burned clay brick, or similar filtering material. The material may range in size from three-fourths (3/4) to two and a half (2 1/2) inches. Cinders, broken shells, or similar materials are not recommended because they are usually too fine and may lead to premature clogging. The material should extend from at least two (2) inches above the top of the pipe to at least twelve (12) inches below the bottom of the pipe.
4. The pervious barrier will be untreated building paper, straw, or similar porous material to prevent the closure of voids with earth backfill.
5. Evapotranspiration is often an important factor in the operation of horizontal absorption systems; therefore, an impervious covering should not be used since it would interfere with evapotranspiration at the surface.
6. The top of the new absorption trench should be hand tamped and should be overfilled with about four (4) to six (6) inches of earth. Unless this is done, the top of the trench may settle to a point lower than the surface of adjacent ground. This will cause the collection of storm water in the trench, which can lead to premature saturation of the absorption field and possibly a complete washout of the trench. Machine tapping or hydraulic backfilling of the trench should be prohibited.

CONSTRUCTION CONSIDERATIONS (con't)

7. A heavy vehicle would readily crush the tile in a shallow absorption field. For this reason, heavy machinery should be excluded from the disposal area unless special provisions are made to support the weight. All machine grading should be done before the field is laid.
8. Clogging (due to roots) occurs mostly in lines with insufficient gravel under the tile. Root problems may be prevented best by using a liberal amount of gravel and stone around the tile. In general, trenches constructed within ten (10) feet of large trees or dense shrubbery should have at least eighteen (18) inches of crushed stone or gravel beneath the tile.
9. When the disposal fields are installed in sloping ground, the minimum horizontal distance between any part of the leaching system and ground surface shall be at least fifteen (15) feet.
10. Where the sloping ground is used for the disposal area, it is usually necessary to construct a small temporary dike or surface water diversion ditch, of which should be kept free of obstructions until the field becomes well covered with vegetation. The leach lines should be placed at an area with slopes less than thirty (30) percent.
11. The use of the filled area must be restricted to activities, of which will not contribute to the compaction of the soil with the consequent reduction in soil aeration.

HOME OWNERS GENERAL GUIDELINES FOR PRIVATE SEPTIC SYSTEM

1. The septic tank should be inspected annually for scum and sludge levels and pumped as necessary.
2. At all times, only biodegradable household products approved for a septic (cleaning products, toilet paper, laundry soaps, etc.) system should be used.
3. All discharging water fixtures in the dwelling should be designed for low flow devices.
4. Never dispose of coffee grounds, grease, paint, caustic liquids, oily liquids, flues, cooking fats, motor oils, sanitary napkins, tampons, condoms, cigarettes, plastic or disposable diapers into the septic system.
5. Always be water wise and train your family on ways to save water. Spread your laundry cleaning over several days.
6. Generally three wash loads discharging into the septic system can be greater than the water use for one person per day, not counting the chemicals damage to the bacteria in the septic tank.
7. Repair any leaky plumbing fixture as soon as possible.
8. Dispose of waste products as much as possible by using your garbage waste disposal, rather than the septic system.

APPENDIX F

Paleontological Resources Records Search

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

Research & Collections

e-mail: paleorecords@nhm.org

October 1, 2023

Michael Baker International
Attn: Peter Kloess

re: Paleontological resources for the Rexhall Project

Dear Peter:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the Rexhall Project area as outlined on the portion of the Mint Canyon USGS topographic quadrangle map that you sent to me via e-mail on September 17, 2023. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County (NHMLA).

Locality Number	Location	Formation	Taxa	Depth
LACM IP 7772	Quarry in gulch northwest of Reynier Canyon	Castaic Formation	Invertebrates (uncatalogued)	Surface
LACM IP 7759	North side of Reynier Canyon	Castaic Formation (Limy conglomeratic sandstone)	Invertebrates (uncatalogued)	Surface
LACM IP 22016	Southwest corner of Sect 35, T4N, R15W	Castaic Formation (grey sandstone)	Invertebrates (uncatalogued)	Surface
LACM VP 7656*	Humphreys, just south of Fair Oaks Park	Castaic Formation (pebbly sandstone)	Sea turtle (<i>Psephophorus</i>); invertebrates (unspecified)	Unknown
LACM VP CIT 100 – 103, 199, 201, 206, 351, 430-433, 442, 443, 479, 480, 482	Mint Canyon (localities have not been georeferenced)	Mint Canyon Formation	Vertebrates, including artiodactyls and horse (Equidae), and leaves	Unrecorded, likely at surface
LACM VP 4692	In a railroad cut of the Southern Pacific Railroad 0.6 miles west of Lang Station	Mint Canyon Formation (tan to green sandy mudstones)	Camel family (Camelidae); extinct ruminant (Paleomerycidae); rodent	Unknown

interbedded with volcanic & plutonic
cobble to boulder
conglomerates) clade (Rodentia)

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface
**Published in Robert J. Stanton. 1966. Megafauna of the Castaic Formation. J. Paleo.*
40(1):21-40.

This records search covers only the records of the NHMLA. It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,



Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

enclosure: invoice

APPENDIX G

Los Angeles County Fire Department Conditions of Approval

APPENDIX H

Hydrology Report

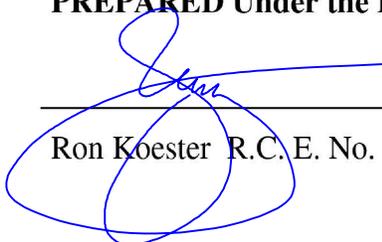
CRC 3208

HYDROLOGY STUDY

Prepared For:
Rexhall Company
45640 23rd Street West
Lancaster, CA 93536

Project Site:
Canyon Country, CA 91387
APN: 2841-018-071

PREPARED Under the Direction of:



Ron Koester R.C. E. No. 42399

17 NOV. 2023

Date



TABLE OF CONTENTS

Section 1.0: PROJECT SUMMARY

- 1.1 Design Parameters
- 1.2 Overview of Analysis Procedure
- 1.3 Project Purpose
- 1.4 Existing and Proposed Drainage
- 1.5 Hydrologic Analysis
- 1.6 Conclusion

Section 2.0: HYDROLOGIC CALCULATIONS

Appendix A: HYDROLOGY MAPS

Section 1.0

PROJECT SUMMARY

1.1 DESIGN PARAMTERS

Reference: Los Angeles County Department of Public Works, Hydrology Manual

Rainfall Isohyet:	6.2 in (50yr. – 24hr)
Soil Type:	20
DPA Zone:	9

Note: The project is not within FEMA Flood Zone “A”.
The project is not within County adopted Floodway.

1.2 OVERVIEW OF ANALYSIS PROCEDURES:

Analysis of the storm runoff for both the existing and proposed conditions the same techniques, those being as follows:

- Used LA County HydroCalc Program to determine times of concentration and peak flow rates.
- For both existing and proposed conditions, added up all the peak flow rates from the HydroCalc Program for the Q₂₅ runoff.

1.3 PROJECT PURPOSE AND SCOPE

The existing site APN is 2841-018-071 and is located at the intersection of Diver St. and Triumph Ave. in Canyon Country, CA. The site is about 19.87 acres in size and the easterly half of the site is relatively flat, has many Oak Trees, and is considered an SEA site. The westerly half of the site is hilly with existing natural slopes.

The proposed project proposed a 4 lot subdivision of the site, evenly distributed as best as possible into quarters. At the easterly end of the site there will be two proposed pads, roughly 5,000 sf in size, with access from the east along Tannahill Ave. These pads will be located within the various Oaks; however they are aligned so that the existing Oak Trees are not impacted to the maximum extent possible. At the westerly half of the site, due to the more hilly conditions, the new proposed pads will be built closer to the middle of the site. There will be a new shared driveway from Triumph Ave cutting through a section of the slope where the least amount of grading would be required. This new shared driveway will be centered about the new proposed lot line and then split to each proposed pad. These pads will be roughly 10,000 sf in size. Near each pad there will be a proposed leach field for future buildings, and these too will be located in locations that avoid impacting the Existing Oak trees as much as possible. On the westerly end of the site, there will also be two proposed fill slopes to help balance earthwork quantities onsite. There currently are no proposed buildings onsite.

1.4 EXISTING AND PROPOSED DRAINAGE CONDITIONS

As described above, the existing site is currently an empty lot. The westerly half of the site is hilly with a small portion draining west via surface flow towards Triumph Ave. and then flowing north towards the existing Sand Canyon Creek and eventually draining into the Santa Clara River. At the southeasterly end of the site, runoff from properties to the south enters the site via runoff and then continue sheet flowing north. The rest of the site also sheet flows to the north and exits the site via surface flow. Further downstream this runoff enters the existing Sand Canyon Creek and eventually drains into the Santa Clara River.

In the proposed conditions, the drainage pattern is kept consistent with the existing conditions as much as possible. Runoff from the proposed shared driveway will first flow east following the grades of the road and then once at the pads, the runoff will sheet flow to the north. The pads at the easterly end of the site will also sheet flow to the north and exist the site via surface flow. The runoff from the site then follows the same pattern as the existing conditions and ultimately drains to the Santa Clara River.

1.5 HYDROLOGIC ANALYSIS

To quantify the runoff generated by the site a broader view of the topography had to be taken into account. Since most of the runoff leaving the site comes from offsite, upstream properties to the south, additional area had to be accounted for and made part of this analysis. Additionally, since the site is not a sump location, the 25-year storm is analyzed instead of the 50-year storm. Note, the HydroCalc program requires a 50-year storm Isohyet input and then converts the output runoffs into desired storm events, 25-yr storm in this case.

In the existing conditions of this analysis, the overall area analyzed is about 114 acres (Note: the site is only about 20 acres in size). The overall tributary area is broken up into 3 separate subareas labeled 1A, 2A, and 2B. Subarea 1A is located furthest to the north and consists of majority of the project site. Subareas 2A and 2B are located at the southerly end of the site and will drain into subarea 1A. The table below is a summary of the Hydrologic Parameters of each subarea and their runoff generated in a 25-yr storm.

Subarea	Area (ac)	Flowline (ft)	Slope (ft/ft)	Imp	T _C (min)	Q ₂₅ (cfs)	V ₂₅ (ft ³)
1A	37.09	2022.19	0.119	0.01	17	33.61	119726
2A	38.06	3533.42	0.141	0.01	25	26.32	121563
2B	39.31	3243.10	0.132	0.01	24	27.97	125722
Total	114.46	-	-	0.01	-	87.90	367011

In the proposed conditions, the overall area analyzed is a slightly larger due to the proposed grades of the driveway, roughly 0.09 acres. The overall area is broken up into 7 subareas labeled 1A-1E, and 2A-2B. Subareas labeled as “1” consists of the same area as Existing Conditions 1A, except it’s broken up to account for the new proposed pads. Subareas labeled as “2” in the proposed conditions area the same as the subareas labeled as “2” in the existing conditions. The table below is a summary of the proposed hydrologic parameters of the site and their runoff generated in a 25-yr storm.

Subarea	Area (ac)	Flowline (ft)	Slope (ft/ft)	Imp	T _c (min)	Q ₂₅ (cfs)	V ₂₅ (ft ³)
1A	28.94	2022.19	0.119	0.01	17	26.22	93418
1B	1.24	470.22	0.112	0.24	6	2.50	8207
1C	3.80	538.18	0.063	0.11	7	6.54	17964
1D	1.89	486.21	0.021	0.06	8	2.91	7553
1E	1.31	384.28	0.020	0.14	7	2.29	6763
2A	38.06	3533.40	0.141	0.01	25	26.32	121563
2B	39.31	3243.10	0.132	0.01	24	27.97	125722
Total	114.55	-	-	0.02	-	94.75	381189

There will be additional runoff generated during the proposed conditions. The table below compares both the existing and proposed conditions side by side:

Subarea	Existing Conditions			Proposed Conditions			Difference		
	Area (ac)	Q ₂₅ (cfs)	V ₂₅ (ft ³)	Area (ac)	Q ₂₅ (cfs)	V ₂₅ (ft ³)	ΔArea (ac)	ΔQ ₂₅ (cfs)	ΔV ₂₅ (ft ³)
1	37.09	33.61	119726	37.81	40.45	133904	+0.09	+6.84	+14178
2	77.37	54.29	247285	77.37	54.29	247285	0	0	0
Total	114.46	87.90	367011	114.55	94.74	381189	+0.09	+6.84	+14178

**Legend for the various Tables above:

ac	Area	cfs	Cubic Feet per Second
ft	Feet	ft ³	Cubic Feet
Imp	Imperviousness	Q ₂₅	25-year Flow Runoff
T _c	Time of Concentration	V ₂₅	25-year Volume Runoff
min	Minutes		

As can be seen from the table above, there will be an additional area of about 0.09ac that leaves the site through the northerly end. With that and the proposed development, there will be an additional Q₂₅ runoff of +6.84 cfs and +14178 ft³. There will also be an increase in imperviousness in the proposed conditions, assuming full imperviousness for the proposed pads, the site imperviousness increases from roughly 1% in the existing conditions to roughly 5% in the proposed conditions.

1.6 CONCLUSION

The proposed site is currently an empty lot that generally sheet flows to the north. The runoff from the site leaves the site via surface flow, drains to Sand Canyon Creek, and ultimately onto the Santa Clara River further downstream. The project proposes to subdivide the existing lot into 4 separate lots, roughly equal in size. These lots will each have a proposed pad with a leach field nearby for future building purposes. The easterly half of the proposed site is located within an SEA site and the proposed pads and leach fields avoid the existing Oak Trees to the maximum extent possible. Drainage in the proposed conditions follows the same pattern as the existing conditions and leaves the site via surface flow at the northerly end of the site. There is an additional 0.09 ac draining to the northerly end with an additional Q25 runoff of 6.84 cfs and 14178 ft³.

Section 2.0

**HYDROLOGIC CALCULATIONS
(Existing Conditions)**

Peak Flow Hydrologic Analysis

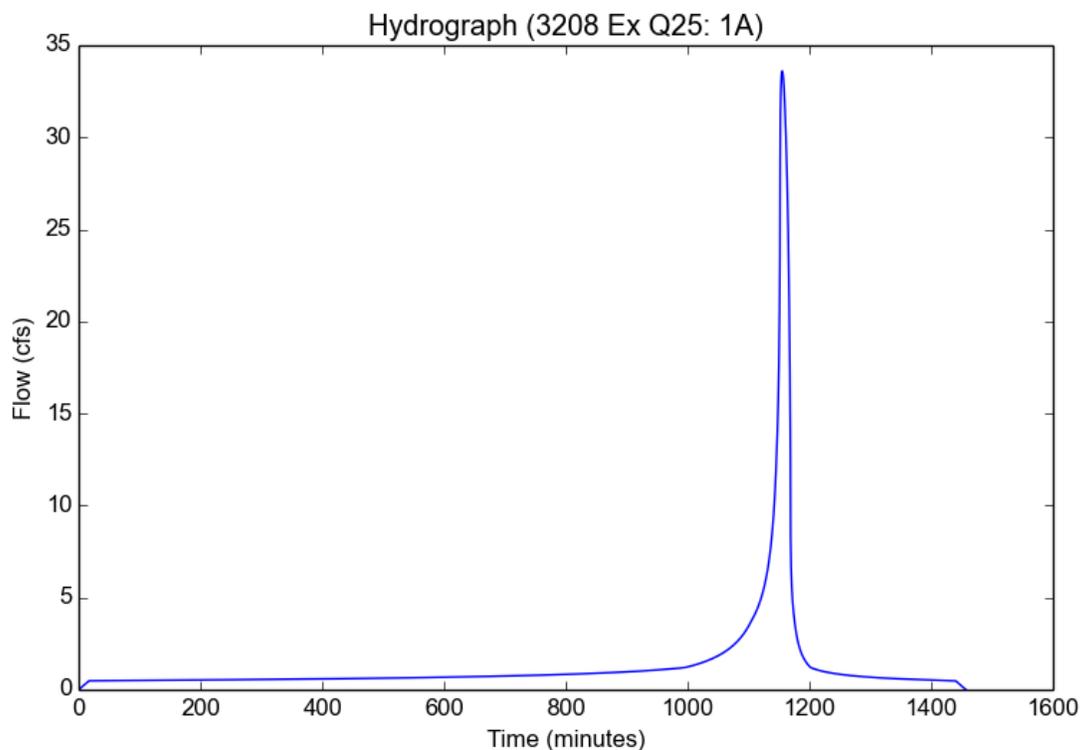
File location: F:/Job Files/3208 Rexhall Co/Civil/Hydrology/Calculations/Existing/Output/23-1005/3208 Ex Q25 Report_100523.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	3208 Ex Q25
Subarea ID	1A
Area (ac)	37.09
Flow Path Length (ft)	2022.19
Flow Path Slope (vft/hft)	0.1198
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.01
Soil Type	20
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.4436
Peak Intensity (in/hr)	1.8272
Undeveloped Runoff Coefficient (Cu)	0.4918
Developed Runoff Coefficient (Cd)	0.4959
Time of Concentration (min)	17.0
Clear Peak Flow Rate (cfs)	33.6079
Burned Peak Flow Rate (cfs)	33.6079
24-Hr Clear Runoff Volume (ac-ft)	2.7485
24-Hr Clear Runoff Volume (cu-ft)	119725.8159



Peak Flow Hydrologic Analysis

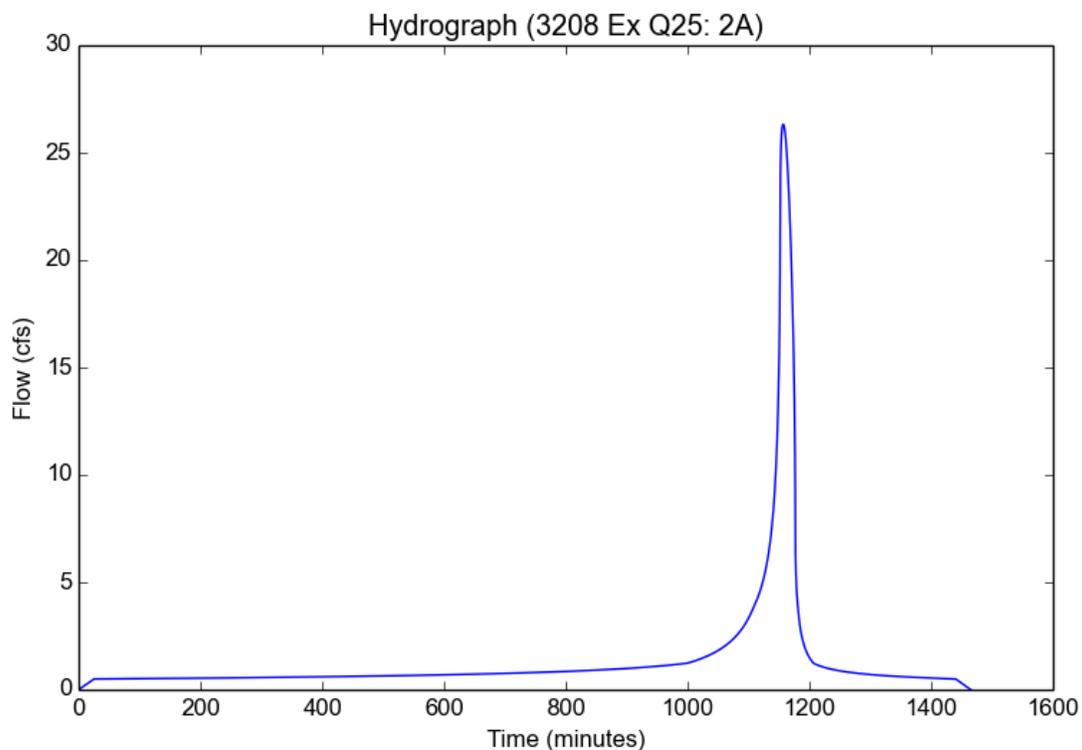
File location: F:/Job Files/3208 Rexhall Co/Civil/Hydrology/Calculations/Existing/Output/23-1005/3208 Ex Q25 Report_100523.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	3208 Ex Q25
Subarea ID	2A
Area (ac)	38.06
Flow Path Length (ft)	3533.42
Flow Path Slope (vft/hft)	0.141
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.01
Soil Type	20
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.4436
Peak Intensity (in/hr)	1.5243
Undeveloped Runoff Coefficient (Cu)	0.4492
Developed Runoff Coefficient (Cd)	0.4538
Time of Concentration (min)	25.0
Clear Peak Flow Rate (cfs)	26.3247
Burned Peak Flow Rate (cfs)	26.3247
24-Hr Clear Runoff Volume (ac-ft)	2.7907
24-Hr Clear Runoff Volume (cu-ft)	121563.1785



Peak Flow Hydrologic Analysis

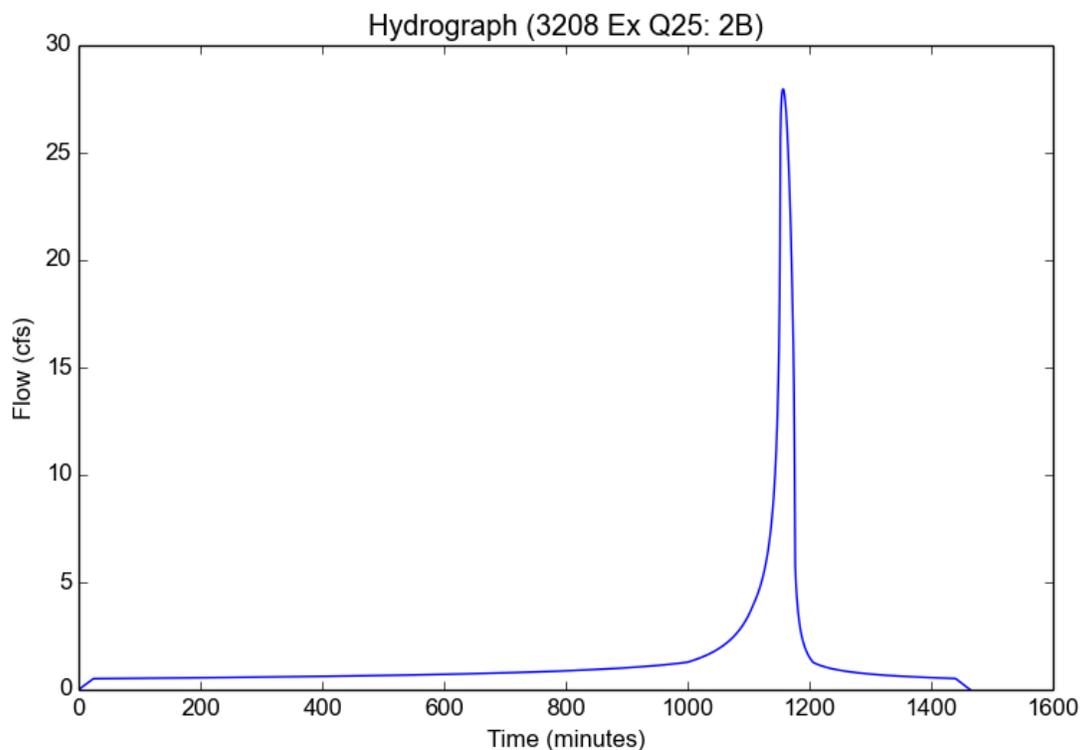
File location: F:/Job Files/3208 Rexhall Co/Civil/Hydrology/Calculations/Existing/Output/23-1005/3208 Ex Q25 Report_100523.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	3208 Ex Q25
Subarea ID	2B
Area (ac)	39.31
Flow Path Length (ft)	3243.1
Flow Path Slope (vft/hft)	0.132
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.01
Soil Type	20
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.4436
Peak Intensity (in/hr)	1.5538
Undeveloped Runoff Coefficient (Cu)	0.4534
Developed Runoff Coefficient (Cd)	0.4579
Time of Concentration (min)	24.0
Clear Peak Flow Rate (cfs)	27.9669
Burned Peak Flow Rate (cfs)	27.9669
24-Hr Clear Runoff Volume (ac-ft)	2.8862
24-Hr Clear Runoff Volume (cu-ft)	125722.0046



Section 2.0

**HYDROLOGIC CALCULATIONS
(Proposed Conditions)**

Peak Flow Hydrologic Analysis

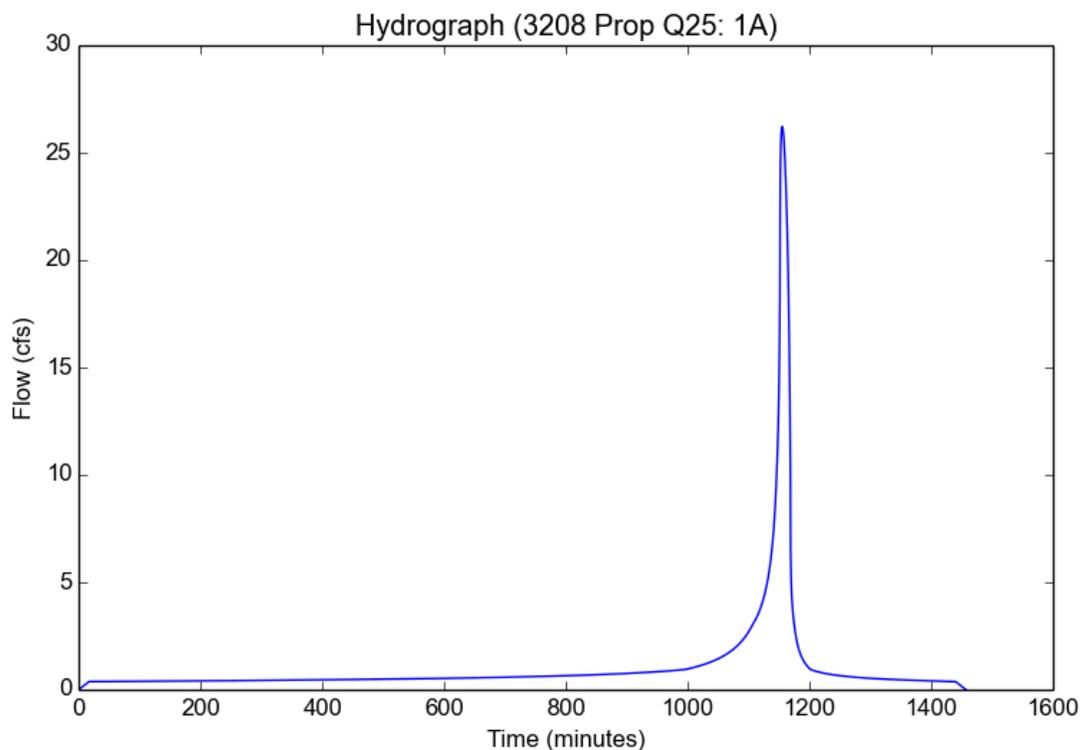
File location: F:/Job Files/3208 Rexhall Co/Civil/Hydrology/Calculations/Proposed/Output/23-1005/3208 Prop Q25 Report_100523.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	3208 Prop Q25
Subarea ID	1A
Area (ac)	28.94
Flow Path Length (ft)	2022.19
Flow Path Slope (vft/hft)	0.119
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.01
Soil Type	20
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.4436
Peak Intensity (in/hr)	1.8272
Undeveloped Runoff Coefficient (Cu)	0.4918
Developed Runoff Coefficient (Cd)	0.4959
Time of Concentration (min)	17.0
Clear Peak Flow Rate (cfs)	26.2231
Burned Peak Flow Rate (cfs)	26.2231
24-Hr Clear Runoff Volume (ac-ft)	2.1446
24-Hr Clear Runoff Volume (cu-ft)	93417.7706



Peak Flow Hydrologic Analysis

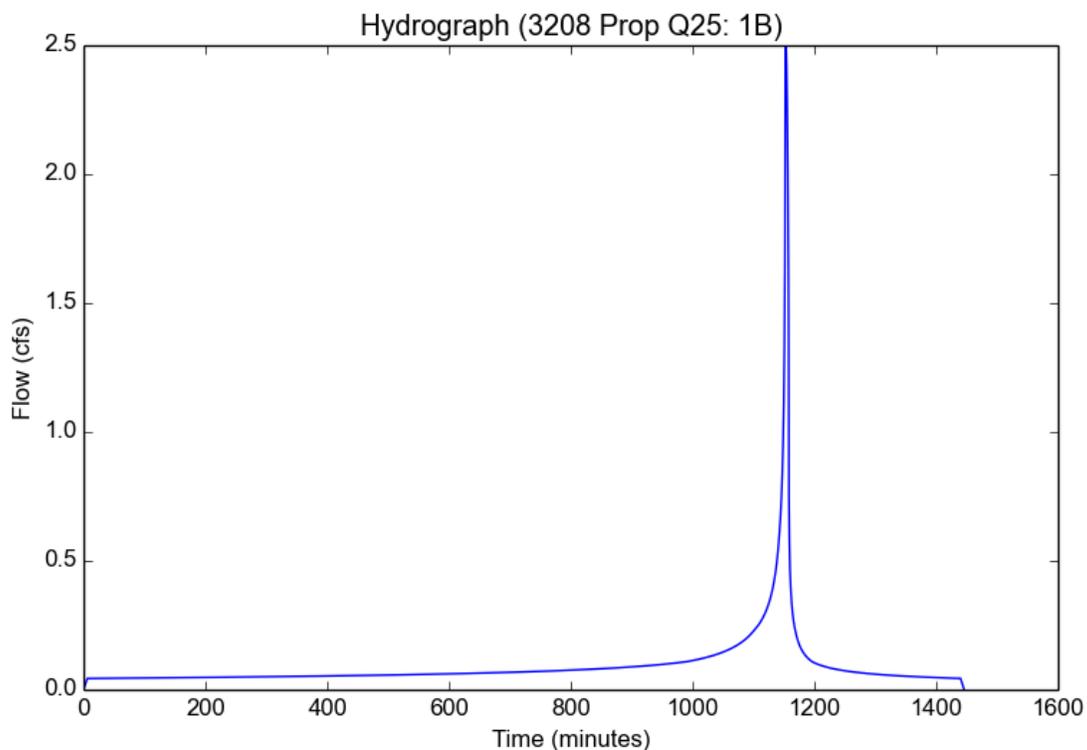
File location: F:/Job Files/3208 Rexhall Co/Civil/Hydrology/Calculations/Proposed/Output/23-1005/3208 Prop Q25 Report_100523.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	3208 Prop Q25
Subarea ID	1B
Area (ac)	1.24
Flow Path Length (ft)	470.22
Flow Path Slope (vft/hft)	0.112
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.24
Soil Type	20
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.4436
Peak Intensity (in/hr)	2.9811
Undeveloped Runoff Coefficient (Cu)	0.6049
Developed Runoff Coefficient (Cd)	0.6757
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	2.4977
Burned Peak Flow Rate (cfs)	2.4977
24-Hr Clear Runoff Volume (ac-ft)	0.1884
24-Hr Clear Runoff Volume (cu-ft)	8207.1067



Peak Flow Hydrologic Analysis

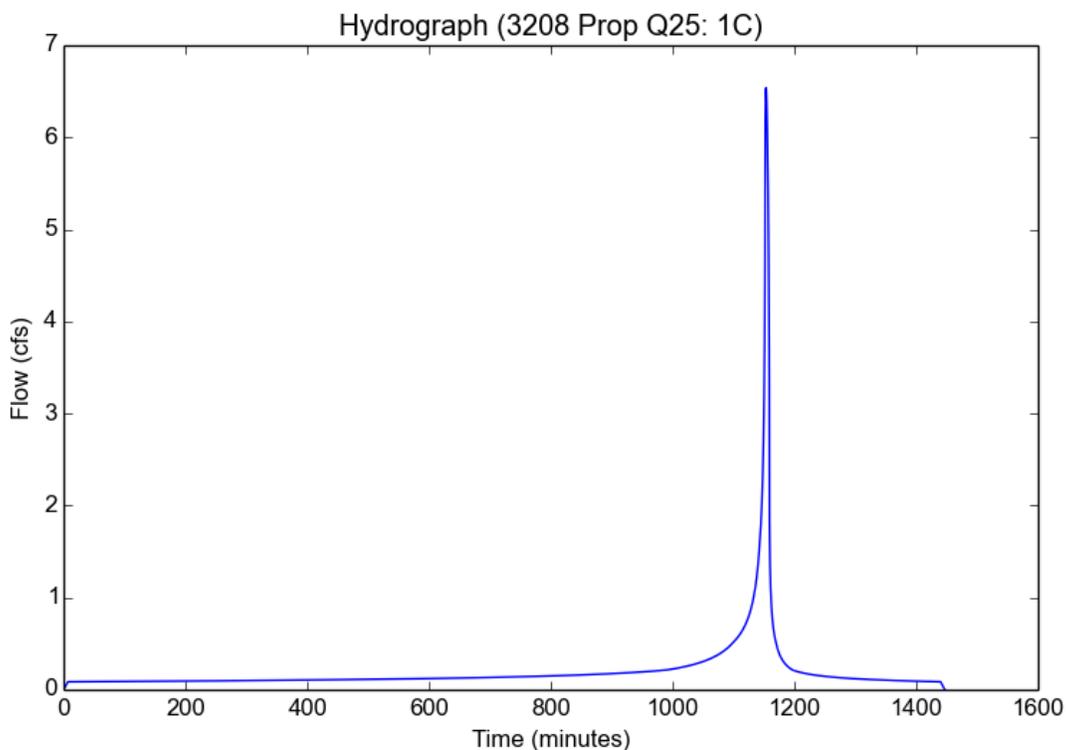
File location: F:/Job Files/3208 Rexhall Co/Civil/Hydrology/Calculations/Proposed/Output/23-1005/3208 Prop Q25 Report_100523.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	3208 Prop Q25
Subarea ID	1C
Area (ac)	3.8
Flow Path Length (ft)	538.18
Flow Path Slope (vft/hft)	0.063
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.11
Soil Type	20
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.4436
Peak Intensity (in/hr)	2.7727
Undeveloped Runoff Coefficient (Cu)	0.586
Developed Runoff Coefficient (Cd)	0.6205
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	6.5383
Burned Peak Flow Rate (cfs)	6.5383
24-Hr Clear Runoff Volume (ac-ft)	0.4124
24-Hr Clear Runoff Volume (cu-ft)	17963.5957



Peak Flow Hydrologic Analysis

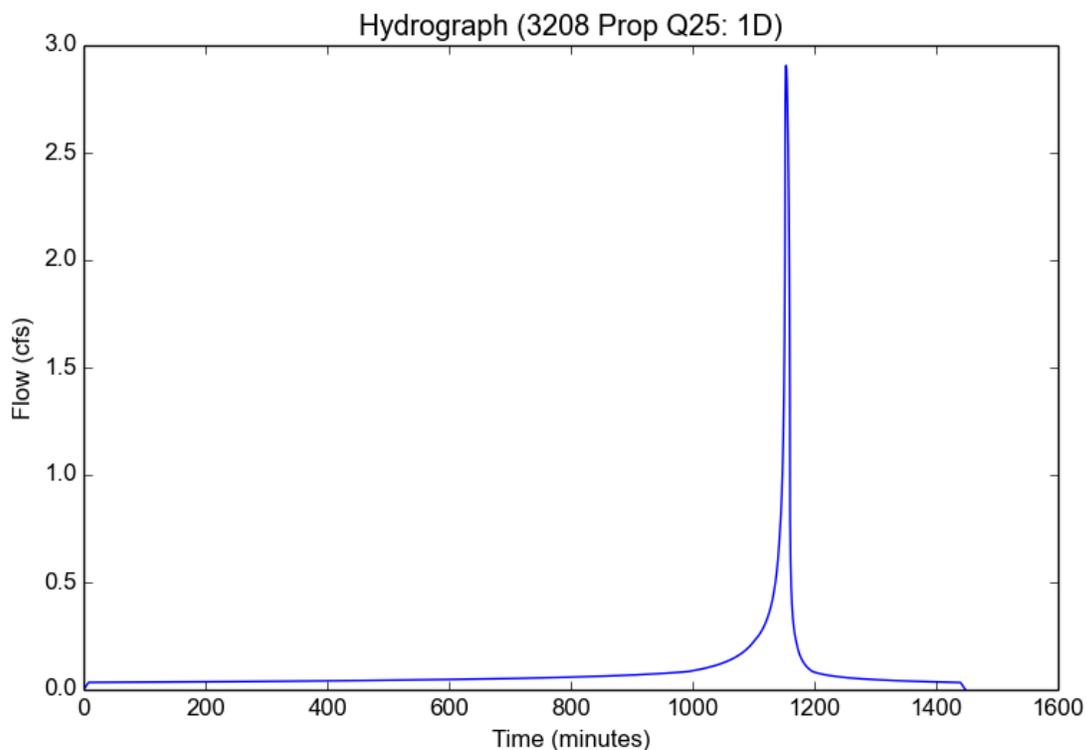
File location: F:/Job Files/3208 Rexhall Co/Civil/Hydrology/Calculations/Proposed/Output/23-1005/3208 Prop Q25 Report_100523.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	3208 Prop Q25
Subarea ID	1D
Area (ac)	1.89
Flow Path Length (ft)	486.21
Flow Path Slope (vft/hft)	0.021
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.06
Soil Type	20
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.4436
Peak Intensity (in/hr)	2.6041
Undeveloped Runoff Coefficient (Cu)	0.5707
Developed Runoff Coefficient (Cd)	0.5905
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	2.9063
Burned Peak Flow Rate (cfs)	2.9063
24-Hr Clear Runoff Volume (ac-ft)	0.1734
24-Hr Clear Runoff Volume (cu-ft)	7552.8495



Peak Flow Hydrologic Analysis

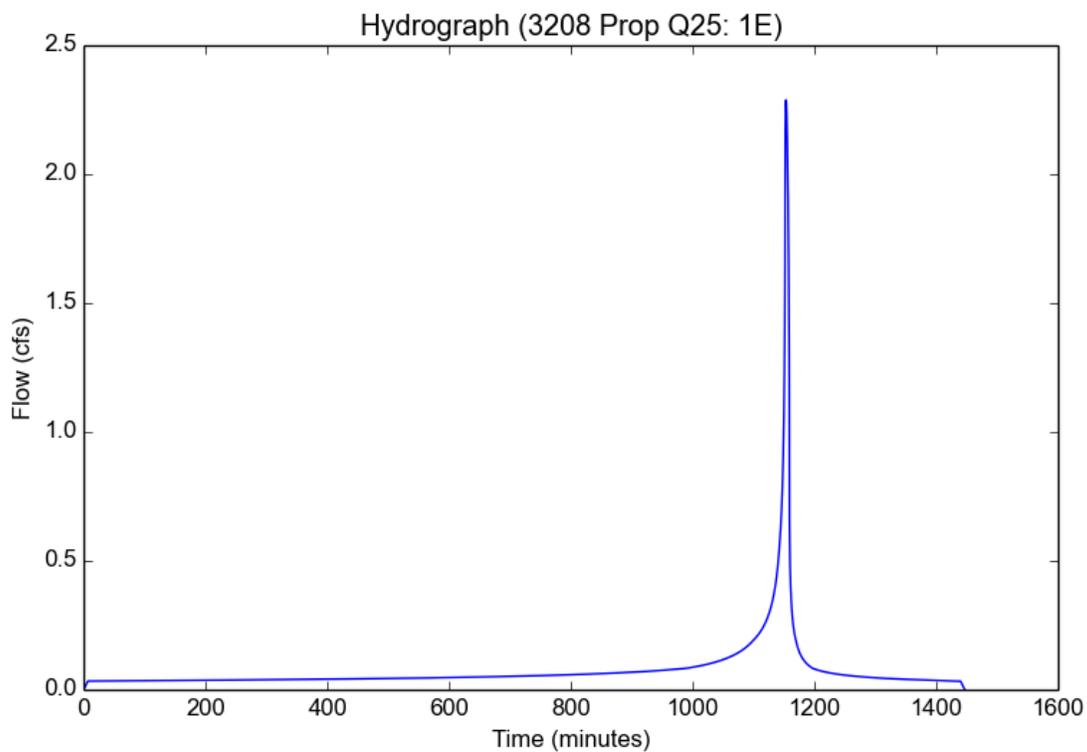
File location: F:/Job Files/3208 Rexhall Co/Civil/Hydrology/Calculations/Proposed/Output/23-1005/3208 Prop Q25 Report_100523.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	3208 Prop Q25
Subarea ID	1E
Area (ac)	1.31
Flow Path Length (ft)	384.28
Flow Path Slope (vft/hft)	0.02
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.14
Soil Type	20
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.4436
Peak Intensity (in/hr)	2.7727
Undeveloped Runoff Coefficient (Cu)	0.586
Developed Runoff Coefficient (Cd)	0.63
Time of Concentration (min)	7.0
Clear Peak Flow Rate (cfs)	2.2882
Burned Peak Flow Rate (cfs)	2.2882
24-Hr Clear Runoff Volume (ac-ft)	0.1553
24-Hr Clear Runoff Volume (cu-ft)	6762.7846



Peak Flow Hydrologic Analysis

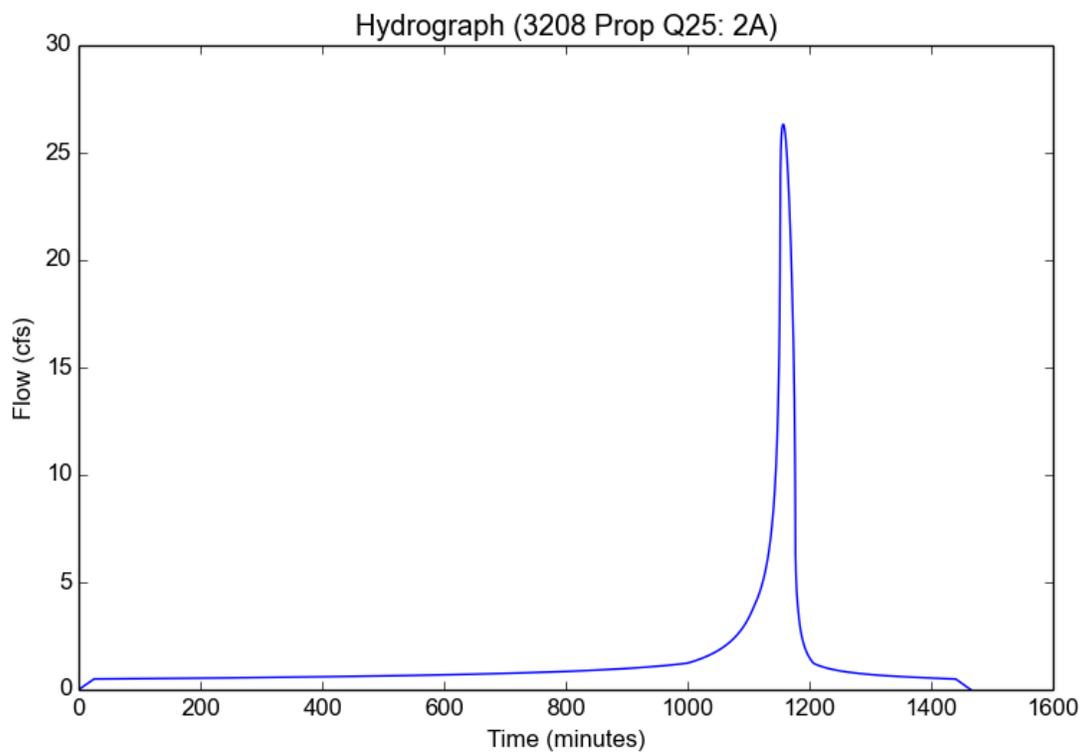
File location: F:/Job Files/3208 Rexhall Co/Civil/Hydrology/Calculations/Proposed/Output/23-1005/3208 Prop Q25 Report_100523.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	3208 Prop Q25
Subarea ID	2A
Area (ac)	38.06
Flow Path Length (ft)	3533.42
Flow Path Slope (vft/hft)	0.141
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.01
Soil Type	20
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.4436
Peak Intensity (in/hr)	1.5243
Undeveloped Runoff Coefficient (Cu)	0.4492
Developed Runoff Coefficient (Cd)	0.4538
Time of Concentration (min)	25.0
Clear Peak Flow Rate (cfs)	26.3247
Burned Peak Flow Rate (cfs)	26.3247
24-Hr Clear Runoff Volume (ac-ft)	2.7907
24-Hr Clear Runoff Volume (cu-ft)	121563.1785



Peak Flow Hydrologic Analysis

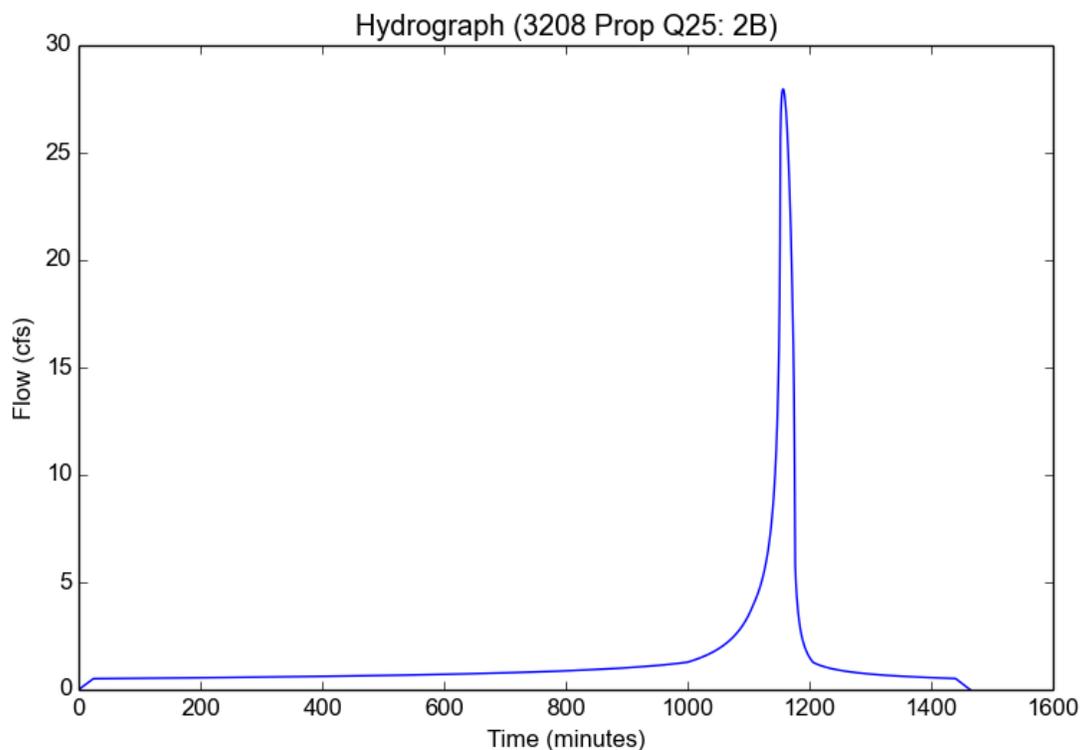
File location: F:/Job Files/3208 Rexhall Co/Civil/Hydrology/Calculations/Proposed/Output/23-1005/3208 Prop Q25 Report_100523.pdf
Version: HydroCalc 1.0.3

Input Parameters

Project Name	3208 Prop Q25
Subarea ID	2B
Area (ac)	39.31
Flow Path Length (ft)	3243.1
Flow Path Slope (vft/hft)	0.132
50-yr Rainfall Depth (in)	6.2
Percent Impervious	0.01
Soil Type	20
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

Output Results

Modeled (25-yr) Rainfall Depth (in)	5.4436
Peak Intensity (in/hr)	1.5538
Undeveloped Runoff Coefficient (Cu)	0.4534
Developed Runoff Coefficient (Cd)	0.4579
Time of Concentration (min)	24.0
Clear Peak Flow Rate (cfs)	27.9669
Burned Peak Flow Rate (cfs)	27.9669
24-Hr Clear Runoff Volume (ac-ft)	2.8862
24-Hr Clear Runoff Volume (cu-ft)	125722.0046



Appendix A
HYDROLOGY MAP

DIVER ST.

RADCLAY ST.

TRUMPH AVENUE
(PRIVATE & FUTURE STREET)

TANN HILL AVENUE
(PRIVATE & FUTURE STREET)

MATCH LINE
SEE SHEET 2

MATCH LINE
SEE SHEET 2

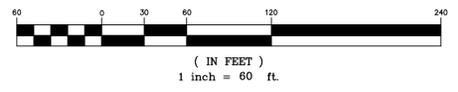


EXISTING CONDITIONS HYDROLOGIC TABLE

SUBAREA	AREA (ac)	FLOWLINE (ft)	SLOPE (ft/ft)	IMP	Tc (min)	Q25 (cfs)	V25 (c.f.)
1A	37.09	2022.19	0.119	0.01	17	33.61	119726
2A	38.06	3533.42	0.141	0.01	25	26.32	121563
2B	39.31	3243.10	0.132	0.01	24	27.97	125722
TOTAL	114.46	-	-	0.01	-	87.90	367011



GRAPHIC SCALE



PLANS PREPARED UNDER THE DIRECTION OF

RON KOESTER LS 5830
DATE 06 OCT. 2023

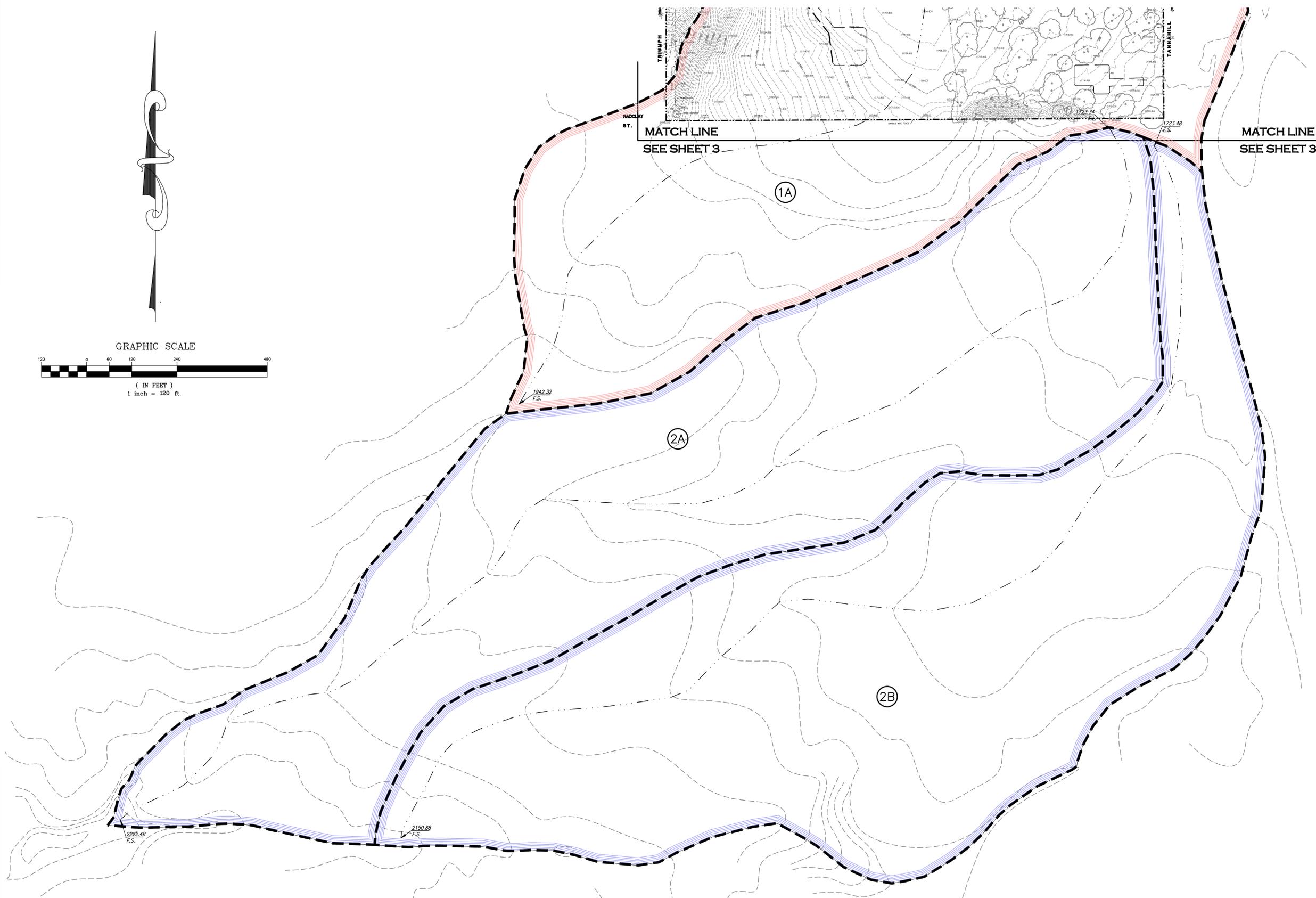
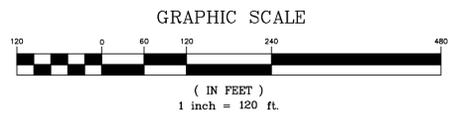
HYDROLOGY MAP
EXISTING CONDITIONS

PREPARED FOR
REXHAL COMPANY
46640 22ND ST. W.
LANCASTER, CA 93006

CRC Enterprises
27600 Bouquet Canyon Road Suite 200 Santa Clarita Ca. 91350
Telephone (661) 297-2336 FAX (661) 297-2331

SHEET 1 OF 4 SHEETS

CRC 2023



EXISTING CONDITIONS HYDROLOGIC TABLE

SUBAREA	AREA (ac)	FLOWLINE (ft)	SLOPE (ft/ft)	MP	T ₀ (min)	Q ₁₀ (cfs)	V ₁₀ (c.f.)
1A	37.00	2022.10	0.110	0.01	17	33.01	110720
2A	33.00	3003.42	0.141	0.01	25	23.32	121000
2B	39.31	3043.10	0.132	0.01	24	27.57	120722
TOTAL	114.00	-	-	0.01	-	87.90	367011



PLANS PREPARED UNDER THE DIRECTION OF

 RON KOESTER LS 5830
 DATE 06 OCT. 2023

CRC Enterprises
 27600 Bouquet Canyon Road Suite 200 Santa Clarita Ca. 91350
 Telephone (661) 297-2336 FAX (661) 297-2331

PREPARED FOR
REXHAL COMPANY
 40040 22nd St W.
 Lancaster, CA 93506

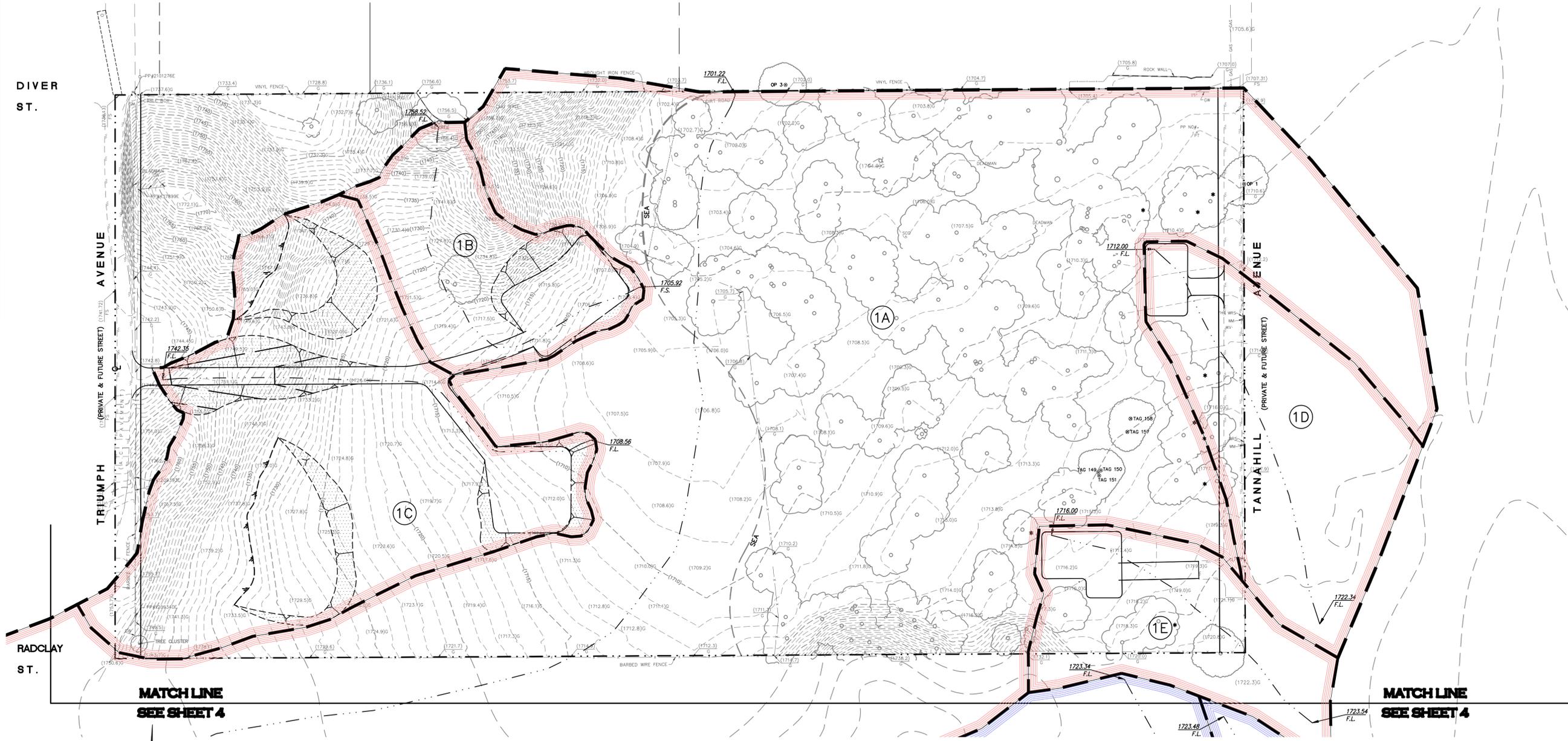
HYDROLOGY MAP
EXISTING CONDITIONS
SHEET 2 OF 4 SHEETS
CRC 2003

DIVER ST.

RADCLAY ST.

TRIUMPH AVENUE

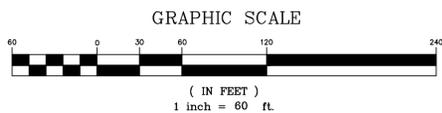
TANNAHILL AVENUE (PRIVATE & FUTURE STREET)



MATCH LINE
SEE SHEET 4

MATCH LINE
SEE SHEET 4

PROPOSED CONDITIONS HYDROLOGIC TABLE							
SUBAREA	AREA (ac)	FLOWLINE (#)	SLOPE (P/100)	RMP	T _b (min)	Q ₅₀ (cfs)	V ₅₀ (c.f)
1A	28.50	2082.10	0.110	0.01	17	28.22	80410
1B	1.34	470.22	0.112	0.24	6	2.80	6307
1C	3.00	688.10	0.680	0.11	7	6.64	17004
1D	1.80	488.21	0.021	0.08	6	2.91	7000
1E	1.51	384.00	0.680	0.14	7	2.50	6700
2A	38.00	3000.42	0.141	0.01	25	28.22	121000
2B	38.01	3000.10	0.132	0.01	24	27.97	120722
TOTAL	113.00	-	-	0.02	-	84.75	301100



PLANS PREPARED UNDER THE DIRECTION OF

Ron Koester
RON KOESTER LS 5830

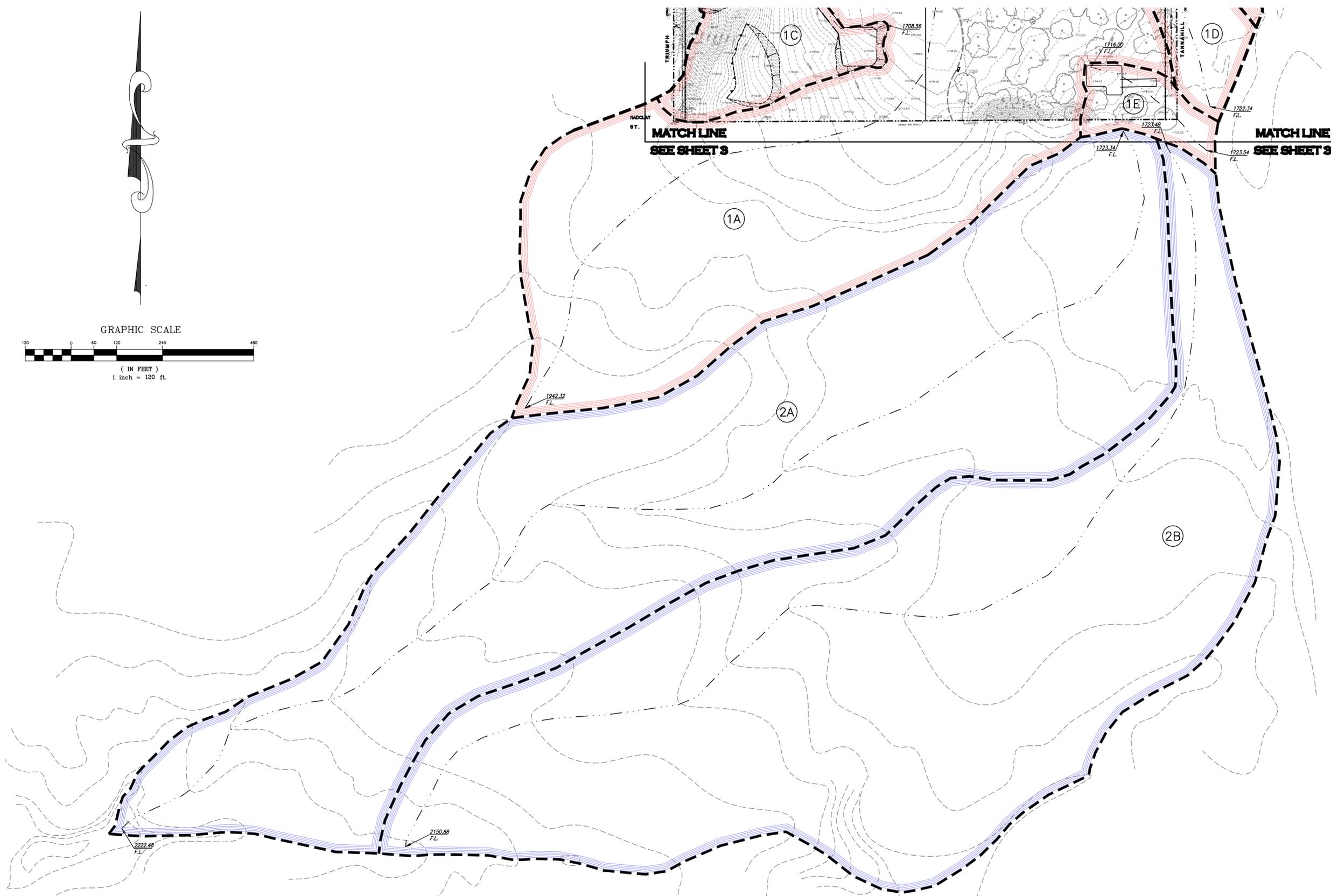
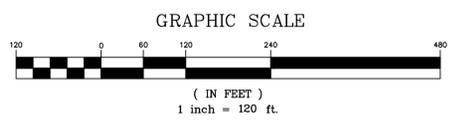
06 OCT. 2023
DATE

REVISIONS
DATE

HYDROLOGY MAP
PROPOSED CONDITIONS
SHEET 3 OF 4 SHEETS
CRC 2003

PREPARED FOR
REXHAL COMPANY
46640 22ND ST. W.
LANCASTER, CA 93006

CRC Enterprises
27600 Bouquet Canyon Road Suite 200 Santa Clarita Ca. 91350
Telephone (661) 297-2336 FAX (661) 297-2331



PROPOSED CONDITIONS HYDROLOGIC TABLE

SUBAREA	AREA (ac)	FLOWLINE (#)	SLOPE (#/100)	RMP	T _b (min)	Q ₁₀ (cfs)	V ₁₀ (c-ft)
1A	28.20	2022.10	0.110	0.01	17	28.22	80410
1B	1.24	470.22	0.112	0.24	6	2.80	8207
1C	3.80	692.10	0.090	0.11	7	6.54	17004
1D	1.80	408.21	0.021	0.08	8	2.91	7080
1E	1.21	304.20	0.020	0.14	7	2.20	6700
2A	38.00	3020.42	0.141	0.01	25	28.22	121000
2B	38.91	2842.10	0.132	0.01	24	27.97	120722
TOTAL	114.86	-	-	0.02	-	84.75	301100



PLANS PREPARED UNDER THE DIRECTION OF

Ronald N. Koester

RON KOESTER LS 5830

06 OCT. 2023

DATE

CRC Enterprises
27600 Bouquet Canyon Road Suite 200 Santa Clarita Ca. 91350
Telephone (661) 297-2336 FAX (661) 297-2331

PREPARED FOR
REXHAL COMPANY
46640 22ND ST W.
LANCASTER, CA 93006

HYDROLOGY MAP
PROPOSED CONDITIONS

SHEET 4 OF 4 SHEETS

CRC 2023

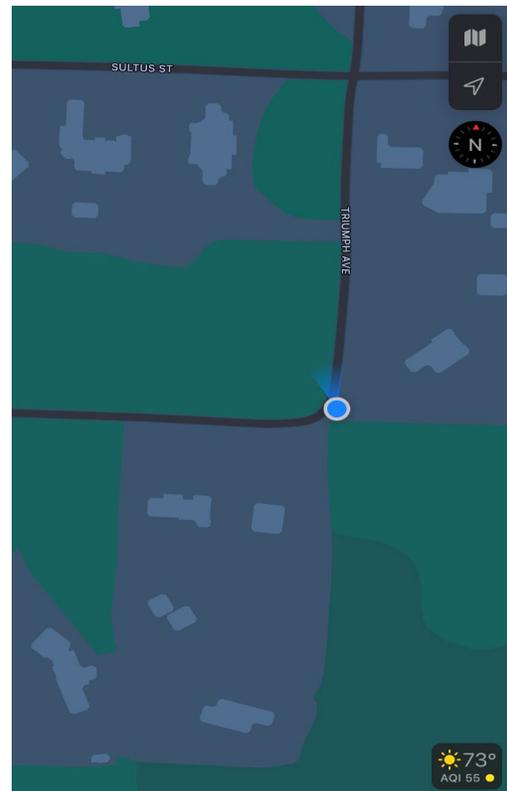
APPENDIX I

Noise Data

Site Number: NM-1			
Recorded By: Darshan Shivaiah, Winnie Woo, Dennis Dinh			
Job Number: 185517			
Date: 4/26/2023			
Time: 10:23 a.m.			
Location: East of Diver Street and Triumph Avenue			
Source of Ambient Noise: Bird chirping and lawn mower			
Source of Peak Noise: Traffic and Plane			
Noise Data			
Leq (dB)	Lmax(dB)	Lmin (dB)	Peak (dB)
48.2	62.7	38.7	87.1

Equipment						
Category	Type	Vendor	Model	Serial No.	Cert. Date	Note
Sound	Sound Level Meter	Brüel & Kjær	2250	3011133	03/10/2022	
	Microphone	Brüel & Kjær	4189	3086765	03/10/2022	
	Preamp	Brüel & Kjær	ZC 0032	25380	03/10/2022	
	Calibrator	Brüel & Kjær	4231	2545667	03/10/2022	
Weather Data						
Est.	Duration: 10 minutes			Sky: Sunny		
	Note: dBA Offset = 0.01			Sensor Height (ft): 5 ft		
	Wind Ave Speed (mph / m/s)		Temperature (degrees Fahrenheit)		Barometer Pressure (inches)	
	5 mph		73		29.95	

Photo of Measurement Location





2250

Instrument:		2250
Application:		BZ7225 Version 4.7.6
Start Time:		04/26/2023 10:23:09
End Time:		04/26/2023 10:33:09
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.13

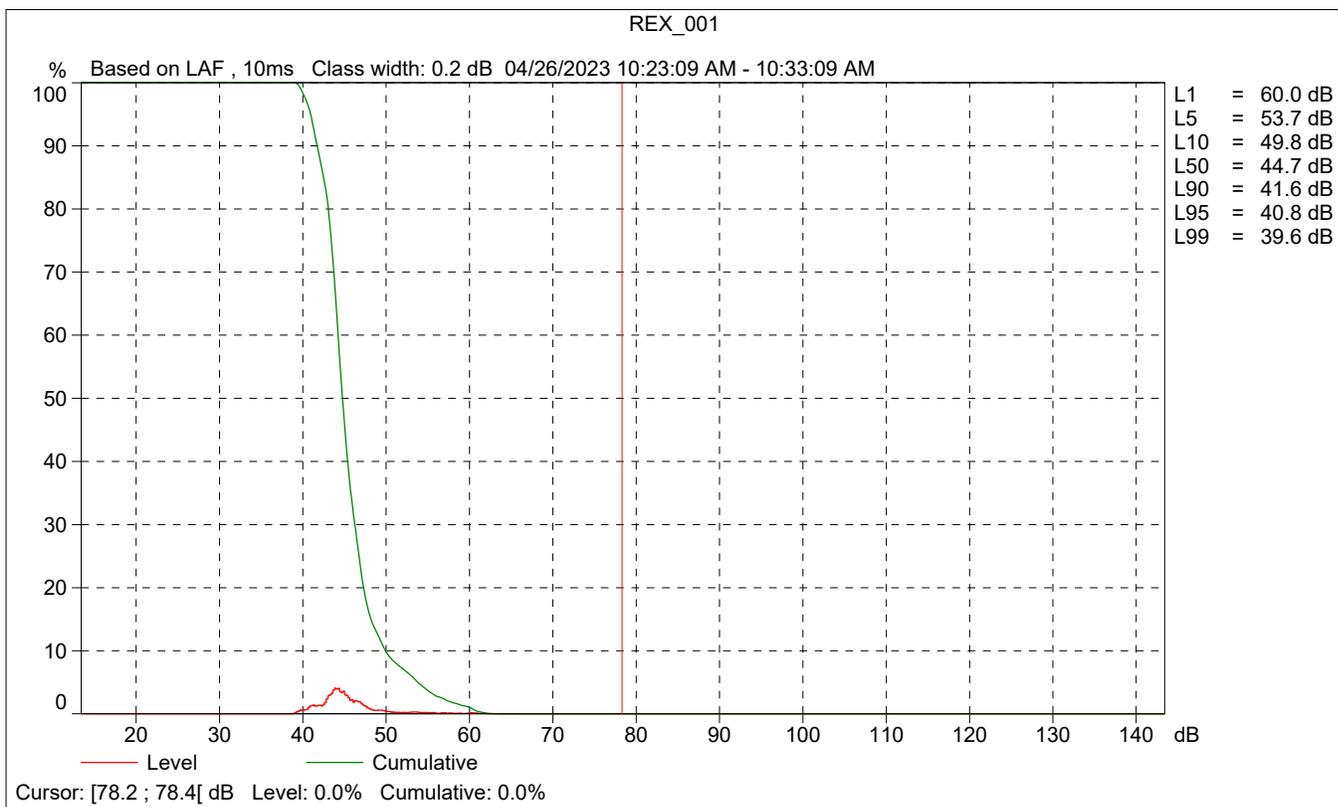
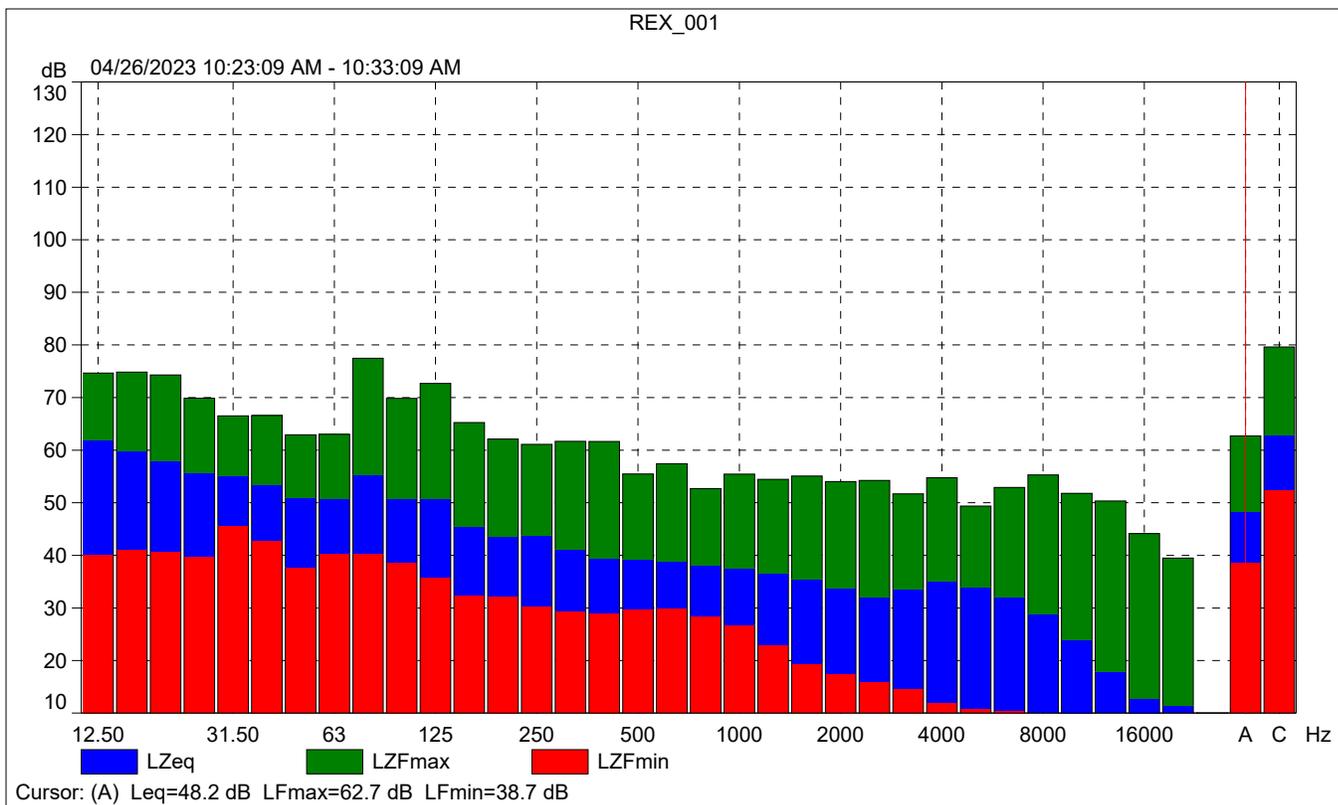
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

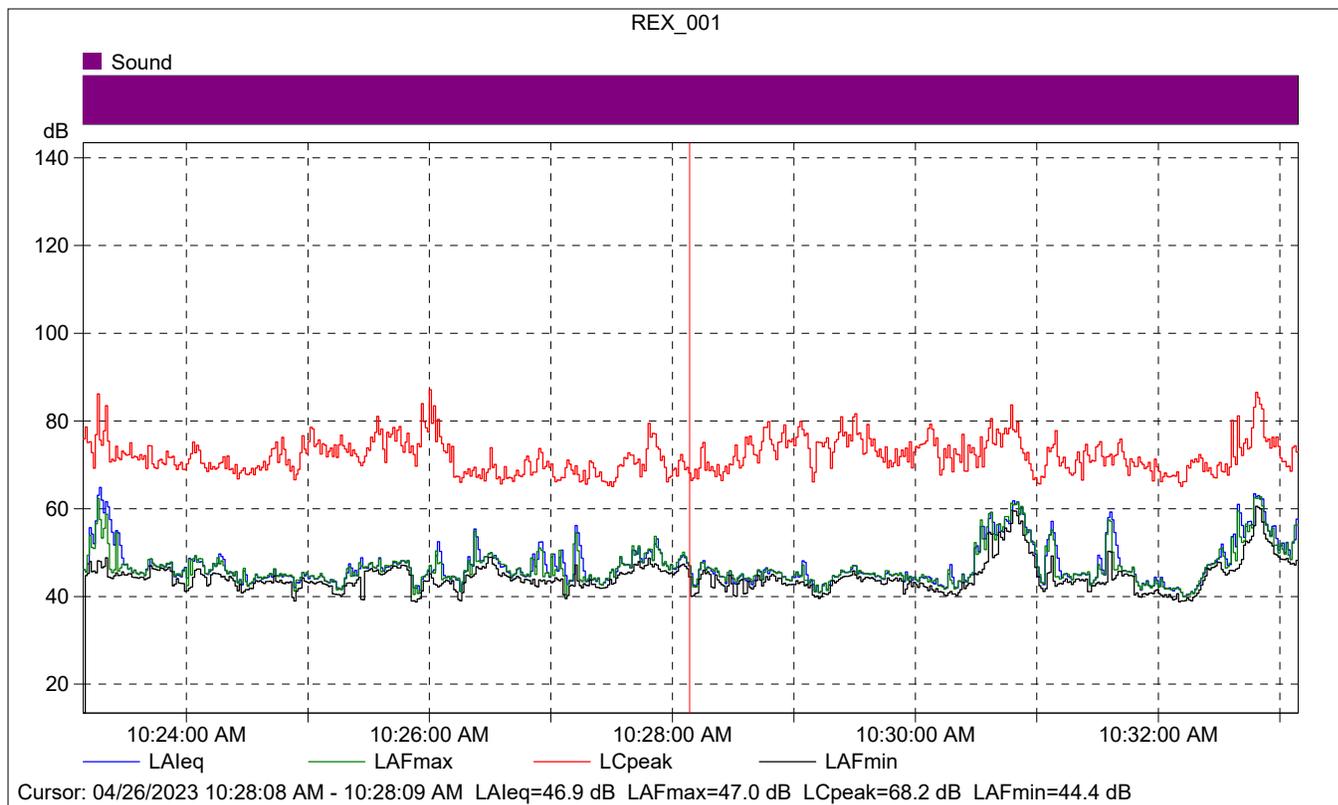
Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		None
Sound Field Correction:		Free-field

Calibration Time:		04/26/2023 07:18:27
Calibration Type:		External reference
Sensitivity:		43.5842946171761 mV/Pa

REX_001

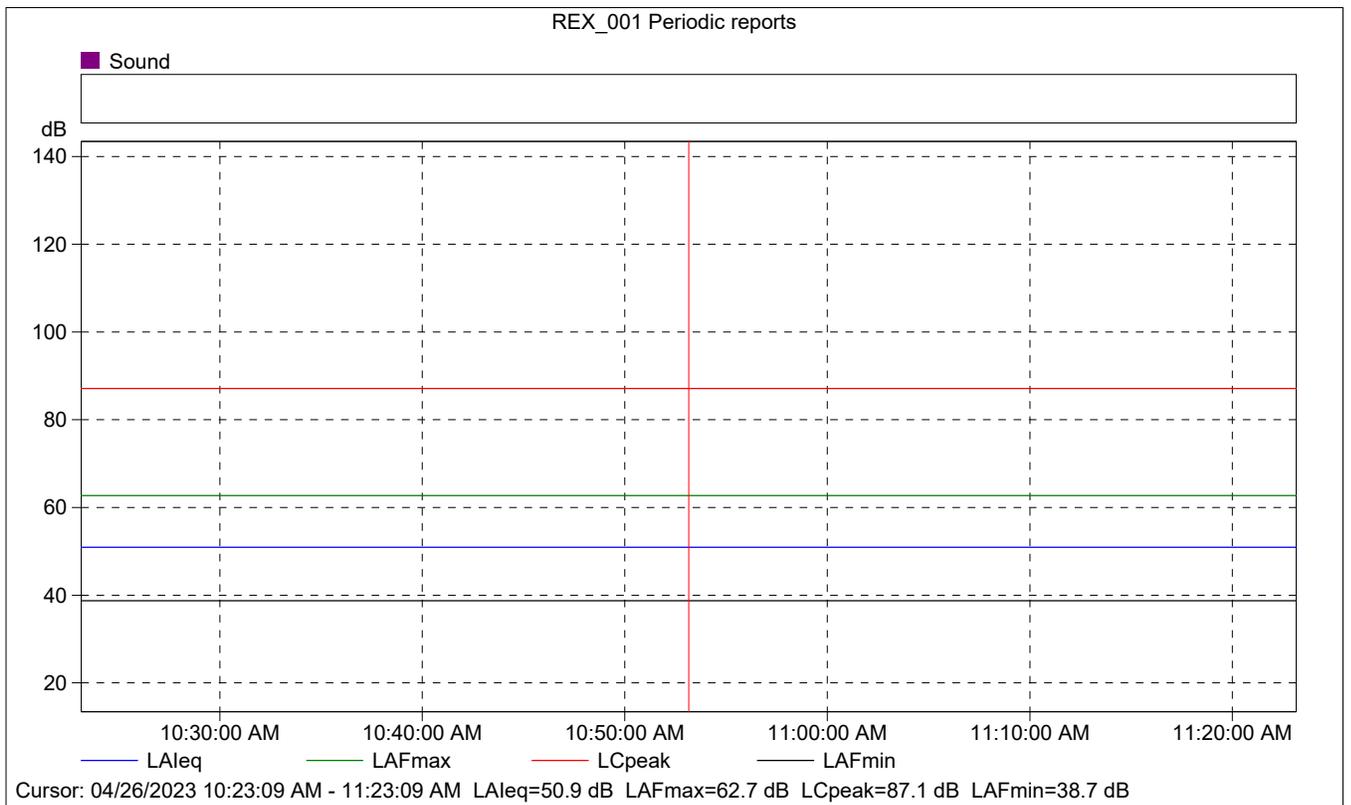
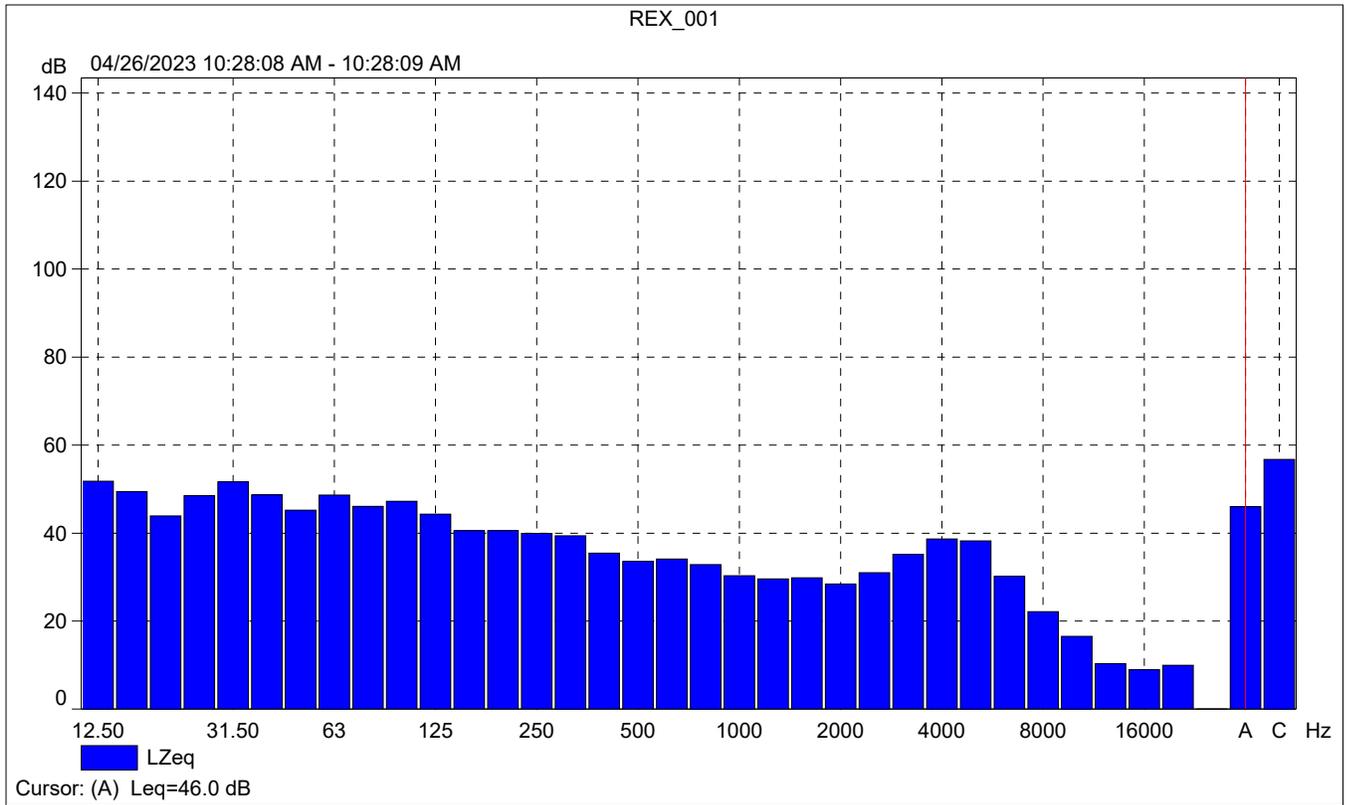
	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	48.2	62.7	38.7
Time	10:23:09 AM	10:33:09 AM	0:10:00				
Date	04/26/2023	04/26/2023					





REX_001

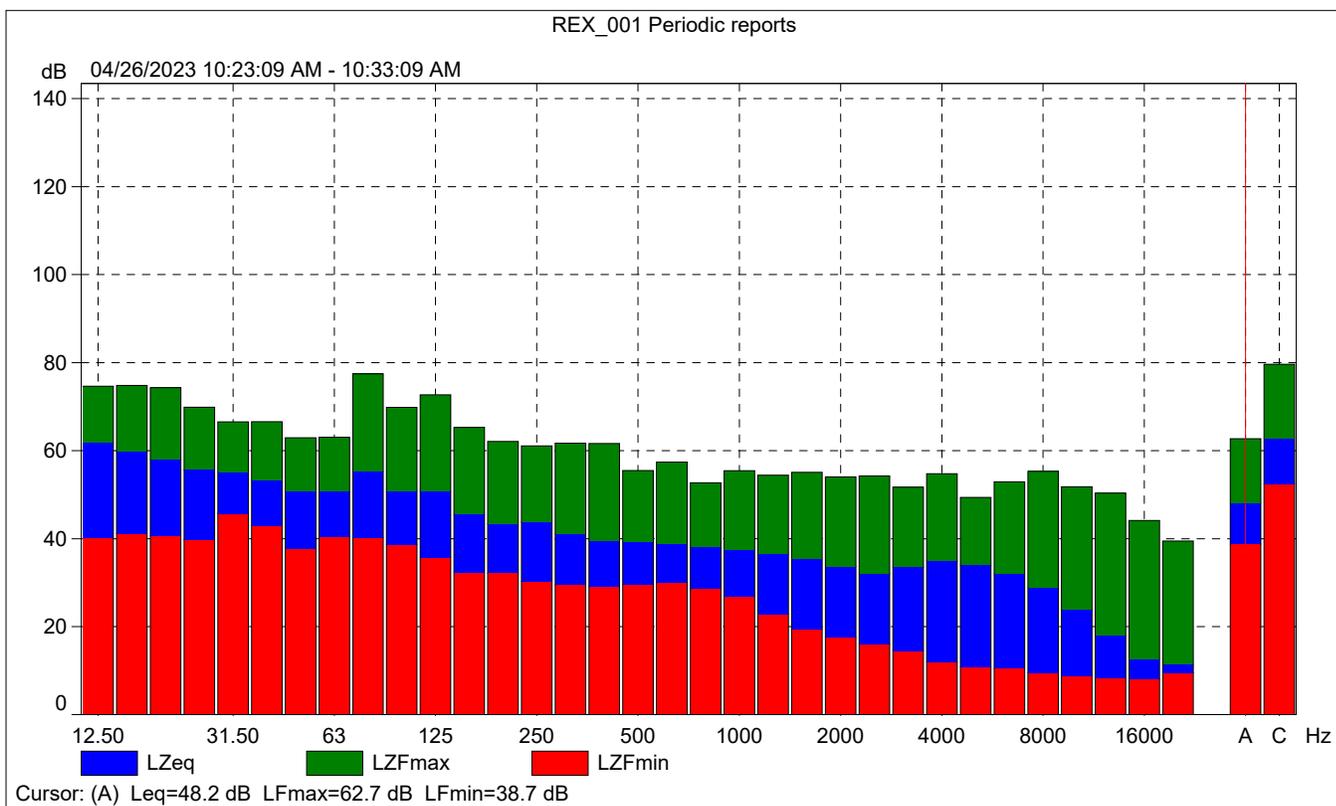
	Start time	Elapsed time	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			46.9	47.0	44.4
Time	10:28:08 AM	0:00:01			
Date	04/26/2023				





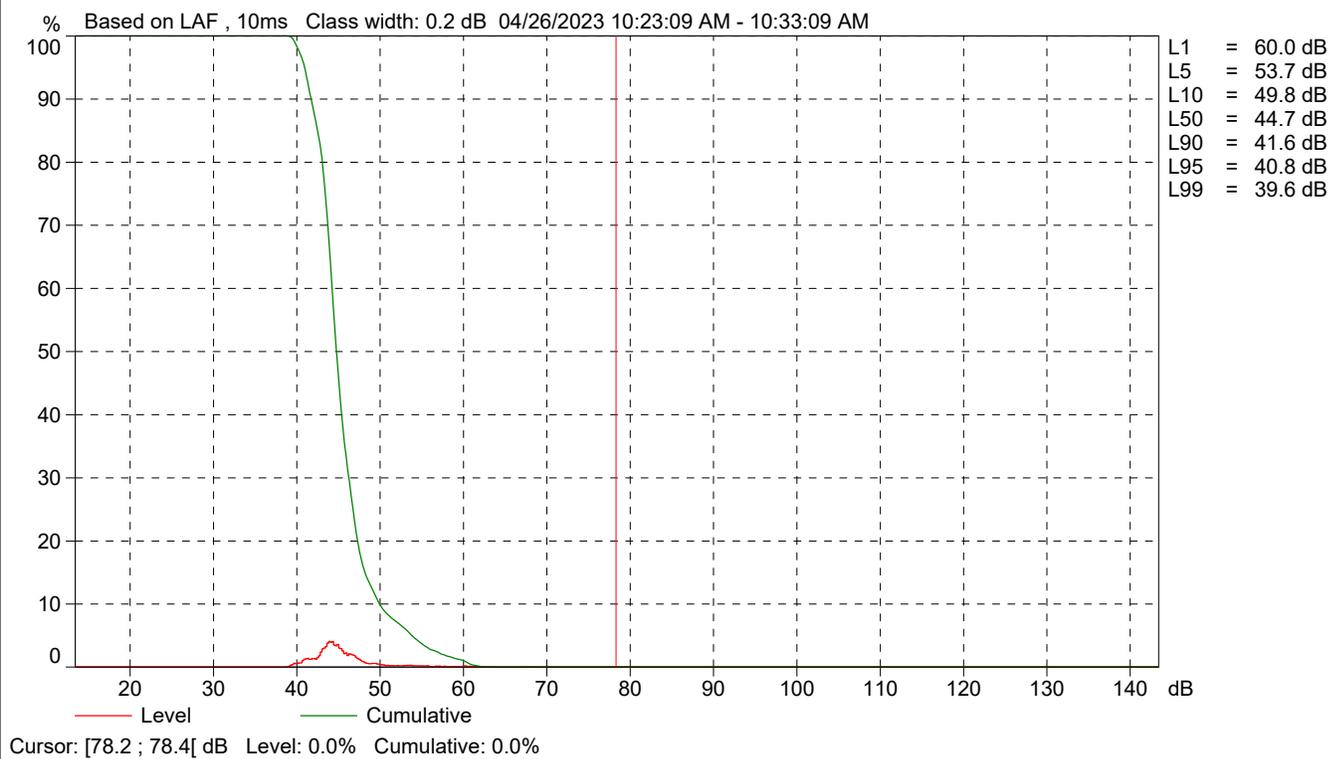
REX_001 Periodic reports

	Start time	Elapsed time	Overload [%]	LALeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	50.9	62.7	38.7
Time	10:23:09 AM	0:10:00				
Date	04/26/2023					





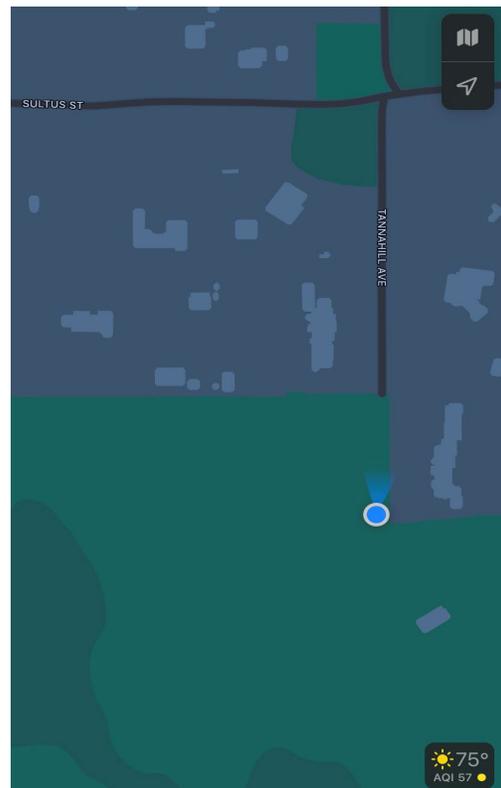
REX_001 Periodic reports



Site Number: NM-2			
Recorded By: Darshan Shivaiah, Winnie Woo, Dennis Dinh			
Job Number: 185517			
Date: 4/26/2023			
Time: 10:43 a.m.			
Location: West of single-family residence at 26754 Tannahill Avenue			
Source of Ambient Noise: Bird chirping and plane			
Source of Peak Noise: Plane			
Noise Data			
Leq (dB)	Lmax(dB)	Lmin (dB)	Peak (dB)
43.8	62.2	33.0	84.5

Equipment						
Category	Type	Vendor	Model	Serial No.	Cert. Date	Note
Sound	Sound Level Meter	Brüel & Kjær	2250	3011133	03/10/2022	
	Microphone	Brüel & Kjær	4189	3086765	03/10/2022	
	Preamp	Brüel & Kjær	ZC 0032	25380	03/10/2022	
	Calibrator	Brüel & Kjær	4231	2545667	03/10/2022	
Weather Data						
Est.	Duration: 10 minutes		Sky: Sunny			
	Note: dBA Offset = 0.01		Sensor Height (ft): 5 ft			
	Wind Ave Speed (mph / m/s)	Temperature (degrees Fahrenheit)		Barometer Pressure (inches)		
	5 mph	73		29.95		

Photo of Measurement Location





2250

Instrument:		2250
Application:		BZ7225 Version 4.7.6
Start Time:		04/26/2023 10:43:25
End Time:		04/26/2023 10:53:25
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.13

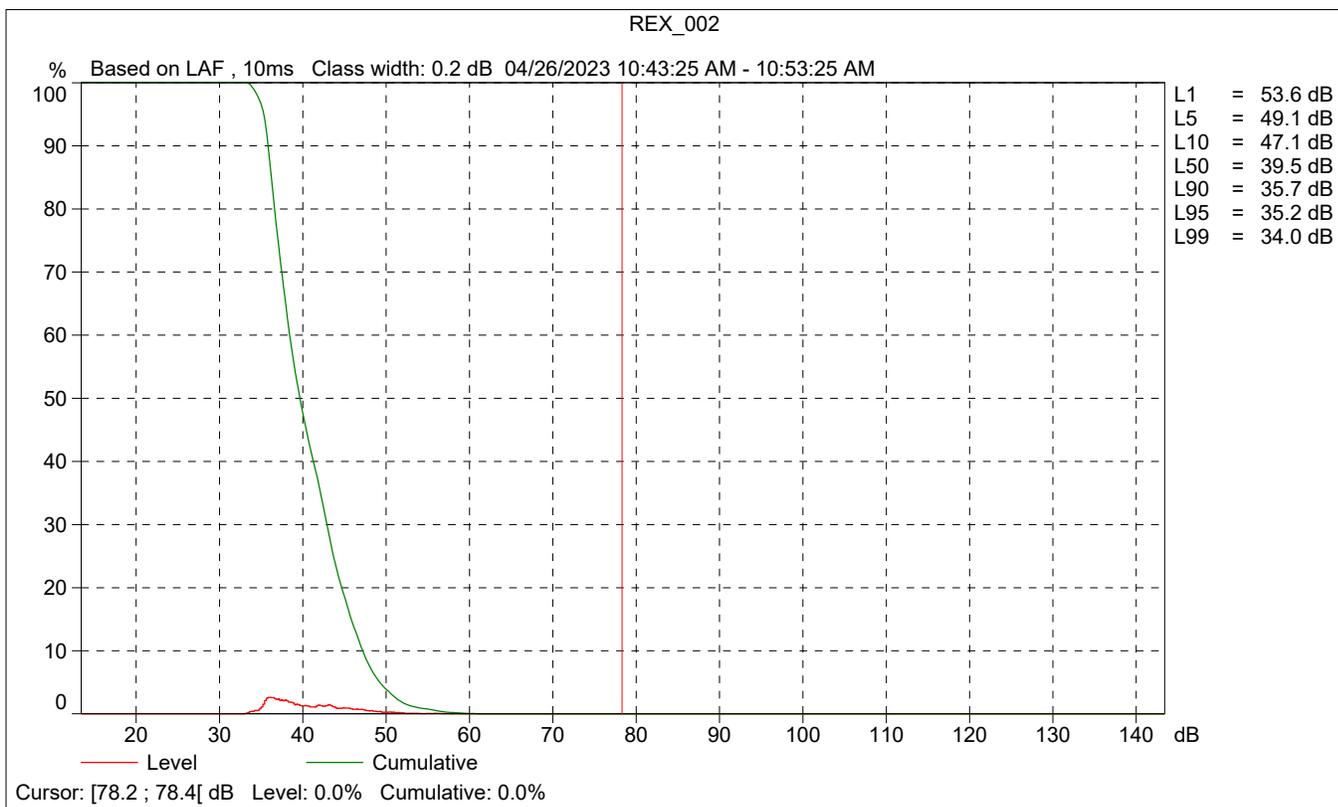
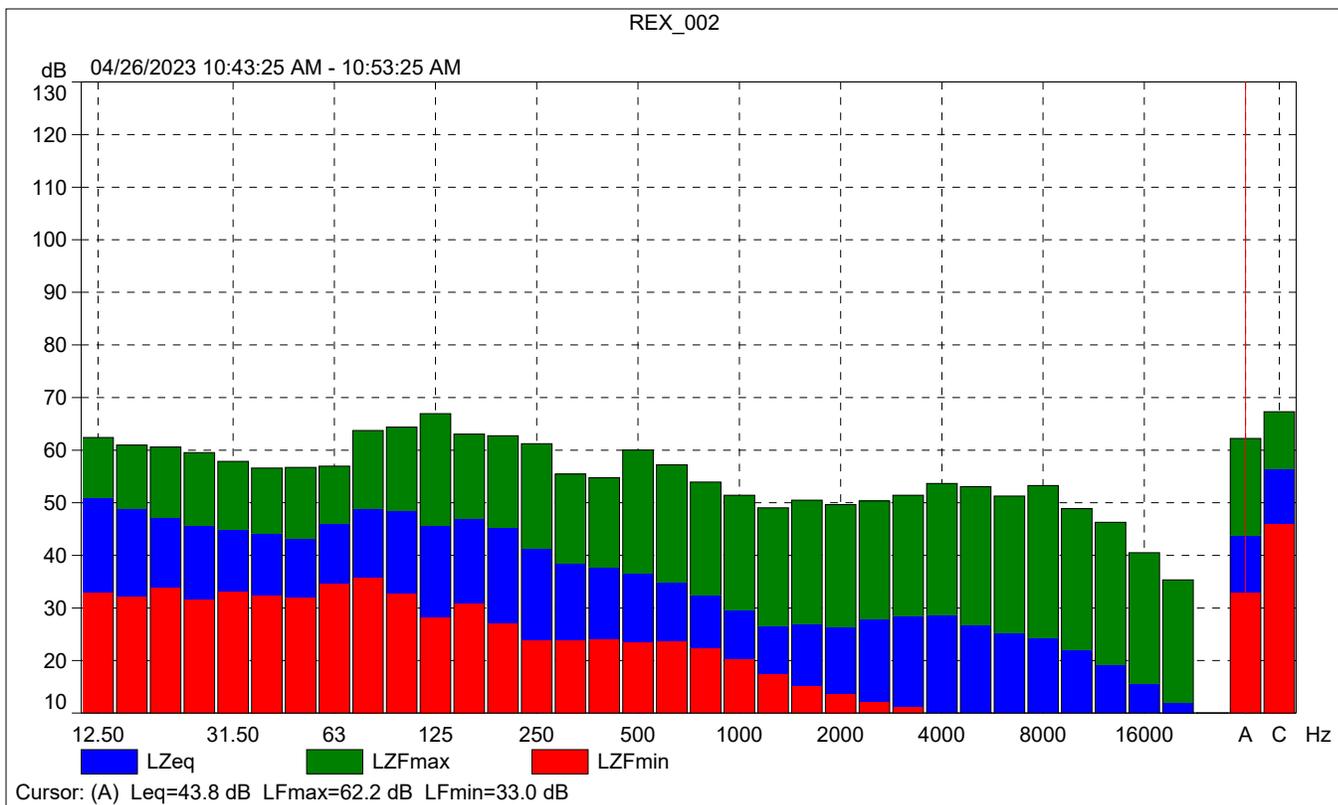
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

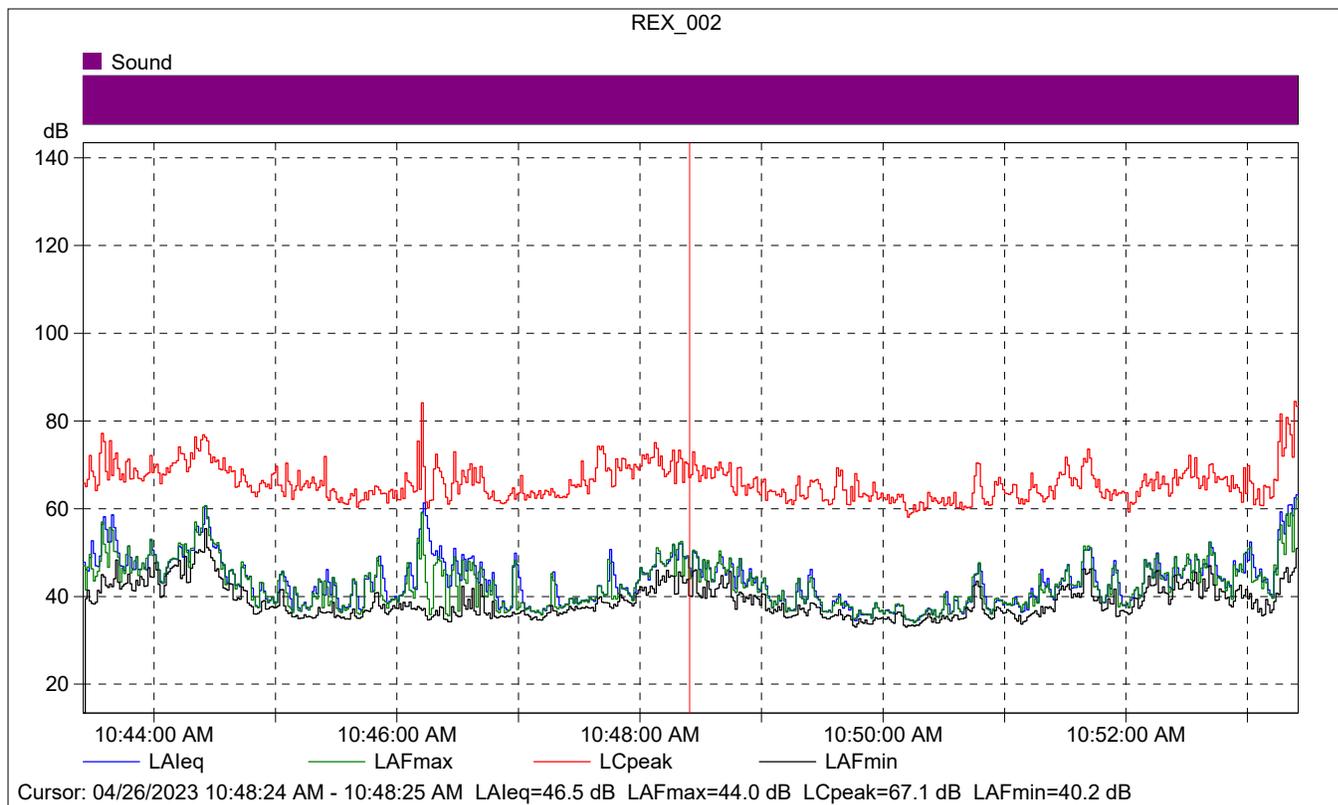
Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		UA-1650
Sound Field Correction:		Free-field

Calibration Time:		04/26/2023 07:18:27
Calibration Type:		External reference
Sensitivity:		43.5842946171761 mV/Pa

REX_002

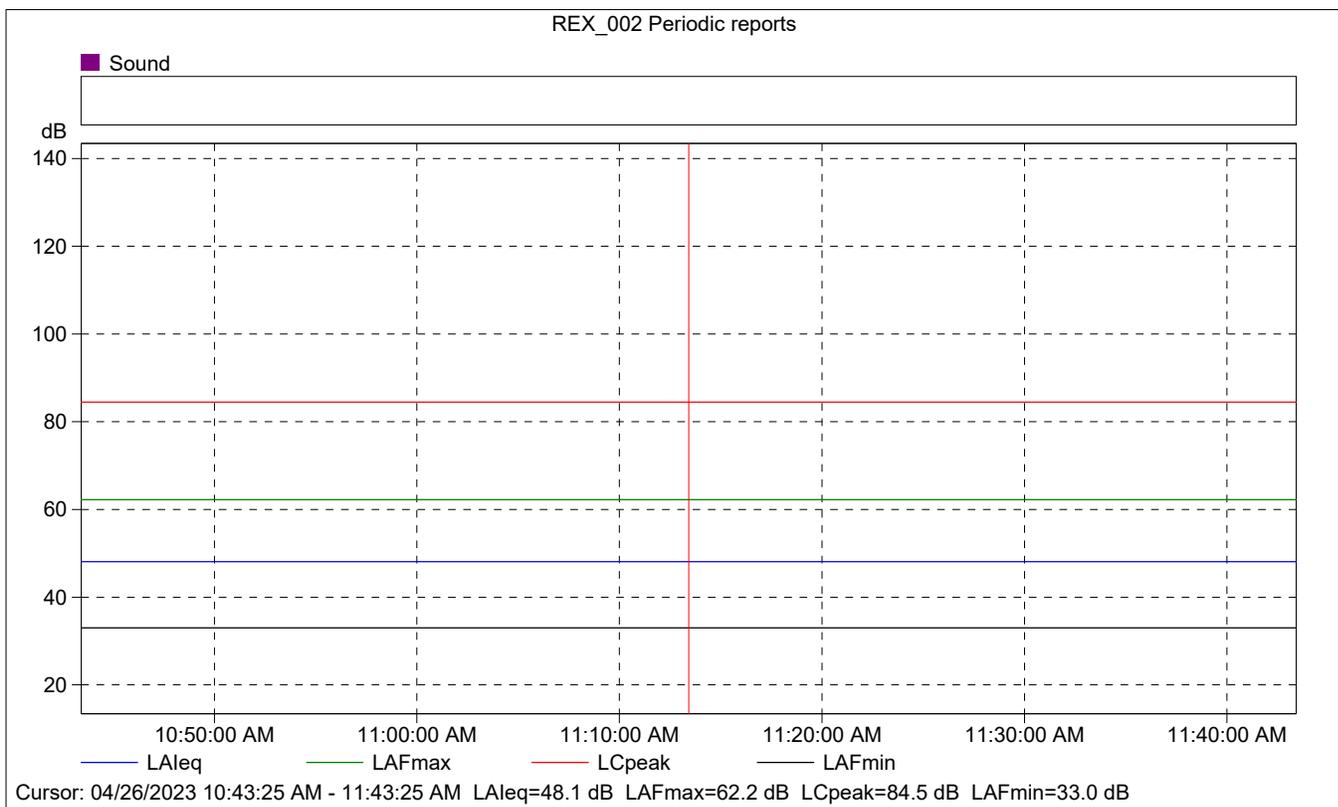
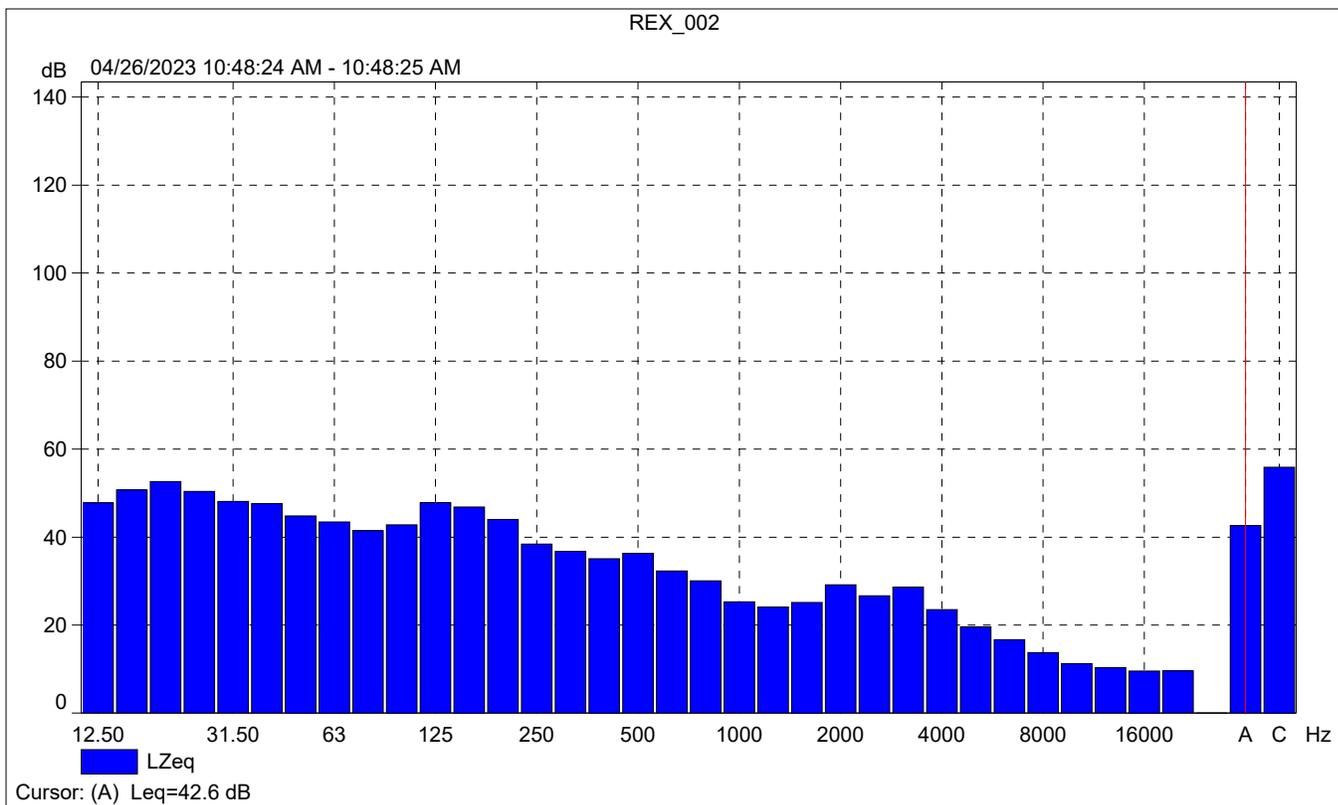
	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	43.8	62.2	33.0
Time	10:43:25 AM	10:53:25 AM	0:10:00				
Date	04/26/2023	04/26/2023					





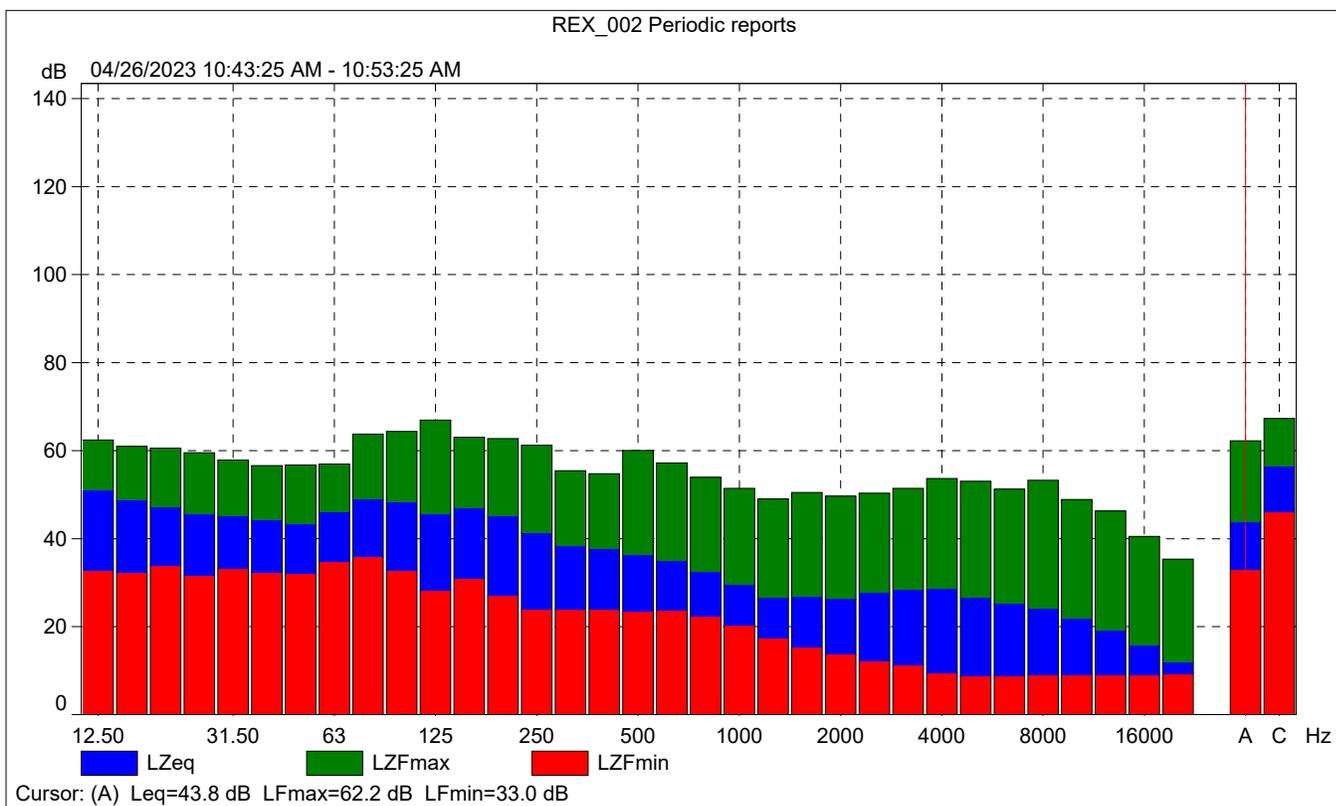
REX_002

	Start time	Elapsed time	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			46.5	44.0	40.2
Time	10:48:24 AM	0:00:01			
Date	04/26/2023				



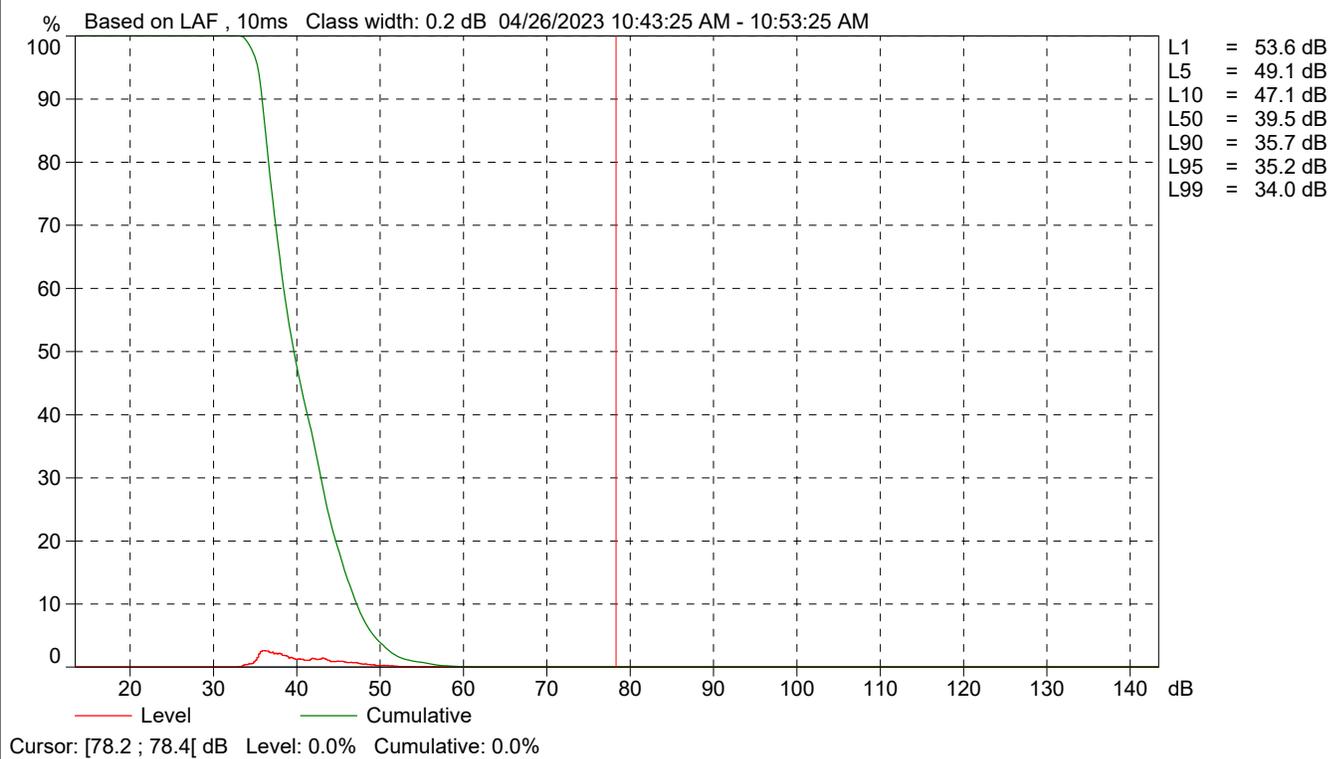
REX_002 Periodic reports

	Start time	Elapsed time	Overload [%]	LAFeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	48.1	62.2	33.0
Time	10:43:25 AM	0:10:00				
Date	04/26/2023					





REX_002 Periodic reports



APPENDIX J

Assembly Bill 52 Documentation



City of
SANTA CLARITA

23920 Valencia Boulevard • Suite 300 • Santa Clarita, California 91355-2196
Phone: (661) 259-2489 • FAX: (661) 259-8125
www.santa-clarita.com

August 29, 2023

Sarah Brunzell, Manager
Cultural Resources Management Division, Tribal Historic and Cultural Preservation Department
Fernandeño Tataviam Band of Mission Indians
1019 Second Street, Suite 1
San Fernando, California 91340

Subject: Master Case 18-182: Tentative Tract Map 80287
Assembly Bill (AB) 52 Tribal Consultation

Dear Sarah Brunzell:

In accordance with Assembly Bill (AB) 52, Public Resources Code (PRC) § 21080.3.1, the City of Santa Clarita (City) is contacting all groups that have previously requested formal notification of projects for which a Notice of Preparation, Notice of Mitigated Negative Declaration, or Notice of Negative Declaration is filed on or after July 1, 2015 (Stats. 2114, ch. 532, § 11 (c)). This correspondence is intended as formal notification of the proposed Tentative Parcel Map (TPM) 80287 (“proposed project”; Master Case 18-182) pursuant to AB 52.

The project site is approximately 19.9 acres and is located southeast of the intersection of Triumph Avenue and Diver Street, in the neighborhood of Sand Canyon, in the City of Santa Clarita. The proposed project would subdivide existing Assessor’s Parcel Number (APN) 2841-018-035 into four parcels, allowing for one single-family residences per parcel. Site preparation would include grading and construction of four pads for single-family residences, septic leaching fields, and access driveways. The property is currently undeveloped. One building foundation associated with a building constructed between 1978 and 1985, and demolished by 1992, would be removed in association with site preparation activities.

An initial study is currently being prepared to evaluate the proposed project. The project site is generally bounded by Triumph Avenue and single-family residences to the west, by single-family residences to the north, by Tannahill Avenue and single-family residences to the east, and by undeveloped, residentially-zoned land to the south. The parcel directly south of the project site is subject to an existing approval for the development of 18 single-family residences under TPM 63003. An aerial view of the project boundary as well as the tentative parcel map showing the proposed project are attached for your reference.

The applicant has applied for the following permits: a Tentative Parcel Map and an Oak Tree Permit (Class 4). Grading for the project site would balance on-site, with approximately 5, 163 cubic yards of cut and 4,656 cubic yards of fill. A concept grading plan is attached for further reference.

Sarah Brunzell, Manager
August 29, 2023
Page 2 of 2

The City is interested in knowing if you have any knowledge of tribal cultural resources (TCRs) as defined in PRC § 21074 (a)(1)(A)-(B), that may be impacted by the proposed project. If you have any comments or concerns regarding potential impacts to TCRs, please contact me within 30 calendar days from receipt of this letter to notify us in writing that you wish to consult (PRC § 21080.3.1 (b)(1)). I can be reached by phone at 661.255.4973 or by e-mail at aolson@santa-clarita.com.

Sincerely,

Andy, AICP, Associate Planner

Master Case 18-182

Tentative Parcel Map 80287 | APN: 2841-018-035



8/29/2023, 4:48:01 PM

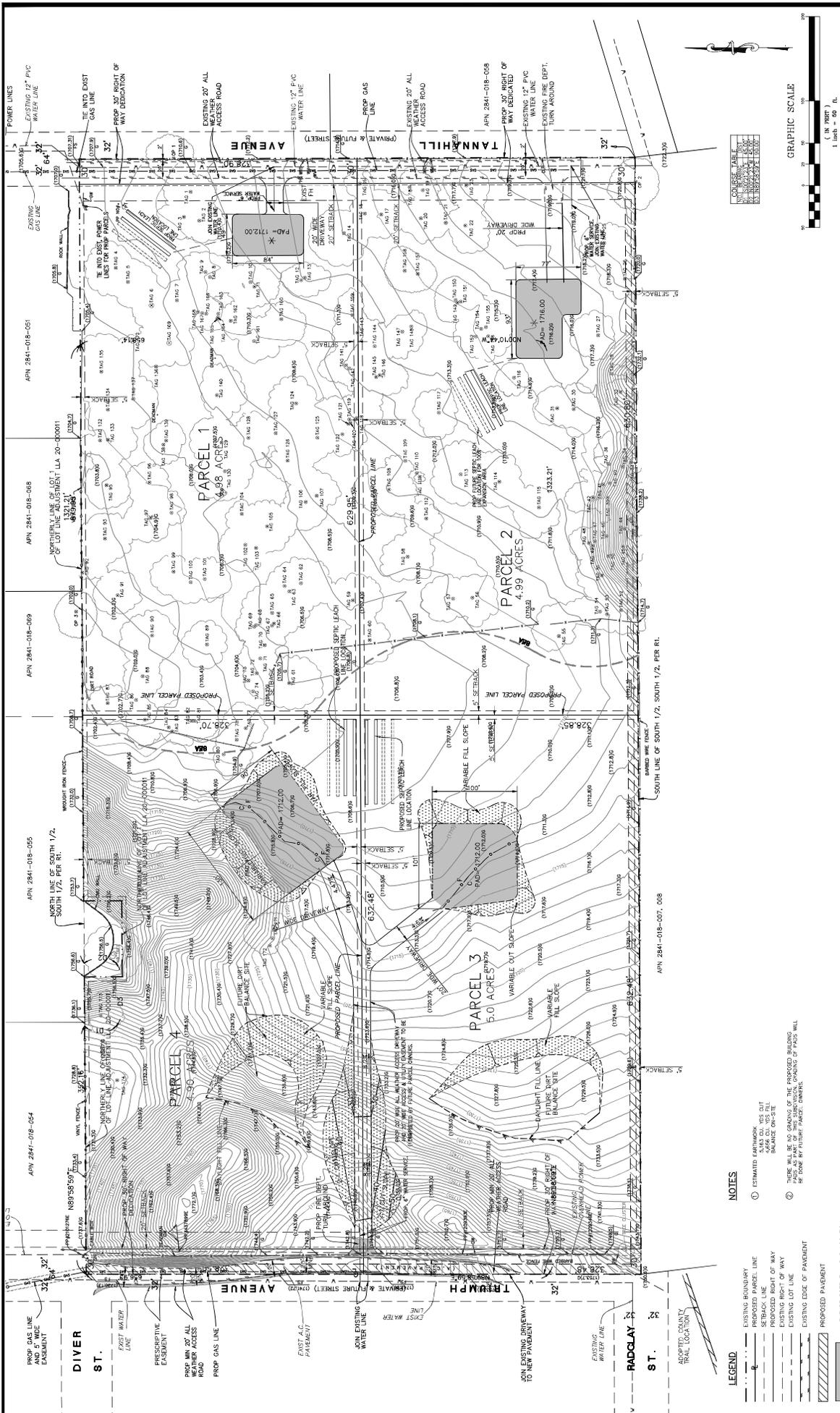
1:9,028



- Parcel Outlines
- County Park
- State Park
- Schools
- City Park
- City of Santa Clarita Boundary

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand),

Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. The City of Santa Clarita does not warrant the accuracy of the data and assumes no liability for any errors or omissions.



PLAN APPROVED BY:
CITY OF SANTA CLARITA
 GRADING CONCEPT
 TENTATIVE PARCEL MAP NO. 80287

PLANS PREPARED BY:
REXHALL COMPANY
 15640 231st St. W.
 LARGESERT, CA 93536

PLANS PREPARED BY:
CRC Enterprises
 27000 Newport Canyon Road, Suite 500
 San Jose, CA 95134
 Telephone: (408) 251-1000 FAX: (408) 297-0201
 Website: www.crc.com

PLANS PREPARED UNDER THE DIRECTION OF:
 [Signature]
 16 JULY 2023

PLANS PREPARED BY:
REXHALL COMPANY
 15640 231st St. W.
 LARGESERT, CA 93536

PLAN APPROVED BY:
City of Santa Clarita

LEGAL DESCRIPTION
 [Detailed legal description text]

NOTES
 1. ESTIMATED ELEVATIONS SHALL BE USED FOR ALL PROPOSED GRADING. 2. THE PROPOSED GRADING SHALL BE DONE BY FUTURE FARME, DIRTIES.

LEGEND
 - - - - - EXISTING BOUNDARY
 - - - - - PROPOSED PARCEL LINE
 - - - - - PROPOSED RIGHT OF WAY
 - - - - - EXISTING LOT LINE
 - - - - - EXISTING EDGE OF PAVEMENT
 - - - - - PROPOSED PAVEMENT
 - - - - - FUTURE POTENTIAL PAD LOCATION

GRAPHIC SCALE
 1 inch = 50 ft.

COURTESY: [Logos for Santa Clarita Valley Water Agency, Santa Clarita Valley Fire Department, Santa Clarita Valley Air Quality Management District, Santa Clarita Valley Public Works Department]

1 OF 1

Tong, Frankie

Subject: EXTERNAL: FW: AB 52 Consultation - Master Case 18-182 (TPM 80287)

From: Sarah Brunzell <Sarah.Brunzell@tataviam-nsn.us>
Sent: Thursday, September 7, 2023 12:54 PM
To: Andy Olson <AOLSON@santa-clarita.com>
Cc: THCP <thcp@tataviam-nsn.us>
Subject: Re: AB 52 Consultation - Master Case 18-182 (TPM 80287)

CITY WARNING: This email was sent from an external server. Use caution clicking links or opening attachments.

Good afternoon Andy,

Thank you to both you and the project applicant for the completion of the consultation form. The information and mitigation measures within this email serve as consultation unless there are any questions or concerns with the information and measures set forth. Should there be questions regarding this request, we can schedule a consultation meeting to discuss the Project:

[REDACTED]

Due to the conditions stated above, the CRM Division of the FTBMI request the following Mitigation Measures be included in the proposed project's Mitigated Negative Declaration/ Conditions of Approval:

300-2.4.1 In the Event of an Inadvertent Discovery

If cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards retained by the project applicant shall assess the find. Work on the portions of the Projects outside of the buffered area may continue during this assessment period. The Fernandeno Tataviam Band of Mission Indians (FTBMI) shall be contacted about any pre-contact and/or post-contact finds and be provided information after the archaeologist makes their initial assessment of the nature of the find, to provide Tribal input with regards to significance and treatment.

300-2.4.2 Disposition and Treatment of Inadvertent Discoveries

The Lead Agency and/or applicant shall, in good faith, consult with the FTBMI on the disposition and treatment of any Tribal Cultural Resource encountered during all ground disturbing activities.

300-2.5 Human Remains

300-2.5.2 In the Event of Inadvertent Discovery, Human Remains

If human remains or funerary objects are encountered during any activities associated with the Project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code shall be enforced for the duration of the Project.

- a. Inadvertent discoveries of human remains and/or funerary object(s) are subject to California State Health and Safety Code Section 7050.5, and the subsequent disposition of those discoveries shall be decided by the Most Likely Descendant (MLD), as determined by the Native American Heritage Commission (NAHC), should those findings be determined as Native American in origin.

Please provide a final copy of the project measures so that the FTBMI may review the included language. Once the included language is reviewed, the FTBMI will either approve and provide communication confirming the consultation pursuant to CEQA is concluded, or one of the following will be requested; modification or revision of project measures, follow up consultation. An unanticipated discovery of cultural resources during project implementation could also trigger a follow up consultation. If you should have any questions with regard to this matter, please do not hesitate to contact me.

I appreciate your time and look forward to further updates on this Project.

Kind Regards,

Please submit all proposed Projects via our Mandatory Digital Project Intake Form:

<https://www.tataviam-nsn.us/project-intake/>

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination or copying of this communication is strictly prohibited. If you have received this electronic transmission in error, please delete it from your system without copying it and notify the sender by reply e-mail so that the email address record can be corrected. Thank You.

Sarah Brunzell

Manager

Cultural Resources Management Division

Tribal Historic and Cultural Preservation Department

Fernandeño Tataviam Band of Mission Indians

1019 Second Street

San Fernando, California 91340
Office: (818) 837-0794

Website: <http://www.tataviam-nsn.us>

From: Sarah Brunzell <Sarah.Brunzell@tataviam-nsn.us>
Sent: Tuesday, September 5, 2023 9:42 AM
To: Andy Olson <AOLSON@santa-clarita.com>
Cc: THCP <thcp@tataviam-nsn.us>
Subject: Re: AB 52 Consultation - Master Case 18-182 (TPM 80287)

Thanks Andy,

I'm here if either of you have questions.

Kind Regards,

Please submit all proposed Projects via our Mandatory Digital Project Intake Form:

<https://www.tataviam-nsn.us/project-intake/>

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination or copying of this communication is strictly prohibited. If you have received this electronic transmission in error, please delete it from your system without copying it and notify the sender by reply e-mail so that the email address record can be corrected. Thank You.

Sarah Brunzell
Manager

Cultural Resources Management Division
Tribal Historic and Cultural Preservation Department

Fernandeño Tataviam Band of Mission Indians
1019 Second Street
San Fernando, California 91340
Office: (818) 837-0794

Website: <http://www.tataviam-nsn.us>

From: Andy Olson <AOLSON@santa-clarita.com>
Sent: Tuesday, September 5, 2023 9:41 AM
To: Sarah Brunzell <Sarah.Brunzell@tataviam-nsn.us>
Cc: THCP <thcp@tataviam-nsn.us>
Subject: RE: AB 52 Consultation - Master Case 18-182 (TPM 80287)

[CAUTION] EXTERNAL Email. Exercise caution.

Good morning Sarah,

Thanks for the quick reply on this. I'm passing along the info below to the applicant, and will keep you posted.

Thank you,
Andy

From: Sarah Brunzell <Sarah.Brunzell@tataviam-nsn.us>
Sent: Tuesday, September 5, 2023 9:37 AM
To: Andy Olson <AOLSON@santa-clarita.com>
Cc: THCP <thcp@tataviam-nsn.us>
Subject: Re: AB 52 Consultation - Master Case 18-182 (TPM 80287)

CITY WARNING: This email was sent from an external server. Use caution clicking links or opening attachments.

Good morning Andy,

The project intake form for TPM 80287 was received, thank you. The proposed project is categorized as **Low Sensitivity**. Please have the project applicant complete the project consultation form at the link below and select **Low Sensitivity**:

<https://www.tataviam-nsn.us/project-consultation-form/>

	<p>Project Consultation Form</p>
	<p>/</p>
	<p>www.tataviam-nsn.us</p>

Once the consultation form is received, consultation will be conducted and Mitigation Measures provided via email since the site is of low sensitivity.

Please let me know if you have any questions.

Kind Regards,

Please submit all proposed Projects via our Mandatory Digital Project Intake Form:

<https://www.tataviam-nsn.us/project-intake/>

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination or copying of this communication is strictly prohibited. If you have received this electronic transmission in error, please delete it from your system without copying it and notify the sender by reply e-mail so that the email address record can be corrected. Thank You.

Sarah Brunzell

Manager

Cultural Resources Management Division
Tribal Historic and Cultural Preservation Department

Fernandeño Tataviam Band of Mission Indians

1019 Second Street
San Fernando, California 91340
Office: (818) 837-0794

Website: <http://www.tataviam-nsn.us>

From: Andy Olson <AOLSON@santa-clarita.com>
Sent: Thursday, August 31, 2023 11:34 AM
To: Sarah Brunzell <Sarah.Brunzell@tataviam-nsn.us>
Subject: RE: AB 52 Consultation - Master Case 18-182 (TPM 80287)

[CAUTION] EXTERNAL Email. Exercise caution.

Good morning Sarah,

Thanks for the quick reply. I've provided the form to the applicant and will circle back with you once they submit. In the meantime, please feel free to reach out with any questions.

Thank you,
Andy

From: Sarah Brunzell <Sarah.Brunzell@tataviam-nsn.us>
Sent: Thursday, August 31, 2023 10:55 AM
To: Andy Olson <AOLSON@santa-clarita.com>
Subject: Re: AB 52 Consultation - Master Case 18-182 (TPM 80287)

CITY WARNING: This email was sent from an external server. Use caution clicking links or opening attachments.

Good morning Andy,

Thank you, I am doing well! I hope you are too. Thank you for the formal notification and opportunity to consult on Master Case 18-182 (TPM 80287). Please have the project applicant complete our mandatory project intake form at the link below. After the intake form is received, I'll confirm what level, if any, of consultation is required:

<https://www.tataviam-nsn.us/project-intake/>

Kind Regards,

Please submit all proposed Projects via our Mandatory Digital Project Intake Form:

<https://www.tataviam-nsn.us/project-intake/>

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination or copying of this communication is strictly prohibited. If you have received this electronic transmission in error, please delete it from your system without copying it and notify the sender by reply e-mail so that the email address record can be corrected. Thank You.

Sarah Brunzell

Manager

Cultural Resources Management Division

Tribal Historic and Cultural Preservation Department

Fernandeño Tataviam Band of Mission Indians

1019 Second Street

San Fernando, California 91340

Office: (818) 837-0794

Website: <http://www.tataviam-nsn.us>

From: Andy Olson <AOLSON@santa-clarita.com>

Sent: Tuesday, August 29, 2023 5:06 PM

To: Sarah Brunzell <Sarah.Brunzell@tataviam-nsn.us>

Subject: AB 52 Consultation - Master Case 18-182 (TPM 80287)

[CAUTION] EXTERNAL Email. Exercise caution.

Good afternoon Sarah,

I hope you are doing well. Attached is a letter regarding Master Case 18-182 (Tentative Parcel Map 80287). This project would subdivide a site, just under 20 acres, into four parcels for future single-family homes.

Once you have had an opportunity to review the letter and attachments, please let me know whether the Tribe is requesting consultation on this project. The Initial Study for the project is currently being drafted, and the City's consultant has prepared a cultural resources report for the project site (attached). As always, please feel free to give me a call or reply with any questions or additional information you would need.

Thank you,
Andy

Andy Olson, AICP
Associate Planner
Planning Division
City of Santa Clarita

Phone: (661) 255-4973
Email: aolson@santa-clarita.com
Web: <http://www.santa-clarita.com>





Fernandeano Tataviam Band of Mission Indians

Tribal Historic & Cultural Preservation Department
Cultural Resources Management Division

Rudy J. Ortega, Jr.
Tribal President

*Tribal Historic & Cultural
Preservation Committee*

Lucia Alfaro

Chairperson

Jorge Salazar

Joseph Bodle

Mark Villaseñor

January 11, 2024

SUBJECT: Master Case 18-182: Tentative Tract Map 80287
AB 52 Consultation Closure

Dear Andy Olson,

Thank you for the opportunity to review the draft IS/MND for Master Case 18-182 and thank you for making the following revisions:

The removal of confidential information from Appendix D and Appendix J.

This communication concludes the Cultural Resource Management Division of the Fernandeano Tataviam Band of Mission Indians' input for this project, and no additional consultation pursuant to CEQA is required unless there is an unanticipated discovery of cultural resources during project implementation.

Sincerely,

Sarah Brunzell

Sarah Brunzell

Manager of the Cultural Resources Management Division

Cultural Resources Management Division

